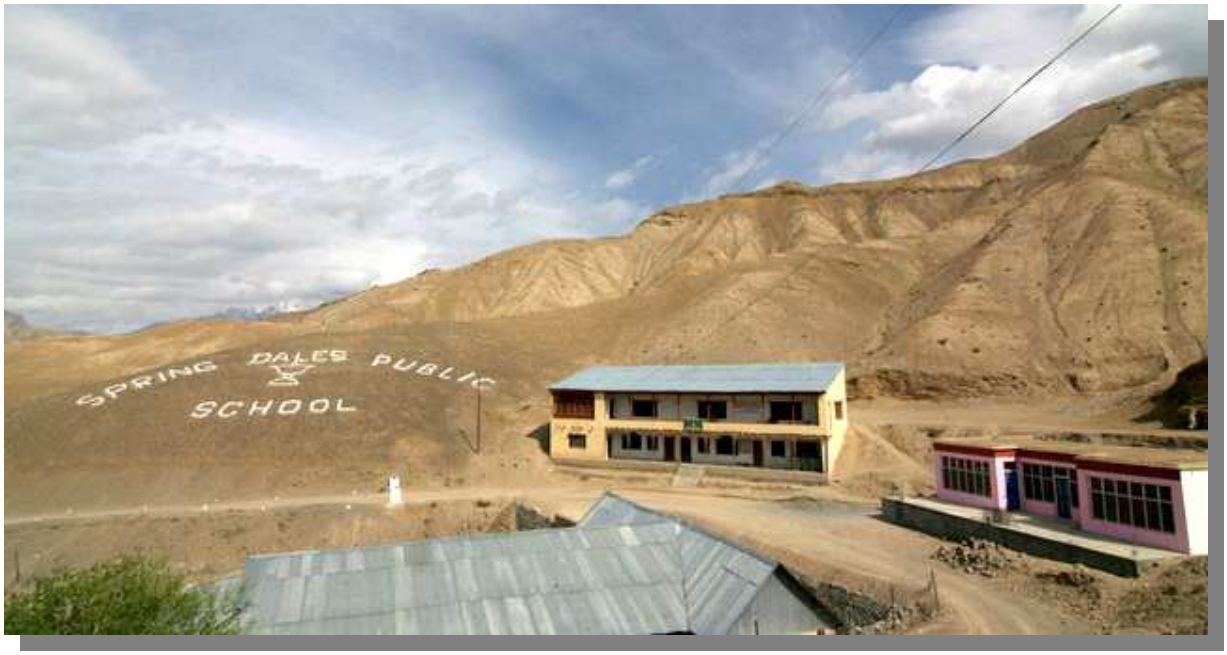
CURRICULUM

EVER ONWARDS

SPRING DALES PUBLIC SCHOOL

WAKHA/MULBEKH – LADAKH – INDIA



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1. IDENTIFICATION DATA

Name of the school:	**Spring Dales Public School**
Abbreviated name of the school:	**SDPS**
Address:	**Mulbekh** **Ladakh, Jammu and Kashmir** **India**
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2. LAMDON SOCIETY

2.1. History

The Society was established as a branch of Lamdon Social Welfare Society Leh in 70s. With a bifurcation of District Kargil in 1979, the need to establish an independent and separate Society was deeply felt in a meeting of the General Body in December 1982 attended by the Educated Youth and many other enlightened persons. While discussing their zeal and eagerness to achieve the noble goals, concluded in a decision to revive the organisation in an independent way with more autonomy in all its dealings and since then have been devotedly engaged in Social Services. However, it was decided that the Society should remain affiliated to Lamdon Social Welfare Society, Leh until an opportune time for its registration as a separate Society. Again in February 1997, in a meeting of the General Body held at Wakha, where after a hot discussion, a resolution was passed unanimously by the members of Society to draft a new Constitution for submission to the concerned Authority for registration. A committee was framed to draft the Constitution within a period of six months, which was extended by three months. Later on the society was separately registered with the govt and since then it is an independent society.

On 14 Feb 1998, this society was granted separate registration as per govt registration Act VI of 1998 (1941 AD) with registration number 2942 – S.

2.2. Objectives

Main objectives of the Lamdon Society is to preserve and further the cultural heritage, tradition, art and literature, and to look after literary works and treatise of educational, cultural, moral and social values and needs of the area. Other main objective is to propagate the teachings of the Buddha, to create and foster the spirit of understanding in society based on the principles of Ahinsa, and to extend sympathy and help to those in distress, and to the week and needy.

2.3. Managing committee

Mr. Tsering Tsering	Director
Mr. Nawang Choszin	Deputy Director
Mr. Eshey Lundup	Secretary
Mr. Skarma Jungley	Joint Secretary
Mr. Tsewang Norboo	Member, Principal Spring Dales Pubic School

3. SPRING DALES PUBLIC SCHOOL CHARACTERISTICS

3.1. History

Spring Dales Public School was founded in 1992 by Lamdon Society member who view quality education as the most effective solution to the challenges the local people face on a daily basis. The main thrust of the Society is now on the development of the School in rendering great educational services to the children of the area.

[DATA FOR CONSTRUCTIONS‴″″]

3.2. School introduction

Spring Dales Public School is situated in a remote village called Mulbekh in the Kargil District of Ladakh, Jammu & Kashmir (India). School is located on the hill between Wakha and Mulbekh village. The location enables intended reconstruction and school facilities' enlargement. Currently there are nine classrooms, one assembly hall, one small library and a small computer room, all situated in three buildings used for education and management too.

With very limited resources, Spring Dales Public School manages to provide quality education on a daily-basis, to 150+ young students of all ages and backgrounds. The School management is carried out by a Managing committee constituted by the Lamdon Society, comprised of educationist, administrator and representatives of the Society. The Annual budget estimate is directly passed by the General Body. All students from poor and middle class families are charged tuition fee and other charges of Rs. 100,- to Rs. 150 per month by the Management. Free ship to the children from very poor families and remote villages is under active consideration of the Society.

Currently the School provides education for 153 students (66 boys and 87 girls) in 12 different classes (LKG, UKG, 1st to 10th grade). There are 12 teachers (3 permanent, 10 temporary and 3 long-term volunteers) and 3 non-teaching staff.

3.3. School equipment

Currently the School uses three buildings, one playground and outside grounds for providing lessons. LKG, UKG, 1st, 4th and 6th to 10th class have their own classrooms. 2nd, 3rd, 5th class share the space of Assembly hall. The equipment of the classrooms is really basic – desks, chairs and blackboard. During lessons in the Assembly hall (or outside) the school uses three whiteboards for writing and explaining, and carpets for sitting.

Students can use a small library, where they can find many books in English, Hindi or Bhoti. Part of the library is a section with Holy Scriptures... Since 2003, school has a small computer room, currently equipped by seven working computers. In future, the school would like to provide more of practical IT lessons for students, teachers and Society members as well to improve computer skills. Unfortunately school doesn`t have any permanent power supply, which is sometimes huge barrier to providing lessons of IT or using some of modern methods in teaching. One of school`s projects is to open the library and computer room to the students and locals during the winter holiday, so that they have opportunity to study, get knowledge and information, and to be connected with the entire world during three month of a severe wintertime.

Both students and teachers contribute to general appearance of the school, in decoration of classrooms and assembly hall, where they display the results of their work from various subjects. Students look after small gardens with local flowers and they do so with real interest and enthusiasm.

School and Society meetings and trainings take place in a Meeting room next to the Principal office. For a purpose of the meetings and trainings the school uses a projector. Next to the Meeting room there is a guest room where any respectable guest can be accommodated. Unfortunately we don't have enough of rooms to offer space for our own staff. Currently they are using a computer room for preparation of their lessons. Part of the computer room is a small library with a few study books, dictionaries and other materials (like pencils, rulers, markers or crayons) which can be used for teaching.

Assembly hall is a very important building for the school. Every morning there is a meeting, when students and teachers sing national songs and prayers together to welcome a new day. Also the students' performance for parents and locals take place there. If needed, the meetings with parents and locals happen there as well.

3.4. Teachers and staff

Currently there are 12 teachers (3 permanent, 10 temporary and 3 long-term volunteers) and 3 non-teaching employees in the school. There is good teamwork and good will to learn and practice new methodology in harmony with traditional teaching. Teachers and staff are trained in English, IT, pedagogy and methodology in special courses, which are led by foreign volunteers, school management or development officers.

We do have these priorities for teachers' training in future – good knowledge of English; good orientation in IT, using internet as a source of information and for lessons' preparation; using activities in teaching, using different methodologies and individual approach to students, their needs and aptitude; preserving the culture and tradition of our area; promotion of Buddha's teachings

3.5. Local support

The school is supported by parents in the form of monthly tuition fees. Another important element of financial support is the partners who cooperate with the school in various projects. State govt through department of education provides Rs50,000/- annually as financial assistance.

On 14th and 16th September 2010, His Holiness The 14th Dalai Lama for the first time visited our school and spend several ours with the students, staff and members. His Holiness was very much impressed with the dedication of the whole team here and donated a token of Rs5,00,000/- (Five Lakhs) for the improvement of staff salary to recruit quality teachers.

Later, in June 2011, during an audience of the principal of the school and His Holiness in Dharamsala, Principal of the school briefed him about the future development plan of the school and His Holiness promised to Grant Rs4.5 million through The Dalai Lama Trust, New York for next three years to uplift the quality of education and improve educational facilities.

Ven Togdan Rimpoche (Reincarnated high ranked monk), Ex president, All Gonpa Association, Ladakh has been providing great moral support in the past and in Summer 2009, he supported with Rs30,000/- for an exposure tour provided to all the students and teachers of the school to the schools and monasteries in and around Leh.

In May 2011, Ven Togdan Rimpoche put the foundation stone of the new passive solar hostel (boarding) of the school.

Ven Rhas Rimpoche, another very well known highly ranked reincarnated monk also visited the school in July 2011 and blessed the future development plan of the school.

Almost all the great rimpoches of Ladakh has visited this school in the past and blessed the school for its future endeavours.

Local people and parents of the students has always been a great support to the school by providing voluntary help during constructions and also providing locally available materials for the constructions generously.

All the parents of the students has donated Rs3,50,000/- in March 2011 for the new passive solar hostel seeing a great future for their children.

Locally based NGOs has always been a great source of support especially Women Alliances based in surrounding villages.

3.6. International support and projects

Passive Solar Boarding School

Solar Electrification of the Campus

School Development Planning Research

The **Summer volunteering program** is a project of Czech NGO Brontosaurus. The first one took place in SDPS in 2006. Since then group of Czech volunteers has been coming

each year to provide lessons of various subjects (Arts, Biology, Mathematics, Physics, English, Geography, Chemistry, Drama, etc.). Lessons are provided for two weeks. Volunteers are mostly professional teachers or university students and they use many activities, games and interesting methods. This project is very useful for all concerned parties – volunteers, students and SDPS teachers. By this way, they can share and get new information, knowledge or cultural recognition.

The **La Ngonpo project** is a three-year-long Czech-Indian educational project, which focuses on multicultural and global education of students aged 13 - 15. At the same time, it focuses on education of the general public of the Czech Republic and Europe in the area of global development. The project started in 2010 and it shall run till 2012.

3.7. Current challenges

Shortage of:

- quality classrooms
- quality school equipment
- school furniture
- qualified and experienced teachers

Absence of:

- comprehensive School Development Plan
- school financial plan to support students from poor families
- permanent power supply
- accommodation and facilities for student and staff

3.8. School vision

Education is conceived as the basic necessity for each and every individual in the society. With a deep understanding of the fact that child is the maker of the future world, we would like to do as much as we can in facilitating modern scientific education blended with the flavour of traditional cultural heritage of Ladakh with equal opportunities for all children. We would like to be a school where the poor, less fortunate children from remote areas can have equal opportunities in getting quality education, irrespective of caste, creed and religion. Established on this base, our vision is to provide students with education so that they have a bright and open mind, kind heart and skilful hands to be true human beings.

4. CHARACTERISTICS OF EDUCATIONAL PROGRAM

4.1. Aims

School's objective is to equip the children with sharp mind, skilful hands and kind heart, so that they could easily face any problems and challenges in their educational process, career or daily life. School's aim is not just in theory and enlarging knowledge, but also in practical preparation. On Saturdays there are offered various activities to students so they can improve in sports, art or music in order to make them skilful. Serious effort is also being made to make the children compassionate and kind hearted which is seriously lacking in our education system. For this purpose, there are organized regular workshops and seminars in the school during summer and winter as well.

4.2. Educational strategies

In educational process, the school intends to foster students' competences in communication, problem solving, social relationships and human values.

4.2.1. COMMUNICATION COMPETENCES

The school would like to lead students:

- to uphold their opinions using polite and correct form, to listen to opinions of the others
- to communicate with teachers, other students and all people in a polite and suitable form
- to ask the teacher or their schoolmates for a help if needed
- to read with understanding, to work with the text, to find out information in the text
- to use critical thinking
- to make auto evaluation

4.2.2. PROBLEM SOLVING COMPETENCES

The school would like to lead students:

- to find out and realize their ideas and problem's solution
- to use critical thinking
- to observe, investigate, experiment and compare the results and draw a conclusion
- to be self-active

4.2.3. SOCIAL COMPETENCES

The school would like to lead students:

- to have an ability to change social roles in the group
- to have good relationship with all members of the school
- to reject all which could disturb good relationship with their schoolmates and teachers
- to respect cultural and social differences
- to respect rules of the school and classroom
- to help the others

4.2.4. HUMAN AND SPIRITUAL VALUES

The school would like to lead students:

- to keep tradition and cultural heritage of Ladakh
- to have good moral and social values
- to live in a harmony with teachings of Buddha

5. CURRICULUM

5.1. Schedule with time allocation

The schedule contains a list of all subjects, determination of a time allocation and total amount of hours for each class and subject, which are provided per a week. Description of all subjects is mention below in the chapter 4.4 Characteristics of the subjects. The schedule is flexible during school year. Even though the school tend to have unchangeable time allocation for each subject and class, it is sometimes necessary to change time allocation of subjects during the school year. The reasons generally are change of number of employees or students' need to be prepared well for exams. School management makes changes sensitively with consideration to students and staff.

SUBJECT	CLASS												SUM
	LKG	UKG	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10h	
English	5	5	5	5	5	5	5	5	5	5	5	5	60
Math	5	5	5	5	5	5	5	5	5	10	5	10	70
Science		5	5	5	5	5	5	5	5	5	5	5	55
Social			5	5	5	5	5	5	5	5	10	5	55
Hindi	5	5	5	5	5	5	5	5	5	5	5	5	60
Bhoti	5	5	5	5	5	5	5	5	5	5	5	5	60
Activity	15	10	5	5									35
SUM	35	35	35	35	30	30	30	30	30	35	35	35	395

5.2. Saturday activities

Saturday activities are provided each Saturday during a school year. Each Friday there is a special list of activities prepared by teachers for students. Activities are periodically changing. Students can decide which activity they prefer and they log in. Each activity lesson is therefore provided for mixed-class composition of students.

5.2.1. ART

School provides art jointly for girls and boys. Students develop their creativity, fantasy and sense of aesthetic. Students use art to express their ideas, feelings, needs and visions. They can communicate easily with teacher who supports their fantasy, art expression and interest in art. Students learn to perceive colours, shapes, solids, structures or whole and part relation with more of sense. They learn and use various types of art equipment and techniques. They are led to perceive, respect and regard cultural heritage of their native region.

5.2.2. SPORT AND PHYSICAL EDUCATION

School provides sports separately for girls and boys. Students learn rules, technique and elementary strategy of some sports games, which are named below. Students develop their individual play skills and playing combinations of the games. The training is focused on general physical development, sense of fair play, sense of competition and positive relation to sport and games to they can independently provide those sports in their daily life.

Another part of physical education is dance. School wish to follow cultural heritage of region, so integral and important part is Ladakhi dance. Students also learn modern kind of dances in lessons, which are mostly provided by volunteers.

School provides these collective sports:

- cricket
- football
- volleyball
- badminton
- Kho Kho

5.2.3. MUSIC

School organizes music jointly for girls and boys. By vocalising the song students develop the best their singing and musical skills. Songs selection follow cultural heritage of native region or inter-subject relation to English. Sense of rhythm is developed by using various

kinds of music instruments like drums, sticks and other typical Ladakhi percussion instruments or just clapping. Songs are mostly accompanied by dance.

Students develop a perception of music by listening of various kinds of songs. They learn to experience emotionally the music and concentrate.

5.2.4. GAMES

A part of Saturday activities are games, which are organized jointly for girls and boys. Game is good way how to establish good social and human values, improve students' skills and make friendly environment in the school. Students develop their social skills and competences, sense of fair-play and they can build up new friendships with their schoolmates. They develop their problem-solving competences and communication skills as well.

5.3. School functions

Teachers and students together organise school functions, like Teachers' day, Children's day, Sport day and Parents' day etc. It is an amazing opportunity to cooperate and get know each other in other way than in the class. Students use their creativity to decorate assembly hall or create the functions program and speeches. They consolidate their skills like responsibility, self-reliance, communicability and public speaking skills, end-oriented work capacity or sense of teamwork. All the parents of the children are invited to these functions so that they can see and admire the talents and progress of their children.

5.4. Characteristics of the subjects

5.4.1. ENGLISH

School provides English in 5 lessons per week. It is very important for students to understand English well, because all the subjects (except Hindi and Bhoti) are taught in English and students of 10th class need to pass final state exams in this language. English is one of the most important languages in globalising world. Each foreign language is a key to other cultures and more extensive perspectives in everybody's life.

Objective of teaching in LKG, UKG, 1st and 2nd class is to know and understand common words, expressions and basic phrases, and to use them correctly in a daily life. In LKG the main focus can stay on the memorization of words such as colours, body parts and others with the main focus on learning by activities and songs. In UKG basic phrases and dialogues can be used as the passive vocabulary will be already available from the LKG. Students learn how to spell, write and read words and basic sentences. They differentiate speaking and writing form of words.

In 1st and 2nd class students should be able to lead basic conversation, and ask and answer elementary questions. Teaching of grammar should be also introduced at this level focusing on the basics and repeating them trough out the year (plural, present simple tense and present continuous tense). On contrary to UKG reading is focused on reading a story by sentence rather than words, and to get an overall understanding than memorizing words. Focus should remain on the proper spelling of words however children should use the entire sentence to express in writing with appropriate understanding of this sentence rather than manually copying from a book.

Teaching in 3rd, 4th class aims at understanding stories or other written text, to be able to use more phrases and to lead more extensive conversation (to ask and answer questions in more wider form, have a dialogue, using various vocabularies). Further grammar can be built up (extension to plural, and present tense adding past tense and past continues).

Objective in 5th – 10th class is to know and understand vocabularies, phrases and sentences of daily life and of school subjects, which are taught in English. Students should be able to read text with a real understanding, re-tell the text using their own expressions. They can lead a conversation using sentences, questions and expressions that are more complicated. They should be able to describe any aspect of their life, they can express their emotions, feelings and needs. Regarding grammar, 5th class should be used as repetitive class for

previously learned grammar; further irregular past tense can be added. Further on additional grammar is to be taught but gradually varying class to class e.g. present perfect, conditional, *suslednost casov, predminuly, prima rec.*

Huge benefit for students is the contact with volunteers of various countries. Together they can share much information, experiences and knowledge and having a conversation that is very interesting for both sides. School provides home-stay for volunteers and students who are interested in and it is always very positive and wealthy experience for both sides. Part of volunteers work as teachers at the school, so it is very good opportunity for students to learn other accent of English then their Indian teachers have.

5.4.2. MATHEMATICS

School provides Mathematics in 10 lessons per week for 8th and 10th class, in other classes math is organized in 5 lessons per week. Teaching of mathematics provides knowledge and skills, which are needed for daily life. Students develop their attention, concentration, differential skills and imagination. They improve their consideration. They learn to experiment, investigate, compare, estimate, draw and interpret results and conclusions. Terms and concepts are usually shaped in the students' minds gradually by enlargement of already existing ideas.

Teaching in LKG, UKG and 1st class is focused on reading, writing natural numbers till 100, and addition and subtraction by row method of natural numbers till 100, in 1st class vertical addition and subtraction with no regrouping is supplemented. Main focus is to create idea of natural numbers, memorize and use automatically results of basic examples for addition and subtraction, and understand difference between addition and subtraction. Students should be able to solve individually basic word problems to addition and subtraction. In geometry, they acquaint with basic shapes, like circle, square, rectangle and triangle. Students are able to enumerate names of these shapes, draw them by hand and enumerate examples of their occurrence in daily life. Logic thinking is developed by various kinds of basic patterns, like basic logic rows with a system of position.

Teaching in 2nd – 4th class aims at natural numbers and operation with them gradually for numbers till 100, 1 000, 10 000. Students are able to determinate place value, compare numbers, arrange group of numbers in increasing or decreasing order and round numbers. Addition and subtraction is taught gradually by row method, vertical method with no regrouping and vertical method with regrouping. Students should be able to solve basic examples by heart and see difference between addition and subtraction. Multiplication and division is taught gradually, in 2nd class students memorizes multiplication tables for multiples of numbers 1-10. Students solve basic examples for multiplication and division by heart, understand commutative property of multiplication and use it. In 3rd class, they solve examples for multiplication by row division method and divided numbers till 100 with remainder. In 4th class vertical multiplication and long method for division is added as well as divisibility by numbers 2, 5, 10 and its properties. Students should be able to solve word problems to four operations with understanding. In geometry, they acquaint with types of line as line segment, ray, line and differences between them. They learn how to construct parallel and perpendicular lines and some kinds of shapes as square, rectangle and triangle. Students should be able to enumerate properties of square and rectangle, determinate their perimeter as well as perimeter of triangle and polygon. They should understand meaning of perimeter and convert units of length. Students learn how to read time from analogy and digital clocks and they are able to solve basic word problems. Logic thinking is developed by various kinds of logic rows with a system of position or relation between numbers in the line, and logic squares with a system of position are added as well.

Objective in 5th class is to have a complete imagination about natural numbers, operation with them and its properties, and about various methods for four operations. Teaching of algebra is focused on orientation in Indian and International place-value system, expanded form of numbers, comparing and arranging numbers, rounding numbers and using of four operations rules. Basic problematic of fraction as its colouring, determination and addition and subtraction of like fractions is added as well. In geometry, students are able to construct square, rectangle, triangle and circle, perpendicular and parallel lines. They are able to determine perimeter and area of square and rectangle, and converts units of

perimeter. They should enumerate various kinds of solids (cube, rectangular prism, cone, cylinder, pyramid, sphere) and its occurrence in daily life. Logic thinking is developed by various kinds of logic rows with a system of position or relation between numbers in the line, and logic squares with a system of position and relation between numbers are added as well.

Objective in 6th and 7th class is to expand number system to rational numbers and integers. In 6th class, the aim is on base work with fractions as colouring parts of whole, determination fraction, its numerator and denominator, decimal fraction and adding and subtracting of like fractions. On base of decimal fraction, decimal numbers are deduced. Students learn properties of decimal numbers, drawing on the number line, comparison and arranging of decimals and rounding decimals. They are able to add and subtract decimals using row and vertical method and determine result of basic examples by heart. Multiplication and division is taught gradually with focusing on number of decimal places of result. Students should be able to multiply and divide decimals using row, vertical or long method and determine results of basic examples by heart. Very important part of algebra is divisibility, determination of number's factors and multiplies and determination of highest common factor (HCF) and lowest common multiple (LCM) of two, three or four numbers. Students should understand difference between factor and multiple of a number as well as between HCF and LCM and apply it correctly in solving word problems. In 7th class, students acquaint with integers and negative decimals and fractions. They should understand rules of four operations with negative numbers and apply it in various kinds of examples. They should have complete knowledge about work with fractions, as comparing and arranging group of fractions, converting mixed numbers into improper fractions and reverse and determinate results for four operations with like and unlike fractions. Examples and word problems to ratio are also added. Last chapter of algebra is percentage. Students should be able to interchange fractions, decimals, ratio and percentage, find percent of quantity, express one quantity of a percentage of another quantity and solve word problem for percentage with real understanding. In geometry, the main focus is on angles, triangle, parallelogram, trapezium, its construction, types and properties. Students determine perimeter and area of these shapes, converts units of length and area. 3D imagination is developed by drawing various solids, solids' nets and solving various picture problems and word problems. Students should be able to determine surface area and volume of cube, cuboid (6th class) and prisms, pyramid (7th class). Logic thinking is developed by using various kinds of logic rows, squares or variety of Sudoku can be added as well.

Training in 8th and 9th class aims to algebraic expressions, exponents and radicals and equations. Students should be able to determine square, square root, cube and cube root of numbers, solve examples and simplify algebraic expressions and its division using exponents' facts, fact about algebraic expressions. Number system is enlarged to real numbers. In geometry, the main focus is in triangle and Pythagoras theorem, circle, its properties, its relation lines (tangents, secant, non-secant) and its construction. Students determine circumference and area of circle, surface area and volume of cylinder and cone, and solve word problems with understanding. Logic thinking is developed by using various kinds of logic rows, squares, Sudoku and other kind of logic problems and patterns.

Objective in 10th class is to have a complete imagination about real numbers, algebraic expression, exponents and radicals, about their properties and about facts and methods, which can be used for their simplification. Students should be able to solve various kinds of examples and word problems with real understanding, apply their knowledge from previous class. In geometry objective is to have complete imagination about shapes and solids, way how to determinate their perimeter, area, surface area and volume. Students are able to convert units of length, area and volume. They have complete imagination about constructions and properties of figures and facts, which can be used in solving construction problem. The aim in 10th class is also in proves for construction problems or algebraic expressions. Logic thinking is developed by solving various kinds of logic rows, squares, Sudoku and other kinds of logic problems or patterns.

5.4.3. SCIENCE

School provides Science in 5 lessons per week for UKG – 10th class. It is divided in to three blocks – Physics, Biology and Chemistry, but separately the blocks are taught just for 9th

class and 10th class. Science in UKG – 8th classes is taught by topics, which do not have to be distinguished chronologically in to blocks. This allows students to understand all parts of Science as a whole and perceive better the relations and links between physics, biology and chemistry.

5.4.3.1. Biology

Biology is part of Science for UKG – 10th class. The objective of subject Biology is studying and recognition of nature rules and phenomenon. Students learn to understand nature as a system with plenty of parts, which are mutually join together, and which affect and influence each other. Students should understand well that all parts of the nature system need to be in the balance, even effect of humans and civilization. Students learn about many bio and eco systems, about flora and fauna. They learn to understand vital systems of plants, animals and humans, and respect and honour the nature with all its spirit by their whole hearts.

Objective in UKG is acquiring and enlarging vocabulary and terms, which will be needed in upper classes in Biology. Like some names of plants, animals, parts of human body, etc. Students should be able to name, point out or assign correct picture and term in English.

In 1st and 2nd class, students learn more about plants, their parts and animals and their way of living. They should name parts of human body and describe human senses. They should be able to distinguish living and non-living things and describe differences between them.

In 3rd – 10th class students get know more about systems and vital function in plants, animals and human body. The knowledge about all vital systems is passed gradually. It starts with general overview about respiratory, digestive, circulatory, excretory, moving and reproductive system, getting to detailed description of all their parts and elements. Students should be able to describe and compare vital systems in various kinds of animals and in human body. They get know more about non-living part of nature, about soil, rocks, air, water and weather. Very important part is training students in Ecology and Environmental studies. Students need to understand fragility of nature and dangerous effects of civilization and humans. They learn how they can be helpful to environment and how they can live with nature in ecologic way. They should understand danger of pollution and describe ways to aware or prevent it. They learn how they can be helpful to environment and how they can live with nature in ecologic way.

5.4.3.2. Physics

Physics is taught as a part of Science for UKG – 10th class. As a part of the science subjects' complex, Physics enables students to get know and understand nature as a working system. It tends to recognition of physics facts and phenomenon and its mutual relations. Solving of physics problems, word problems and examples leads students to gain and use acquire pieces of knowledge and skills, so that they can explain some of physics facts and phenomenon of nature in their daily life or in technique environment. Students learn basic physics terms and notions. They develop their experimental skills, and create open and logic thinking.

In 1st and 2nd class students learn base about solar system, physical and other properties of the Earth, the Moon and the Sun.

Objective in 3rd – 5th class is to acquaint students with force, energy and work. They should be able to define these terms and to name and describe type of forces and energy. They distinguish units of force, energy and work, and they enumerate some of examples of use of force and energy in daily life. They familiarize with matter and its states as well as with terms solutions and molecules. They should be able to name various measurements, their units, and their use in daily life.

In 6th – 10th class they enlarge their knowledge about force, energy and work. They learn how to solve word problems to these issues. New topics Electricity, Light and Magnet are passed gradually since 6th class, when students get a general overview about these topics. Till 10th class, they should have a comprehensive imagination and detailed knowledge about these issues. Students should be able to define terms, describe various physical laws and solve word problems to all passed issues as well as convert units of various measurements.

5.4.3.3. Chemistry

Chemistry is taught as a separate part of Science in 9th and 10th class. The training is aimed at studying and investigating of nature phenomenon and rules. Students gain knowledge and skills in chemistry, which they can see, apply and use in their daily life. They are led to look for mutual relations between chemical facts and phenomenon and to understand present technologies. Students learn chemistry term and nations, they develop their experimental skills, they improve their logic thinking and they need to use many inter-subjects' relations, like with Physics, Mathematics, Biology or Geography.

In 9th class students get detailed knowledge about matter, mixtures, solutions, molecules and atoms. They should be able to describe structure of atom and molecules or obtaining components of the mixture and write chemical formulae. In 10th class, they acquaint with elements and their classification. They learn how to read information about elements from modern periodical table. They should be able to distinguish metals, non-metals, acids and bases. They learn about chemical reaction, its types and its expression by chemical formula.

5.4.3.4. IT classes

5.4.4. SOCIAL

5.4.4.1. Geography

5.4.4.2. History

5.4.4.3. Civics

5.4.5. HINDI

5.4.6. BHOTI

5.5. Contain of the subjects

In the part Contain of the subject are described subject matters of all subjects, which are taught in the School. The subjects' contain tend to program by Ministry of Education....

All is clearly organized in the schedules below. The topics of the subjects are named and highlight in a shadow row, then succeed list of subject matters and belong student's outputs, which are named in the first and second column. List of subject matters is obligatory and is needed to be explained till the end of the school year. Student's outputs are meant as expecting outputs, which student should manage and acquire during a school year. Of course, there is always a factor of individual student's abilities and character's features so that expecting student's outputs cannot be understood as obligatory. All is gradually organized for each subject and class. Contain of the subject is organized separately by each subject matter, no chronologically by timing. So during the school year any subject matter could be taught in different order than is written in the schedule.

5.5.1. ENGLISH

5.5.1.1. English – LKG class

Textbooks:

- Cookie and friends; *Author: Vanessa Reilly; Published by: Oxford University Press, Spain*

Subject matter	Student's outputs
TOPIC 1 – ALPHABET	
The English alphabet • Letter and its name • Imagination of the letter as a symbol and its vocal expression • Finding a letter in the group of letters and in the word • Training of hand writing (light and bold lines, dot lines, curly lines, circles, spirals, pointed lines, pointed arch) • Writing of the letters • Reading of the letters • Spelling	**Student** • joins name of the letter with its symbol • finds a letter in the group of letters or in a word • copies any type of line, develops motorics of the hand, sense of writing and muscle memory of palm and hand muscles • writes all letters of English alphabet by copying example • writes all letters of English alphabet by note a dictation • reads the letters of a group of letters • spells the letters of the word
TOPIC 2 – VOCABULARY	
Colours • Detecting colours (taught gradually by three - red, blue, yellow, green, brown, black, white, pink, purple) • Question "What colour is it?" with intonation on "what colour" • Song "What is red"	**Student** • names the colours of object • is able to choose or point a colour of a group by an instructions of a teacher • understands question "What colour is it" • answers question "What colour is it" using one word • sings song "what is red"
Numbers 0 – 10 • Number and its name • Imagination of the number as a symbol and its vocal expression • Finding a number in the group of letters and in the word	**Student** • joins name of the number with its symbol • finds a number in the group of numbers • copies any type of line, develops the motorics of the hand, sense of writing and

• Training of hand writing (light and bold lines, dot lines, curly lines, circles, spirals, pointed lines, pointed arch) • Writing of the numbers • Reading of the numbers • Question "What number is it?" with intonation on "what number" • Colour of the numbers • Song "Little Indian"	muscle memory of palm and hand muscles • writes numbers 0 – 10 by copying example • writes numbers 0 – 10 by note a dictation • reads the numbers of a group of numbers • understands the question "what number is it" • answers the question "what number is it" using one word • sings song "little Indian"
Body • Parts of human body (taught gradually by three – head, hands, fingers, feet, arms, legs, stomach, eyes, ears, nose, mouth, hair) • Instruction "Touch", "Shake", "Wave" accompany with move • Instruction "Touch your head" with intonation on "head" (and using other vocabulary) • Number of body parts (using question "what number of feet"; based on already known vocabulary of chapter Numbers) • Adjectives "Happy", "Sad"; performing the mimic • Question "Is he/she sad/happy?" • Song "Shake your head with me"	**Student** • names parts of the body • is able to point a part of body by an instructions of a teacher • understands instructions "Shake", "Wave", "Touch" and can joint it with a move • understands question "What number of feet" (hands, fingers..etc) • answers question "What number of feet" (hands, fingers..etc) using one word • understands difference between word happy and sad, performs it with mimic, points who is happy who is sad (on the picture,..) • understands and answers question "Is he sad?" (Is she happy?) • sings song "Shake your head with me" and understands instructions "Shake", "Wave", "Touch" used in the song
Animals • Names of animals (taught gradually by three – cow, pig, sheep, goat, yak, dog, cat, parrot, fish, hen, bear) • Question "What animal is this?" with intonation on "what animal" • Number of animals (based on already known vocabulary of chapter numbers) • Parts of animal's body (based on already known vocabulary of chapter body) • Colour of animal (based on already known vocabulary of chapter colours) • Song "Old McDonald had a farm"	**Student** • is able to choose or point an animal of a group by an instruction of a teacher • understands question "What animal is this?" • answers question "What animal is it" using one word • determines number of animals using one word • describes colour of animal using one word • sings song "Old McDonald had a farm"
Toys • Names of toys (taught gradually by three – car, train, doll, ball, scooter, teddy bear) • Question "What toy is it?" with intonation on "what toy" • Number of toys (based on already known vocabulary of chapter numbers) • Parts of toy body (used on doll and teddy bear; based on already known vocabulary of chapter body) • Colour of toy (based on already known vocabulary of chapter colours) • adjectives "Big", "Small" ; performing with body • Question "Is it/he/she big/small? • Song "What is red"	**Student** • is able to choose or point a toy of a group by an instruction of a teacher • understands question "What toy is this?" • answers question "What toy is it" using one word • determines number of toys using one word • describes colour of toy using one word • describes parts of toy's body and its quantity • understands difference between words big and small, performs it by body • points what/who is big/small • understands and answer question "Is it big/small?"
Clothes • Type of close (taught gradually by three – T-shirt, pants, socks, shoes, hat, jacket)	**Student** • is able to choose or point type of clothes of a group by an instruction of a teacher

• Question “What clothes is it?” with intonation on “what clothes” • Number of clothes (based on already known vocabulary of chapter numbers) • Parts of body (to match up clothes with parts of the body; based on already known vocabulary of chapter body) • Colour of clothes (based on already known vocabulary of chapter colours) • Song “What is red”	• understands question “What clothes is it?” • answers question “What animal is it” using one word • determines number of clothes using one word • describes on which part of body is the clothes used • describes colour of clothes using one word
Food • Name of fruit (taught gradually by three – apple, orange, banana, mango, apricots, pear) • Name of vegetable (potato, tomato, beans, onion, garlic, cabbage) • Question “What fruit is it?” with intonation on “what fruit” • Question “What vegetable is it?” with intonation on “what vegetable” • Number of fruit (vegetable) • Colour of fruit (vegetable)	**Student** • is able to choose or point type of fruit and vegetable of a group by an instruction of a teacher • understands question “What fruit is this?” and “What vegetable is it? • answers question “What fruit is this?” and “What vegetable is it?” using one word • determines number of fruit or vegetable using one word • describes colour of fruit and vegetable using one word
TOPIC 3 – PHRASES	
Active phrases • My name is • Hello • Good bye • Thank you • Welcome • Stand up • Sit down	**Student** • understands phrases, uses them in spoken dialog • answers question “what is your name?”
Passive phrases • What is your name? • What number is it? • What colour is it? • Touch your … • Wave your … • Shake your … • What part of body is it? • Is she/he sad? • Is she/he happy? • What toy is it? • Is it/she/he small? • Is it/she/he big? • What clothes is it? • What fruit is it? • What vegetable is it?	**Student** • understands phrases, can answer them in spoken dialog • understands instruction “touch, wave, shake,..” and performs them • answers questions “what part of body is it?, Is she sad?, Is he small?...”

5.5.1.2. English – UKG class

Textbooks:

- Cookie and friends; *Author: Vanessa Reilly; Published by: Oxford University Press, Spain*

Subject matter	Student's outputs
TOPIC 1 – VOCABULARY	
Colours • Detecting colours (orange, grey; plus repetition of LKG class) • light and dark • Question "What colour is it?" with intonation on "what colour" • Answer "It is orange" (red, blue… etc.) • Writing the names of colours • Reading the names of colours • Song "What is red"	**Student** • names the colours of an object • is able to choose or point a colour of a group by an instructions of a teacher • uses vocabulary from LKG class • understands question "What colour is it" • answers question "What colour is it" using whole sentence "It is red" (blue, orange… etc.) • Understands and uses answers "It is red" (blue, orange… etc.) • writes the names of colours by copying example • reads names of colours
Numbers • Name of numbers till 20 • Reading numbers • Writing numbers • Question "What number is it?" with intonation on "what number" • Answer "It is one" (two, three, …) • Colour of the numbers • Song "Little Indian" for numbers 10 – 20	**Student** • joins name of the number with its symbol • finds a number in the group of numbers • writes numbers 0 – 20 by copying example • reads the numbers • writes numbers 0 – 20 by note a dictation • understands the question "what number is it" • answers the question "what number is it" using whole sentence "It is one" • understands answer "It is one" • sings song "little Indian"
Animals • Names of animals (taught gradually by three – elephant, duck, monkey, wolf, fox, rabbit, mouse, spider, fly) • Reading names of animals • Writing names of animals • Question "What animal is it?" with intonation on "what animal" • Answer "It is a fox" (monkey, duck…) • Number of animals • Parts of animal's body • Colour of animal • Song "Old McDonald had a farm"	**Student** • is able to choose or point an animal of a group by an instruction of a teacher • uses vocabulary from LKG class • reads names of animals • writes names of animals • understands question "What animal is it?" • answers question "What animal is it" using whole sentence "It is a fox" • understands answer "It is a fox" • determines number of animals using one word • describes colour of animals using whole sentence "It is brown" • sings song "Old McDonald had a farm" using new vocabulary
Toys and objects • Name of toy (taught gradually by three – bicycle, house, puzzle, flower, tree, balloon, plane, boat, umbrella)	**Student** • is able to choose or point a toy of a group by an instruction of a teacher

• Reading names of toys • Writing names of toys • Question “What toy is it?” with intonation on “what toy” • Answer “It is a plane” (tree, flower…) • Colour of a toy • Number of a toys • Repetition of adjectives “Big”, “Small” • Question “Is it big/small?” • Answer “It is big/small” • Song “What is red”	• uses vocabulary of LKG • reads names of toys • writes names of toys • understands question “What toy is this?” • answers question “What toy is it” using whole sentence “It is a plane” • understands answer “It is a plane” • determines number of toys using one word • describes colour of toy using whole sentence “It is red” • understands difference between words big and small, performs it by body • understands and answer question “Is it big/small?” using whole sentence “It is big/small” • sings song “What is red” using new vocabulary
Clothes • Reading names of animals • Type of close (taught gradually by three – frock, tie, sweater, coat, west, belt, saree, maxi, skirt) • Reading types of clothes • Writing types of clothes • Question “What clothes is it?” with intonation on “what clothes” • Answer “It is a sweater” • Number of clothes • Parts of body (to match up clothes with parts of the body) • Colour of clothes • Song “What is red”	**Student** • is able to choose or point type of clothes of a group by an instruction of a teacher • uses vocabulary form LKG class • reads types of clothes • writes types of clothes • understands question “What clothes is it?” • answers question “What animal is it” using whole sentences “It is a sweater” • determines number of clothes using one word • describes on which part of body is the clothes used using one word • describes colour of clothes using whole sentence “It is red” • sings song “What is red” using new vocabulary
Food • Name of food (taught gradually by three – melon,, cherries, chocolate, cake, cookies, milk, water, tea, rice) • Reading names of animals • Writing names of animals • Question “What food is it?” with intonation on “what food” • Answer “It is a cake” (chocolate, melon…) • Number of food • Colour of food	**Student** • is able to choose or point type of food of a group by an instruction of a teacher • uses vocabulary form LKG class • reads names of food • writes names of food • understands question “What food is it?” • answers question “What food is it?” using whole sentence “It is a melon” • understands answer “It is a melon” • determines number food using one word • describes colour of fruit and vegetable using whole sentence
Weather • Nouns (sun, clouds, wind) • Adjectives (sunny, cloudy, windy, cold, hot) • reading vocabulary • writing vocabulary • Question “What weather is it?” with intonation on “what weather” • Answer “It is sunny” • Performing weather	**Student** • is able to choose or point type weather of a group by an instruction of a teacher • reads vocabulary • writes vocabulary • understands question “What weather is it?” • answers question “What weather is it?” using whole sentence “It is sunny” • understands answer “It is sunny”

• Colours in weather	• performs types of weather • describes colours which can see on the picture or which are joint with a type of weather
Family • Family members (taught gradually by three – mother, father, grandmother, grandfather, sister, brother, sun, daughter, cousin) • reading names of family members • writing names of family members • Question "Who is it?" with intonation on "who" • Answer "It is the mother" • Number of family members • Clothes	**Student** • is able to choose or point family members of a group by an instruction of a teacher • reads names of family members • writes names of family members • understands question "Who is it?" • answers question "Who is it?" using whole sentence "It is the mother" • understands answer "It is the mother" • determines number of family members using one word • describes clothes on family members
TOPIC 2 – PHRASES	
Active phrases • It is a plane. • It is ten. • It is big/small. • It is sunny/cloudy/windy. • It is my mother. • It is the mother. • Good morning. • Good morning, sir/madam. • Good afternoon. • Good afternoon, sir/madam. • Might I came in, sir/madam?	**Student** • understands active phrases, uses them in spoken dialog • answers question "what food is it? what weather is it?,..."
Passive phrases • What food is it? • What weather is it? • Who is it? • Quite, please. • Come here. • Pay attention.	**Student** • understands phrases, can answer them in spoken dialog • understands instruction of teacher • answers questions "what food is it?, Who is it?, ..."

5.5.1.3. English – 1st class

Textbooks:

- Everyday English Grammar and composition 1; *Author: Vandana Sood; Published by: Viva Education, New Delhi*

Subject matter	Student's outputs
TOPIC 1 – NOUNS	
Names of nouns • definition of nouns • names of animals • professions (nouns joint with people) • places (library, park, palace, post office, field) • things • Question "What is this?" with intonation on "this" • Answer "This is a dog" • naming words (filling nouns in the sentence, subconscious learning of sentence formatting) • spelling nouns • reading nouns • writing nouns • special names and its writing with capital letter (personal names, names of town and places, names of days)	**Student** • understands what the noun is • is able to choose or point an animal, profession, place, thing of a group by an instructions of a teacher • uses vocabulary from LKG class • understands question "What is this" • answers question "What is this" using whole sentence "This is a dog" • Understands and uses answers "This is a dog" • fills correctly nouns into the spaces in sentences • spells nouns • reads nouns • writes nouns by copying example • writes names of special names correctly with capital letter
Singular and plural • one and many (passive word many) • Reading singular and plural (with accent on s) of the nouns • Writing singular and plural of the nouns • Song "One little Indian"	**Student** • understands expressions one and many and difference between them • joins one with singular and many with plural form of nouns • underlines or chooses words which are in plural on singular form • reads singular and plural of the nouns, makes accent on "s" in plural form of the nouns • writes singular and plural of the nouns filling them in sentence, describing picture • rewrite singular into the plural form (and plural into the singular form) • sings song "One little Indian" with accent on boy or boys
TOPIC 2 – PRONOUNS	
Pronouns he, she, it • Definition of pronouns • Definition of pronouns "he, she, it" • Reading and writing pronouns "he, she, it" • Filling or underlining pronouns "he, she, it" in the written sentence • Replacing personal nouns using "he, she, it" • Pointing on the persons using "he, she, it"	**Student** • understands what the pronoun is • understands singularity of pronouns "he, she, it" • understands "he" as a male pronoun, "she" as a female pronoun and "it" as a neutral pronoun • reads and writes pronouns "he, she, it" • underlines or chooses correct pronoun in

	the written sentence • replaces personal nouns by pronouns • points on the person using “he, she” • points on the thing using “it”
Pronouns we, they • Definition of pronouns “we, they” • Reading and writing pronouns “we, they” • Filling or underlining pronouns “we, they” in the written sentence • Replacing personal nouns using “we, they” • Pointing on the persons using “we, they”	**Student** • understands plurality of pronouns “we, they” • reads and writes pronouns “we, they” • underlines or chooses correct pronoun in the written sentence • replaces personal nouns by pronouns • points on the persons using “we, they”
Pronouns I, you • Definition of pronouns “I, you” • Reading and writing pronouns “I, you” • Filling or underlining pronouns “I, you” in the written sentence • Replacing personal nouns using “I, you” • Pointing on the persons using “I, you”	**Student** • understands singularity of pronouns “I • understands singularity and plurality of pronoun “you” • reads and writes pronouns “I, you” • underlines or chooses correct pronoun in the written sentence • replaces personal nouns by pronouns • points on the person using “I, you”
Pronouns I, you, he, she, it, we, they • Differences between pronouns “I, you, he, she, it, we, they” • Filling or underlining pronouns in the written sentence • Replacing personal nouns • Pointing on the persons using correct pronoun • Performing pronouns in the group	**Student** • understands difference between singularity and plurality of pronouns • understands difference of meaning between pronouns “I, you - you, he, she, it, we, they” and is able to show it on the persons • completes written sentences with given pronouns and match them correctly • performs pronouns in the group
TOPIC 3 – ADJECTIVES	
Adjectives • Definition of adjectives as describing words • Reading and writing adjectives • Matching nouns and adjectives which describe them • Describing a person using adjectives • Colour as adjective • Choosing adjectives from list of various kind of words • Feelings (happy, sad, angry, afraid) • Performing adjectives	**Student** • understands what the adjective is • reads and writes adjectives • assigns nouns and adjectives which describe them • describes person using various adjectives • understands colour as an adjective • chooses adjectives from various kind of words • performs adjectives (happy, sad, big..)
Opposite adjectives • Definition of opposite adjectives • Assigning adjectives to its opposites • Performing adjectives and its opposites	**Student** • understands what the opposite means • understands adjective and its opposite • assigns adjectives and its opposites • underlines or chooses correct opposites to the adjective in the written sentence • performs opposites of adjectives
TOPIC 4 – VERBS	
Verbs • Definition of verb as a “doing word” • Reading and writing verbs	**Student** • understands what the verb is • reads and writes verbs

• Finding, underlining and filling verbs in the written sentence • Describing person's activity using verb • Ending "-ing" as a part of present continuous tense • Finding, underlining and filling "-ing" form of verbs in to the sentences • Performing verbs	• underlines or chooses correct verb in the written sentence • describes person's activity using correct verb • rewrites verb to its form with ending "-ing" • underlines or chooses "-ing" form of verbs in the written sentence • performs verbs
Verb "to be" • Reading, writing and memorizing phrases "I am, you are, we are, they are" • Finding, underlining and filling verbs in the written sentence • Describing a person, thing, picture using adjectives and correct form of verb "to be" (They are happy) • Reading, writing and memorizing "he is, she is, it is" • Finding, underlining and filling verbs in the written sentence • Describing a person, thing, picture using adjectives and correct form of verb "to be" for pronouns he, she, it (She is happy) • Writing whole sentences using present continuous temp (She is cooking) • Performing verb "to be" with an adjective (I am small)	**Student** • reads, writes and memorizes phrases "I am, you are, we are, they are" • assigns pronouns "I, you, we, they" and its form of "to be" • underlines or chooses correct forms of "to be" for pronouns "I, you, we, they" in the written sentence • describes a person, thing, picture using correct form of verb "to be" for pronouns "I, you, we, they" (I am small) • reads, writes and memorizes phrases "he is, she is, it is" • assigns pronouns "he, she, it" and its form of "to be" • underlines or chooses correct forms of "to be" for pronouns "he, she, it" in the written sentence • describes a person, thing, picture using correct form of verb "to be" for pronouns "he, she, it" (She is small) • understands converting verb in its "ing" form • writes whole sentences using "to be" and ending "–ing" • performs verb "to be" with adjectives (It is windy)
Negative of verb "to be" • Definition of negative • Principle of negative "to be" adding not behind the verb (no short form) • Positive and negative pairs of "to be" (I am – I am not) • Reading, writing and memorizing principle of negative • Finding, underlining and filling verbs in negative in the written sentence • Describing a person, thing, picture using adjectives and correct form of negative of verb "to be" (They are not sad) • Performing negative of verb "to be" with adjectives (I am not happy)	**Student** • understands what the negative means • understands principle of negative "to be" and memorize it • assigns positive and negative pairs of "to be" (she is – she is not) • underlines or chooses correct negatives of pronoun and its "to be" form in the written sentence • describes a person, thing, picture using correct form of negative "to be "(I am not small) • performs negative "to be" with adjectives (It is not cloudy)
Verb "to have" • Reading, writing and memorizing phrases "I have, you have, we have, they have" • Finding, underlining and filling verbs in the written sentence • Describing a person, thing, picture using correctly "I have, you have, we have, they have" (They have a ball) • Reading, writing and memorizing "he has, she has, it	**Student** • reads, writes and memorizes phrases "I have, you have, we have, they have" • assigns pronouns "I, you, we, they" and its form of "to have" • underlines or chooses correct forms of "to have" for pronouns "I, you, we, they" in the written sentence

has" • Finding, underlining and filling verbs in the written sentence • Describing a person, thing, picture using correctly "he has, she has, it has" • Writing whole sentences using correct form of "to have" (They have a car) • Performing verb "to have" with a noun (I have a doll)	• describes a person, thing, picture using correct form of verb "to have" for pronouns "I, you, we, they" (They have a ball) • reads, writes and memorizes phrases "he has, she has, it has" • assigns pronouns "he, she, it" and its form of "to have" • underlines or chooses correct forms of "to have" for pronouns "he, she, it" in the written sentence • describes a person, thing, picture using correct form of verb "to have" for pronouns "he, she, it" (She has a ball) • writes whole sentences using correct form of "to have" (They have a house) • performs verb "to have" with a noun (I have a doll)
TOPIC 6 – PREPOSITIONS	
Prepositions • Definition of preposition as a word of position • Under, in, on • Underlining and filling prepositions "under, in, on" in the written sentence • Describing position of a person, thing, picture using "under, in, on" (Cat is on the table) • Behind, between, in front of • Underlining and filling prepositions "behind, between, in front of" in the written sentence • Describing position of a person, thing, picture using "behind, between, in front of" (Cat is behind the bad) • Performing prepositions (Stanzin is behind the Disket)	**Student** • understands meaning of prepositions • underlines or chooses correctly "under, in, on" in the written sentence • describes a person, thing, picture using correctly "under, on, in" (book is on the chair) • underlines or chooses correctly "behind, between, in front of" in the written sentence • describes a person, thing, picture using correctly "behind, between, in front of" (She is behind the table) • performs prepositions (Stanzin is in front of Disket)
TOPIC 7 – ARTICLES	
Articles "a, an" • Definition of articles as a part of nouns • Definition of indefinite article as an article for something unspecific • Difference between "an" and "a" • Underlining and filling articles "a, an" in the written sentence • Writing nouns with articles "a, an" • Writing short sentences using articles "a, an" (I have a ball.) • Describing persons, things, places using articles "a, an" (It is a garden) • Performing with articles "a, an" (she has a doll, it is a plane)	**Student** • understands meaning of articles • understands articles "a, an" as unspecific articles • understands difference in using "a, an" • underlines or chooses correctly "a, an" in the written sentence • writes nouns with articles "a, an" • writes short sentences using articles "a, an" • describes a person, thing, place using correctly "a, an" (It is a plane) • performs pantomime for nouns (it is a car, she has a cup)
Article "the" • Definition of definite article as an article for something specific • Writing and reading "the" with specific words (Sun, Moon, Earth) • Writing short sentences using "the" (It is the Moon) • Underlining and filling articles "the" in the written sentence	**Student** • understands articles "the" as specific articles • memorizes using "the" with specific nouns like Sun, Moon, Earth • understands difference in using "a, an" and "the" • underlines or chooses correctly "a, an" or "the" in the written sentence

• Difference between indefinite “a, an” and definite “the” • Underlining and filling articles “a, an” or “the” in the written sentence	
TOPIC 8 – PUNCTUATION AND PHRASES	
Short sentences, capital letters and full stop • Reading whole sentences word by word with subsequent repeating of whole sentence • Reading with understanding • Writing sentences with reading • Using capital in the beginning of sentence and full stop in the end of sentence • Using capital for personal names • Description by short sentences	**Student** • reads whole sentences word by word with subsequent repeating of whole sentence with understanding • writes sentences with reading • uses capital in the beginning of sentence and full stop in the end of sentence • rewrite sentence using capital and full stop • writes personal names with capital • describes person, thing, picture using short sentences and writes or tells them

5.5.1.4. English – 2nd class

Textbooks:

- Everyday English Grammar and composition 2; *Author: Vandana Sood; Published by: Viva Education, New Delhi*

Subject matter	Student's outputs
TOPIC 1 – NOUNS	
Common nouns • Writing common nouns with no capital letters • Filling and underlining common nouns in the sentence • Family nouns as nouns with equal property (apple, orange, banana – fruit)	**Student** • writes common nouns with small letters • fills or underlines correctly common nouns in the sentence • assigns or chooses family nouns together
Proper nouns • Definition of proper nouns as special names • Writing proper nouns with capital letters • Filling and underlining proper nouns in the sentence • Filling and underlining proper and common nouns, writing them with correct beginning letter	**Student** • writes proper nouns with capital letters • fills or underline correctly proper nouns in the sentence • fills or underlines common and proper nouns in the sentence and writes them correctly with capital or not
Singular and plural • One and many (passive word many) • Ending "-s", "-es" • Ending "-ves" (knife – knives, leaf – leaves) • Ending "-ies" (puppy – puppies) • Reading singular and plural (with accent on "s") of the nouns • Writing singular and plural of the nouns • Irregular plural form (man – men, foot – feet, child – children, woman – women…) • Filling and underlining correct form of plural • Song "One little Indian" by changing noun Indian to other (irregular) words	**Student** • understands expressions "one and many" and difference between them • joins one with singular and many with plural form of nouns • uses correctly endings "-es", "-ies", "-ves" • underlines or chooses words in plural on singular form • reads singular and plural of the nouns, makes accent on "s" in plural form of the nouns • memorizes irregular plural form of nouns • writes singular and plural of the nouns filling them in sentence • rewrite singular into the plural form (and plural into the singular form) • sings song "One little Indian" by changing noun Indian to other (irregular) words
Masculine and feminine gender • Differences between masculine and feminine gender • Changing gender of the nouns • Choosing and underlining masculine and feminine gender of the nouns • Assigning opposite genders in the list of nouns	**Student** • understands what masculine and feminine gender is • changes gender form masculine to feminine (feminine to masculine) • underlines or chooses masculine and feminine gender of the nouns • assigns opposite genders in the list of nouns
TOPIC 2 – PRONOUNS	
Personal pronouns • Changing nouns in to the pronouns	**Student** • change nouns in to the pronouns

• Filling or underlining correct pronouns in the written sentence	• underlines or chooses correct pronoun in the written sentence
TOPIC 3 – ADJECTIVES	
Adjectives • Assigning nouns and adjectives which describe them • Filling or underlining correct adjectives in to the written sentence • Expression of sentence by one adjective (it cost a lot – expensive) • Describing a person using adjectives • Performing adjectives	**Student** • understands what the adjective is • assigns nouns and adjectives which describe them • underlines or chooses correct adjectives in to the sentence • express sentence using one adjective • describes person using various adjectives • performs adjectives (happy, sad, big..)
Opposite adjectives • Definition of opposite adjectives • Assigning adjectives to its opposites • Performing adjectives and its opposites	**Student** • understands what the opposite means • understands adjective and its opposite • assigns adjectives and its opposites • underlines or chooses correct opposites to the adjective in the written sentence • performs opposites of adjectives
TOPIC 4 – VERBS	
Verbs • Reading and writing verbs • present tense for "he, she, it" (ending "-s") • Finding, underlining and filling verbs in correct present form in the written sentence • Describing person's activity using verb • Ending "-ing" as a part of present continuous tense • Finding, underlining and filling "-ing" form of verbs in to the sentences • Performing verbs	**Student** • reads and writes verbs • reads and writes verbs in present tense for "he, she, it" • underlines or chooses correct present form of verb in the written sentence • describes person's activity using correct verb • rewrites verb to its form with ending "-ing" • underlines or chooses "-ing" form of verbs in the written sentence • performs verbs
Verb "to be" • Finding, underlining and filling forms of "to be" in the written sentence • Describing a person, thing, picture using adjectives and correct form of verb "to be" (They are happy) • Writing whole sentences using present continuous temp (She is cooking) • Performing verb "to be" with an adjective (I am small)	**Student** • assigns pronouns and its form of "to be" • underlines or chooses correct forms of "to be" for pronouns in the written sentence • describes a person, thing, picture using correct form of verb "to be" (I am small) • understands converting verb in its "ing" form • writes whole sentences using "to be" and ending "–ing" • performs verb "to be" with adjectives (It is windy)
Negative of verb "to be" • Definition of negative, repetition form 1st class • Principle of negative "to be" adding not behind the verb (no short form with apostrophe) • Positive and negative pairs of "to be" (I am – I am not) • Reading, writing and memorizing principle of negative • Finding, underlining and filling verbs in negative in the written sentence • Describing a person, thing, picture using adjectives and	**Student** • understands what the negative means • understands principle of negative "to be" and memorizes it • assigns positive and negative pairs of "to be" (she is – she is not) • underlines or chooses correct negatives of pronoun and its "to be" form in the written sentence

correct form of negative of verb "to be" (They are not sad) • Performing negative of verb "to be" with adjectives (I am not happy)	• describes a person, thing, picture using correct form of negative "to be "(I am not small) • performs negative "to be" with adjectives (It is not cloudy)
Question "to be" • Definition of question • Principle of question making using verb "to be" • Pairs of "to be" (I am – Am I?) • Reading, writing and memorizing principle of question • Filling question marks or full stop in the end of the sentence • Making question to a person, thing, picture using correct form of verb "to be" (Are they sad?)	**Student** • understands what the question means • understands principle of question making of verb "to be" and memorizes it • assigns pairs of "to be" (She is – Is she?) • reads question with correct intonation • writes question using question mark in the end of the sentence • fills question mark of full stop in the end of the sentence • makes questions to a person, thing, picture using correct form of "to be "(Is she small?)
Verb "to have", "to have got" • Finding, underlining and filling forms of verb "to have" in the written sentence • Definition of connection "to have got" as an owing of something • Using forms "to have got" in the written and spoken sentences with intonation on "got" (She has **got** brown eyes.) • Describing a person, thing, picture using correctly form of verb "to have got" (They have got a car) • Writing whole sentences using correct form of "to have got" (They have got a car) • Performing verb "to have got" with a noun (I have got a doll)	**Student** • assigns personal pronouns and its form of "to have" • underlines or chooses correct forms of "to have" in the written sentence • understands connection "to have got" as a phrase of owing something • uses forms of "to have got" in the written or spoken sentence, makes intonation on "got" • describes a person, thing, picture using correct form of verb "to have got" (They have got a car) • writes whole sentences using correct form of "to have got" (They have got a house) • performs verb "to have got" with a noun (I have got a doll)
Negative of verb "to have" • Definition of negative • Principle of negative "to have" adding not behind the verb (no short form) • Positive and negative pairs of "to have" (I have – I have not) • Reading, writing and memorizing principle of negative • Finding, underlining and filling verbs in negative in the written sentence	**Student** • understands what the negative means • understands principle of negative "to have" and memorizes it • assigns positive and negative pairs of "to have" (she has – she has not) • underlines or chooses correct negatives of pronoun and its "to have" form in the written sentence
Question "to have" • Definition of question • Principle of question making using verb "to have" • Pairs of "to have" (I have – Have I?) • Reading, writing and memorizing principle of question • Filling question marks or full stop in the end of the sentence • Making question to a person, thing, picture using correct form of verb "to be" (Has she a doll?)	**Student** • understands what the question means • understands principle of question making of verb "to have" and memorizes it • assigns pairs of "to have" (She has – Has she?) • reads question with correct intonation • writes question using question mark in the end of the sentence • fills question mark of full stop in the end of the sentence • makes questions to a person, thing, picture using correct form of "to be "(Has she a car?)
Present simple tense	**Student**

• Definition of present simple tense as actions that take place regularly, permanent facts or general statements • Present simple tense for "he, she, it" (ending "-s") • Finding, underlining and filling verbs in correct present form in the written sentence • Describing person's activity using verb • Performing verbs	• understands using of present simple tense • reads and writes verbs in present tense for "he, she, it" • underlines or chooses correct present form of verb in the written sentence • describes person's activity using correct verb • performs verbs
Present continuous tense • Definition of present continuous tense as actions which continues in the time of speaking • Principle of present continuous tense using form of verb "to be" and ending "-ing" • Ending "-ing" of verbs • Finding, underlining and filling "-ing" form of verbs in to the sentences • Finding, underlining and filling present continuous tense in to the sentences • Performing present continuous tense	**Student** • understands using of present continuous tense • understands principle of making present continuous tense using form of verb "to be" and ending "-ing" • rewrites verb to its form with ending "-ing" • underlines or chooses "-ing" form of verbs in the written sentence • underlines, chooses or fill present continuous tense in the written sentence • performs present continuous tense
TOPIC 6 – PREPOSITIONS	
Prepositions • Repetition of preposition from 1st class (under, in, on, behind, between, in front of) • At, into, out of • Underlining and filling prepositions "at, into, out of" in the written sentence • Describing position of a person, thing, picture using "at, into, out of" (Cat is jumping into the river) • Near, through, about • Underlining and filling prepositions "near, through, about" in the written sentence • Describing position of a person, thing, picture using "near, through, about" (Cat is near the bad) • Filling prepositions into the sentences (including prepositions from 1st class) • Performing prepositions, including preposition from 1st class (Stanzin is behind the Disket)	**Student** • understands meaning of prepositions • uses correctly prepositions from 1st class • describes position of a person, thing using correctly "at, into, out of" (cat is jumping into the river) • underlines or chooses correctly "at, into, out of" in the written sentence • describes position of a person, thing using correctly "near, through, about" (She is near the table) • fills correctly the preposition, including preposition from 1st class, into the sentences • performs prepositions, including preposition from 1st class (Stanzin is in front of Disket)
TOPIC 7 – CONJUNCTIONS	
Conjunction • Definition of conjunction as a word which joins other words or sentences • And, or • Underlining and filling conjunction "and, or" in the written sentence • Connection of two sentences using "and, or" • But, because • Underlining and filling conjunctions "but, because" in the written sentence • Connection of two sentences using "but, because" • Filling conjunctions "and, or, but, because" into the sentences • Connection of two sentences using "and, or, but, because"	**Student** • understands meaning of conjunctions • understands using conjunctions "and, or" • underlines or chooses correctly "and, or" in the written sentence • joints two sentences by using "and, or" • understands using conjunctions "but, because" • underlines or chooses correctly "but, because" in the written sentence • joints two sentences by using "but, because" • understands difference between conjunctions "and, or, but, because" • underlines or chooses correctly "and, or, but, because" in the written sentence

	• joints two sentences by using “and, or, but, because”
TOPIC 8 – ARTICLES	
Articles “a, an” • Definition of articles as a part of nouns • Definition of indefinite article as an article for something unspecific • Difference between “an” and “a” • Underlining and filling articles “a, an” in the written sentence • Writing nouns with articles “a, an” • Writing short sentences using articles “a, an” (I have a ball.) • Describing persons, things, places using articles “a, an” (It is a garden) • Performing with articles “a, an” (she has a doll, it is a plane)	**Student** • understands meaning of articles • understands articles “a, an” as unspecific articles • understands difference in using “a, an” • underlines or chooses correctly “a, an” in the written sentence • writes nouns with articles “a, an” • writes short sentences using articles “a, an” • describes a person, thing, place using correctly “a, an” (It is a plane) • performs pantomime for nouns (it is a car, she has a cup)
Article “the” • Definition of definite article as an article for something specific • Writing and reading “the” with specific words (Sun, Moon, Earth) • Writing short sentences using “the” (It is the Moon) • Underlining and filling articles “the” in the written sentence • Difference between indefinite “a, an” and definite “the” • Underlining and filling articles “a, an” or “the” in the written sentence	**Student** • understands articles “the” as specific articles • memorizes using “the” with specific nouns like Sun, Moon, Earth • understands difference in using “a, an” and “the” • underlines or chooses correctly “a, an” or “the” in the written sentence
TOPIC 9 – PUNCTUATION AND PHRASES	
Sentence, exclamation mark, question mark and comma • Reading whole sentences word by word with subsequent repeating of whole sentence • Reading with understanding • Writing sentences with reading • Exclamation mark (!) and its using in the sentence • Filling exclamation mark and full stop in the end of the sentences • Question mark (?) and its using in the sentence • Filling question mark in the end of the sentences • Comma and its using in the sentence • Filling commas into the sentence • Punctuation of sentence • Filling commas, exclamation mark and full stop in the sentence • Description by short sentences • Rearranging words to make a sentence and rewriting them correctly with punctuation (name my is stanzin – My name is Stanzin.)	**Student** • reads whole sentences word by word with subsequent repeating of whole sentence with understanding • writes sentences with reading • understands meaning of exclamation mark in the sentence • understands difference between exclamation mark and full stop • fills sentence using exclamation mark or full stop • understands meaning of question mark in the sentence • fills sentence using question mark • understands meaning of comma in the sentence • fills sentence using commas • punctuates sentence using commas, exclamation mark and full stop • describes person, thing, picture using short sentences and writes or tells them

5.5.1.5. English – 3rd class

Textbooks:

- Everyday English Grammar and composition 3; Author: Vandana Sood; Published by: Viva Education, New Delhi
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Subject matter	Student's outputs
TOPIC 1 – NOUNS	
Common nouns • Writing common nouns with no capital letters • Filling and underlining common nouns in the sentence	**Student** • writes common nouns with small letters • fills or underlines correctly common nouns in the sentence
Proper nouns • Definition of proper nouns as special names • Writing proper nouns with capital letters • Filling and underlining proper nouns in the sentence • Filling and underlining proper and common nouns, writing them with correct beginning letter	**Student** • writes proper nouns with capital letters • fills or underlines correctly proper nouns in the sentence • fills or underlines common and proper nouns in the sentence and writes them correctly with capital or not
Singular and plural • One and many (passive word many) • Ending "-s", "-es" • Ending "-ves" (knife – knives, leaf – leaves) • Ending "-ies" (puppy – puppies) • Reading singular and plural (with accent on "s") of the nouns • Writing singular and plural of the nouns • Irregular plural form (man – men, foot – feet, child – children, woman – women…) • Filling and underlining correct form of plural • Song "One little Indian" by changing noun Indian to other (irregular) words	**Student** • understands expressions "one and many" and difference between them • joins one with singular and many with plural form of nouns • uses correctly endings "-es", "-ies", "-ves" • underlines or chooses words in plural on singular form • reads singular and plural of the nouns, makes accent on "s" in plural form of the nouns • memorizes irregular plural form of nouns • writes singular and plural of the nouns filling them in sentence • rewrites singular into the plural form (and plural into the singular form) • sings song "One little Indian" by changing noun Indian to other (irregular) words
Masculine and feminine gender • Differences between masculine and feminine gender • Changing gender of the nouns • Choosing and underlining masculine and feminine gender of the nouns • Assigning opposite genders in the list of nouns	**Student** • understands what masculine and feminine gender is • changes gender form masculine to feminine (feminine to masculine) • underlines or chooses masculine and feminine gender of the nouns • assigns opposite genders in the list of nouns
Common gender • Definition of common gender • Nouns in common gender (doctor, teacher..) • Choosing and underlining common gender of the nouns	**Student** • understands what common gender is • names nouns in common gender • underlines or chooses common gender of the nouns

Neutral gender • Definition of neutral gender as a gender for non-living things • Choosing and underlining neutral gender of the nouns	**Student** • understands what common gender is • names nouns in common gender • underlines or chooses common gender of the nouns
Genders • Differences between masculine, feminine, common and neutral gender • Choosing and underlining masculine, feminine, common and neutral gender of the nouns	**Student** • understands differences between genders • names nouns in masculine, feminine, common and neutral gender • underlines or chooses masculine, feminine, common and neutral gender of the nouns
TOPIC 2 – PRONOUNS	
Personal pronouns • Changing nouns in to personal pronouns • Filling or underlining correct personal pronouns in the written sentence	**Student** • changes nouns in to personal pronouns • underlines or chooses correct personal pronoun in the written sentence
Possessive pronouns • Definition of possessive pronouns as pronouns of belonging • Mine, ours, yours • Definition of pronouns "mine, ours, yours" • Using "mine, ours, yours" in the spoken sentences (It is my doll. – The doll is mine) • Filling or underlining "mine, ours, yours" in the written sentence • His, her, their • Definition of pronouns "his, hers, theirs, its" • Using "his, her, their" in the sentences (It is her doll. – The doll is hers) • Filling or underlining "his, hers, theirs, its" in the written sentence • Differences between "mine, ours, yours, his, hers, theirs, its" and its using in the sentences	**Student** • understands meaning of possessive pronouns • understands differences between "mine, ours, yours" • uses "mine, ours, yours" in the spoken sentences • underlines or chooses correct pronoun in the written sentence • understands differences between "his, hers, theirs, its" • uses "his, hers, theirs, its" in the spoken sentences • underlines or chooses correct pronoun in the written sentence • understands differences between "mine, ours, yours, his, hers, theirs, its" and uses them correctly in the spoken and written sentences
TOPIC 3 – ADJECTIVES	
Adjectives • Assigning nouns and adjectives which describe them • Filling or underlining correct adjectives in to the written sentence • Opposite adjective • Expression of sentence by one adjective (it cost a lot – expensive) • Describing a person using adjectives • Performing adjectives	**Student** • understands what the adjective is • assigns nouns and adjectives which describe them • underlines or chooses correct adjectives in to the sentence • assigns adjectives and its opposites • underlines or chooses correct opposites to the adjective in the written sentence • performs opposites of adjectives • expresses sentence using one adjective • describes person using various adjectives • performs adjectives (happy, sad, big..)
Degrees of comparison • Definition comparison • Comparative (ending "-er")	**Student** • understands what comparison means • understands differences in adjective,

• Superlative (ending "-est") • Assigning adjectives to its 2nd (comparative) and 3rd (superlative) degree • Filling, underlining 2nd and 3rd degree of adjective • Irregular adjectives good, bad, little, many • Assigning adjectives good, bad, little, many to its 2nd and 3rd degree • Filling, underlining 2nd and 3rd degree of adjectives good, bad, little, many • Comparative + THAN (comparing two objects – He is taller than me) • Performing adjectives and its 2nd and 3rd degree (short – shorter – shortest)	comparative and superlative • assigns adjectives and its 2nd and 3rd degree • underlines or chooses correct 2nd and 3rd degree of the adjective in the written sentence • memorizes irregular adjectives and its 2nd and 3rd degree • assigns irregular adjectives and its 2nd and 3rd degree • underlines or chooses correct 2nd and 3rd degree of the irregular adjective in the written sentence • compares two objects using comparative and THAN (She is smaller than me, Ladakh is drier than Delhi) • performs adjectives and its 2nd and 3rd degree
Possessive adjectives • My, our, your • Assigning adjectives "my, our, your" with personal pronouns "I, we, you" • Filling, underlining "my, our, your" in the sentence • Expression of previous sentence (I have a doll. This is my doll.) • His, her, its, their • Assigning adjectives "his, her, its, their" with personal pronouns "he, she, it, they" • Filling, underlining "his, her, its, their" in the sentence • Expression of previous in the sentence (She has a doll. This is her doll.)	**Student** • understands expressions "my, our, your" • assigns "my, our, your" with personal pronouns (I, we, you) • fills and underlines "my, our, your" in the sentence • understands meaning of sentence and fills correctly "my, our, your" in the next sentence (You have a car. It is your car) • understands expressions "his, her, its, their" • assigns "his, her, its, their" with personal pronouns (he, she, it, they) • fills and underlines "his, her, its, their" in the sentence • understands meaning of sentence and fills correctly "his, her, its, their" in the next sentence (They have a car. It is their car)
TOPIC 4 – VERBS	
Present simple and present continuous tense • Reading and writing verbs in present simple and present continuous tense • present tense for "he, she, it" (ending "-s") • Finding, underlining and filling verbs in correct present form in the written sentence • Describing person's activity using verb • Converting present simple into present continuous and reverse • Performing verbs	**Student** • reads and writes verbs • reads and writes verbs in present tense for "he, she, it" • underlines or chooses correct present form of verb in the written sentence • describes person's activity using correct verb • rewrites present simple tense to present continuous tense (and reverse) • performs verbs
Verb "to go" • Reading, writing and memorizing phrases "I go, you go, we go, they go" • Finding, underlining and filling verbs in the written sentence • Reading, writing and memorizing "he goes, she goes, it goes" • Finding, underlining and filling verbs in the written sentence • Assigning pronouns with correct form of verb "to go"	**Student** • reads, writes and memorizes phrases "I go, you go, we go, they go" • assigns pronouns "I, you, we, they" and its form of "to go" • underlines or chooses correct forms of "to go" for pronouns "I, you, we, they" in the written sentence • reads, writes and memorizes phrases "he goes, she goes, it goes"

	• assigns pronouns “he, she, it” and its form of “to go” • underlines or chooses correct forms of “to go” for pronouns “he, she, it” in the written sentence • assigns pronouns and its form of “to go”
Verb “to do” • Reading, writing and memorizing phrases “I do, you do, we do, they do” • Finding, underlining and filling verbs in the written sentence • Reading, writing and memorizing “he does, she does, it does” • Finding, underlining and filling verbs in the written sentence • Assigning pronouns with correct form of verb “to do”	**Student** • reads, writes and memorizes phrases “I do, you do, we do, they do” • assigns pronouns “I, you, we, they” and its form of “to do” • underlines or chooses correct forms of “to do” for pronouns “I, you, we, they” in the written sentence • reads, writes and memorizes phrases “he does, she does, it does” • assigns pronouns “he, she, it” and its form of “to do” • underlines or chooses correct forms of “to do” for pronouns “he, she, it” in the written sentence • assigns pronouns and its form of “to do”
Negative of verb “to do” • Principle of negative “to do” adding not behind the verb (no short form with apostrophe) • Positive and negative pairs of “to do” (I do – I do not, He does – He does not) • Reading, writing and memorizing principle of negative • Finding, underlining and filling verbs in negative in the written sentence	**Student** • understands what the negative means • understands principle of negative “to do” and memorizes it • assigns positive and negative pairs of “to do” (she does – she does not) • underlines or chooses correct negatives of pronoun and its “to do” form in the written sentence
Question “to do” • Definition of question • Principle of question making using verb “to do” • Pairs of “to do” (I do – Do I?, He does – Does he?) • Reading, writing and memorizing principle of question	**Student** • understands what the question means • understands principle of question making of verb “to do” and memorizes it • assigns pairs of “to do” (She does – Does she?) • reads question with correct intonation
Question in present simple tense • Definition of question • Principle of question making in present simple tense using verb “to do” • Principle of taking ending “-s” (He writes – Does he write?) • Filling “do, does” and verb to the spaces in the question sentences (sleep, does; _____she_____in the bed? – Does she sleep in the bed?) • Converting short sentences in to the questions (She runs in the garden – Does she run in the garden?) • Reading, writing and memorizing principle of question • Choosing correctly written question to sentence • Making questions of given word (she read book a does – Does she read a book?) • Filling question marks or full stop in the end of the sentence	**Student** • understands what the question means • understands principle of question making in present simple tense using verb “to do” and memorizes it • understands principle taking ending “-s” and memorizes it (She learn**s** – Does she learn? • fills “do, does” and verb to the spaces in the question sentence • converts short sentence into the question • reads question with correct intonation • writes question using question mark in the end of the sentence • chooses correctly written question to sentence • makes question of given word (he English learn does – Does he learn English?) • fills question mark of full stop in the end of

	the sentence
Question in present continuous tense • Principle of question making in present continuous tense • Filling forms of "to be", ending "-ing" and verb to the spaces in the question sentences. (sleep, is; _____she_____in the bed? – Is she sleeping in the bed?) • Converting short sentences in to the questions (She is reading the book. – Is she reading the book?) • Reading, writing and memorizing principle of question • Choosing correctly written question to sentence • Making questions of given word (she reading book a is – Is she reading a book?) • Filling question marks or full stop in the end of the sentence	**Student** • understands principle of question making in present continuous tense • fills forms "to be", ending "-ing" and verb to the spaces in the question sentence • converts short sentence into the question • reads question with correct intonation • writes question using question mark in the end of the sentence • chooses correctly written question to sentence • makes question of given words (he English learning is – Is he learning English?) • fills question mark of full stop in the end of the sentence
Negative in present simple tense • Definition of negative • Principle of negative in present simple tense using verb "to do" and "not" • Principle of taking ending "-s" (He writes – He does not write.) • Filling "do, does", "not" and verb to the spaces in the question sentences. (sleep, does, not; She__ __ __in the bed. – She does not sleep in the bed) • Converting short sentences in to the negative (She runs in the garden – She does not run in the garden.) • Reading, writing and memorizing principle of negative • Choosing correctly written negative of sentence • Making questions of given words (she read not book a does – She does not read a book) • Apostrophe (pairs: do not – don't, does not – doesn't) • Rewriting sentences to apostrophe form • Answering questions using apostrophe form for negative	**Student** • understands what the negative means • understands principle of negative making in present simple tense using verb "to do" and "not, memorizes it • understands principle taking ending "-s" and memorizes it (She learn**s** – She does not learn.) • fills "do, does", "not" and verb to the spaces in the negative sentence • converts short sentence into the negative • chooses correctly written negative of sentence • makes negative of given words (he not English learn does – He does not learn English.) • understands and memorizes pairs of negative in present simple tense "do not – don't", "does not – doesn't" for particular pronouns • rewrites or retell sentences using apostrophe form (She does not learn English every day. – She doesn't learn English every day.) • answers questions using apostrophe form for negative (Do you read every day? – No, I don't read every day)
Negative in present continuous tense • Principle of negative in present continuous tense using verb "to be" and "not" • Filling form of "to be", "not" and verb with ending "-ing" to the spaces in the question sentences. (sleep, is, not; She__ __ __in the bed. – She is not sleeping in the bed) • Converting short sentences in to the negative (She is running in the garden – She is not running in the garden.) • Reading, writing and memorizing principle of negative • Choosing correctly written negative of sentence • Making questions of given words (she reading not book is a – She is not reading a book.) • Apostrophe (pairs: is not – isn't, are not – aren't) • Rewriting sentences to apostrophe form	**Student** • understands what the negative means • understands principle of negative making in present continuous tense using verb "to be" and "not, memorizes it • fills form of "to be", "not" and verb with ending "-ing" to the spaces in the negative sentence • converts short sentence into the negative • chooses correctly written negative of sentence • makes negative of given words (he not English learning is – He is not learning English.)

• Answering questions using apostrophe form for negative	• understands and memorizes pairs of negative in present simple tense "is not – isn't", "are not – aren't" for particular pronouns • rewrites or retell sentences using apostrophe form (She is not learning English now. – She isn't learning English now.) • answers questions using apostrophe form for negative (Are they reading now? – No, they aren't reading now)
Verb "to like" • Reading and writing phrase "to like" (I like milk, He likes milk, They like milk) • Negative "to like" (I don't like coffee, She doesn't like coffee) • Question "to like" (Do you like tea?, Does she like tea?)	**Student** • reads and writes phrase "to like" • assigns correct form of verb "to like" and pronoun (She likes milk, He likes milk, I like milk, They like milk..) • reads and writes negative "to like" • assigns correct form of negative "to like" and pronoun (She doesn't like milk, He doesn't likes milk, I don't like milk, They don't like milk..) • reads and writes question "to like" • assigns correct form of question "to like" and pronoun (Does she like milk?, Do they like milk?..) • asks and answer question "Do you like?" • tells what he/she likes or doesn't like
TOPIC 5 – ADVERBS	
Adverbs of manner • Definition of adverbs of manner as words which tell us how • Relation of adjective and manner adverb (slow – slowly, quick – quickly..) • Making adverbs of manner from adjectives by adding ending "-ly" • Underlining and filling adverbs of manner in the written sentence • Performing adverbs of manner (He walks quickly)	**Student** • understands meaning of adverbs of manner • understands relation between adjective and adverb of manner • assigns adjective and adverb of manner with equal meaning • makes adverbs of manner from adjectives using ending "-ly" • underlines or chooses correctly adverb of manner in the written sentence • performs adverb of manner (She speaks slowly)
Adverbs of time • Definition of adverbs of manner as words which tell us when • Everyday, yesterday, today, tomorrow • Underlining and filling "everyday, yesterday, today, tomorrow" in the written sentence • Soon, later, early, late • Underlining and filling "soon, later, early, late" in the written sentence • Often, daily, always, again • Underlining and filling "often, daily, always, again" in the written sentence • Opposite adverbs of time (soon – late)	**Student** • understands meaning of adverbs of time • underlines or chooses correctly "everyday, yesterday, today, tomorrow" in the written sentence • underlines or chooses correctly "soon, later, early, late"" in the written sentence • underlines or chooses correctly "often, daily, always, again" in the written sentence • assigns opposite adverbs of time • changes adverb of time in the opposite in the sentence
Adverbs of place • Definition of adverbs of place as words which tell us where	**Student** • understands meaning of adverbs of place • underlines or chooses correctly "up, down,

• Up, down, here, there • Underlining and filling "up, down, here, there" in the written sentence • Outside, inside, upstairs, away, everywhere • Underlining and filling "outside, inside, upstairs, away, everywhere" in the written sentence • Opposite adverbs of place (up – down) • Performing adverbs of place	here, there" in the written sentence • underlines or chooses correctly "outside, inside, upstairs, away, everywhere" in the written sentence • assigns opposite adverbs of place • changes adverb of time in the opposite in the sentence • performs adverbs (up, down, here..)
TOPIC 6 – PREPOSITIONS	
Prepositions • Repetition of preposition from previous class (under, in, on, behind, between, in front of, at, into, out of, near, through, about) • To, with, for • Underlining and filling prepositions "to, with, for, from" in the written sentence • Describing position of a person, thing, picture using "to, with, for, from" (Cat runs to the house) • Towards, around, beside, over • Underlining and filling prepositions "towards, around, beside, over" in the written sentence • Describing position of a person, thing, picture using "towards, around, beside, over" (Cat runs around the bad) • Filling prepositions into the sentences (including prepositions from previous class) • Performing prepositions, including preposition from previous class (Stanzin is behind the Disket)	**Student** • understands meaning of prepositions • uses correctly prepositions from previous class • underlines or chooses correctly "to, with, for" in the written sentence • describes position of a person, thing using correctly "to, with, for, from" (cat is jumping into the river) • underlines or chooses correctly "towards, around, beside, over" in the written sentence • describes position of a person, thing using correctly "towards, around, beside, over" (She is beside the table) • fills correctly the preposition, including preposition from previous class, into the sentences • performs prepositions, including preposition from previous class (Stanzin is in front of Disket)
TOPIC 7 – CONJUNCTIONS	
Conjunction • Definition of conjunction as a word which joins other words or sentences • And, or, but, because (repetition from previous class) • Underlining and filling conjunction in the written sentence • Connection of two sentences using correct conjunction	**Student** • understands meaning of conjunctions • understands difference in using conjunctions "and, or, but, because" • underlines or chooses correct conjunction in the written sentence • joints two sentences using correct conjunction
TOPIC 8 – ARTICLES	
Articles • Repetition of articles "a, an" and "the" (meaning, using) • Difference in using "an" and "a" • Difference in using "a, an" and "the" • Writing short sentences using articles "a, an" and "the" (I have a ball. The ball is red) • Underlining or filling articles "a, an" and "the" in to the text • Rewriting sentences with filling articles in • Describing a person, thing or place using articles • Performing with articles "a, an" (It is a plane. It is the Sun)	**Student** • understands meaning of articles • understands differences in using articles "a" and "an" • understands difference in using "a, an" and "the" • writes short sentences using articles "a, an" and "the" (This is a car. The car is mine.) • underlines or chooses correctly "a, an" or "the" in the text • rewrites short sentences using correctly the articles • describes a person, thing, place using

	correctly “a, an” (It is a plane. The plane is yellow.) • performs pantomime for nouns (it is a car, it is the Moon)
TOPIC 8 – PUNCTUATION AND PHRASES	

5.5.1.6. English – 4th class

Textbooks:

- Everyday English Grammar and composition 3; Author: Vandana Sood; Published by: Viva Education, New Delhi

Subject matter	Student's outputs
TOPIC 1 – NOUNS	
Common nouns and proper nouns • Differences in writing common and proper nouns • Filling and underlining common and proper nouns in the sentence • Rewriting sentence using correctly capitals or small letters	**Student** • writes common nouns with small letters • writes proper nouns with capital letters • fills or underlines correctly common and proper nouns in the sentence • rewrites correctly sentence using small or capital letters
Singular and plural • Definition of singular and plural • Ending "-s", "-es" • Ending "-ves" (knife – knives, leaf – leaves) • Ending "-ies" (puppy – puppies) • Reading singular and plural (with accent on "s") of the nouns • Writing singular and plural of the nouns • Irregular plural form (man – men, foot – feet, child – children, woman – women…) • Filling and underlining correct form of plural • Song "One little Indian" by changing noun Indian to other (irregular) words	**Student** • understands term singular • understands term plural • understands difference between singular and plural • joins one with singular and many with plural form of nouns • uses correctly endings "-es", "-ies", "-ves" • underlines or chooses words in plural on singular form • reads singular and plural of the nouns, makes accent on "s" in plural form of the nouns • memorizes irregular plural form of nouns • writes singular and plural of the nouns filling them in sentence • rewrites singular into the plural form (and plural into the singular form) • sings song "One little Indian" by changing noun Indian to other (irregular) words
Countable and uncountable nouns • Difference between countable and uncountable nouns • Choosing countable nouns • Choosing uncountable nouns • Many, much • Definition of using "many" and "much" • Assigning, choosing, filling or underlining "many" or "much" with countable or uncountable nouns • Filling "many, much" in the text • A few, a little • Definition of using "a few" and "a little" • Assigning, choosing, filling or underlining "a few" or "a little" with countable or uncountable nouns • Filling "a few, a little" in the text • Plenty of, a lot of • Definition of using "plenty of, a lot of" • Assigning, choosing, filling or underlining "plenty of, a lot	**Student** • understands what countable and uncountable noun is • understands difference between countable and uncountable nouns • chooses countable nouns from the list of nouns • chooses uncountable nouns from the list of nouns • understands expressions "many, much" • assigns, chooses, fills or underlines "many, much" with countable or uncountable noun • fills "many, much" into to text • understands expressions "a few, a little" • assigns, chooses, fills or underlines "a few, a little" with countable or uncountable noun • fills "a few, a little" into to text

of" with countable and uncountable nouns • Filling "many, much, a few, a little, plenty of, a lot of" in the text	• understands expressions "plenty of, a lot of" • assigns, chooses, fills or underlines "plenty of, a lot of" with countable and uncountable • fills "plenty of, a lot of" into to text • chooses and fills correctly "many, much, a few, a little, plenty of, a lot of" in the text
Some and any • Definition of "some" and "any" as words for indefinite number • Using "some" and "any" for countable and uncountable words • Using "some" in positive sentences (I have got some milk) • Using "any" in negative sentences or questions (I don't have any milk) (do you have any milk?) • Assigning, choosing, filling or underlining "some" or "any" in the text	**Student** • understands expressions "some, any" and difference between them • uses "some, any" with countable and uncountable nouns • writes, reads "some" in positive sentences (I have got some water) • writes, reads "any" in negative sentences (I haven't got any water) • assigns, chooses, fills or underlines "some, any" in the text
Genders • Differences between masculine, feminine, common and neutral gender • Choosing and underlining masculine, feminine, common and neutral gender of the nouns	**Student** • understands differences between genders • names nouns in masculine, feminine, common and neutral gender • underlines or chooses masculine, feminine, common and neutral gender of the nouns
TOPIC 2 – PRONOUNS	
Personal pronouns • Me, you, us • Pairs (I – me, you – you, we – us) • Assigning pronouns pairs • Underlining and filling personal pronouns "me, you, us" into the sentence (It is my ball. Give it to me) • Him, her, them • Pairs (he – him, she – her, they – them) • Assigning pronouns pairs • Underlining and filling personal pronouns "him, her, them" into the sentence (It is their ball. Give it to them) • Filling or underlining correct personal pronouns in the text	**Student** • memorizes pairs (I – me, you – you, we – us) • assigns pairs (I – me, you – you, we – us) • underlines and fills personal pronouns "me, you, us" into the sentence (It is my ball. Give it to me) • memorizes pairs (he – him, she – her, they – them) • assigns pairs (he – him, she – her, they – them) • Underlines and fills personal pronouns "him, her, them" into the sentence (It is their ball. Give it to them) • Fills or underlines correct personal pronouns in the text
Possessive pronouns • Repetition of possessive pronouns form previous class • Using possessive pronouns in the spoken sentences (It is my doll. – The doll is mine.) • Filling or underlining possessive pronouns in the written sentence	**Student** • understands meaning of possessive pronouns • uses possessive pronouns in the spoken sentences • underlines or chooses correct possessive pronoun in the written sentence
Demonstrative pronouns • This, that • Definition "this" as a pronoun which point out one object which is near • Definition "that" as a pronoun which point out one object which is far • Using "this, that" in the spoken sentences, pointing on the things, persons or places (This is a doll. It is beside me. – That is a doll. It is far of me)	**Student** • understands meaning of "this, that" and difference between them • uses "this, that" in the spoken sentences pointing on the things, persons or places (This is a book. It is beside me. – That is a book. It is far of me.) • underlines or chooses correctly "this, that" in the written sentence

• Filling or underlining “this, that” in the written sentence • question “what is this?”, “what is that?” • These, those • Definition “these” as a pronoun which point out more objects which are near • Definition “those” as a pronoun which point out more objects which are far • Using “these, those” in the spoken sentences, pointing on the things, persons or places (These are dolls. They are beside me. – Those are dolls. They are far of me) • Filling or underlining “these, that” in the written sentence • Performing nouns (answer This is a cat! These are the mice!)	• uses question “what is this”, “what is that” in the dialog with other student • understands meaning of “these, those” and difference between them • uses “these, those” in the spoken sentences pointing on the things, persons or places (These are books. They are beside me. – Those are books. They are far of me.) • underlines or chooses correctly “these, those” in the written sentence • v uses question “what are these”, “what are those” in the dialog with other student • Performs nouns individually or in the group (other students answer – This is a dog! These are the cows!)

TOPIC 3 – ADJECTIVES

Adjectives	**Student**
• Assigning nouns and adjectives which describe them • Filling or underlining correct adjectives in to the written sentence • Opposite adjective • Expression of sentence by one adjective (it cost a lot – expensive) • Describing a person using adjectives • Performing adjectives	• understands what the adjective is • assigns nouns and adjectives which describe them • underlines or chooses correct adjectives in to the sentence • assigns adjectives and its opposites • underlines or chooses correct opposites to the adjective in the written sentence • performs opposites of adjectives • expresses sentence using one adjective • describes person using various adjectives • performs adjectives (happy, sad, big..)
Degrees of comparison	**Student**
• Repetition from previous class • Assigning comparative (2nd degree) and superlative (3rd degree) of “short” adjectives (use endings “-er”, “-est” • Filling, underlining 2nd and 3rd degree of “short” adjective • Irregular adjectives good, bad, little, many • Assigning adjectives good, bad, little, many to its 2nd and 3rd degree • Filling, underlining 2nd and 3rd degree of adjectives good, bad, little, many • Comparative + THAN (comparing two objects – He is taller than me) • AS + adjective + AS (comparing two objects – He is as tall as me.) • NOT AS + adjective + AS (comparing two objects – He is not as tall as me.) • comparison of quantity for countable nouns (more, fewer) • comparison of quantity for uncountable nouns (less, fewer) • Performing adjectives and its 2nd and 3rd degree (short – shorter – shortest)	• understands relation of adjective, comparative and superlative • assigns “short” adjectives and its 2nd and 3rd degree • underlines or chooses correct 2nd and 3rd degree of the adjective in the written sentence • memorizes irregular adjectives and its 2nd and 3rd degree • assigns irregular adjectives and its 2nd and 3rd degree • underlines or chooses correct 2nd and 3rd degree of the irregular adjective in the written sentence • compares two objects using comparative and THAN (She is smaller than me, Ladakh is drier than Delhi) • compares two objects using AS+ADJECTIVE+AS (He is as small as me, Lion is as dangerous as tiger) • compares two objects using NOT AS+ADJECTIVE+AS (He is not as small as me, Dog is not as dangerous as tiger) • comprehends and defines countable and

	uncountable nouns and difference between them • names countable and uncountable nouns • compares two quantities of countable objects (Stanzin has got MORE children than Lhamo, Sonam has got FEWER brothers than Jangchan) • compares two quantities of uncountable objects (Stanzin has got MORE money than Sonam, Jangchan drinks LESS milk than Sonam.) • performs adjectives and its 2nd and 3rd degree
TOPIC 4 – VERBS	
Present simple and present continuous tense • Repetition from previous classes • Reading and writing verbs in present simple and present continuous tense • present tense for "he, she, it" (ending "-s") • Finding, underlining and filling verbs in correct present form in the written sentence • Rules for use of present simple tense (action in the present taking place once, never or several times; facts, actions taking place one after another) • Signal words for present simple tense (every, always, normally, often, sometimes, usually, never) • Rules for use of present continuous tense (action taking place in the moment of speaking, action taking place only for a limited period of time, action arranged for the future) • Signal words for present continuous tense (at the moment, just, just now, right now) • Describing person's activity using present continuous • Converting present simple into present continuous and reverse • Negative in present simple and present continuous tense • Apostrophe form in present simple and present continuous tense • Question in present simple and present continuous tense • Performing verbs	**Student** • reads and writes verbs • reads and writes verbs in present tense for "he, she, it" • underlines or chooses correct present form of verb in the written sentence • comprehends and enumerates rules for using present simple tense • joins words "every, always, normally, often, sometimes, usually, never" with using of present simple tense • comprehends and enumerates rules for using present continuous tense • joins words "at the moment, just, just now, right now" with using of present continuous tense • describes person's activity using present continuous tense • rewrites present simple tense to present continuous tense (and reverse) • uses and makes correctly negative in present simple and present continuous tense • uses apostrophe form of negative in present simple and present continuous tense in written and spoken form • rewrites or retells sentence to apostrophe form (He do not read every day – He doesn't read every day • uses and makes correctly questions • performs verbs
Verb "to like" • Connection of verb "to like" with proper noun (I like milk, I don't like tea, I like my sister, I don't like volleyball) • Connection of verb "to like" with present participle (I like read**ing**, I like eat**ing**, I like play**ing** volleyball)	**Student** • creates sentences with verb "to like" and proper noun, using correctly form "like, likes" and "don't like, doesn't like" • understands differences between proper noun and present participle • describes what he/she likes, or doesn't like to do
Past simple tense • Definition of past simple tense as actions that took place in the past and is finished • Principle of making past simple tense for regular verbs	**Student** • understands using of past simple tense • understands principle of making past simple tense for regular verbs by adding ending "-ed"

by adding ending "-ed" • Assigning, reading and writing regular verbs in infinitive and verb in past simple tense (learn – learned) • Irregular verbs (be, come, sit, bring, buy, cut, teach, write, read, drive, draw, do, feel, fall, fly, go, give, leave) • Assigning, reading and writing irregular verbs in infinitive, verb in past simple tense and verb in past participate (draw – drew – drawn) • Finding, underlining and filling irregular verbs in past simple tense in the written sentence • Rewriting sentences form present simple tense to past simple tense (and reverse) • Describing person's activity using past simple tense • Performing verbs	• assigns, reads and writes pair of regular verbs in infinitive and past simple tense (move – moved) • underlines or chooses correctly past simple tense of verb in the written sentence • assigns, reads and writes pair of irregular verbs in infinitive, past simple tense and past participate (sit – sat – sat) • underlines or chooses correctly past simple tense of verb in the written sentence • rewrites sentences from present simple tense to past simple tense (and reverse) • describes person's activity using past simple tense • performs verbs
Past continuous tense • was, were • Definition of past continuous tense as actions which took place in the past, is finished, but was taking some time (ex. **for** two hours) • Principle of past continuous tense using "was, were" and ending "-ing" • Assigning, reading and writing present continuous tense • Finding, underlining and filling present continuous tense in to the sentences • Rewriting sentences in present continuous tense to past continuous tense (and reverse) • Performing past continuous tense • Converting sentences in past simple tense to past continuous tense (and reverse) • Converting sentences in present tense to past tense, using correct adverbs with tenses	**Student** • uses and memorizes using "was" for "I, he, she,it" • uses and memorizes using "were" for "you, we, they" • assigns or fill "was, were" to personal pronouns • understands using of past continuous tense • understands principle of making past continuous tense using "was, were" and ending "-ing" • underlines, chooses or fill past continuous tense in the written sentence • rewrites present continuous tense to past continuous tense (and reverse) • performs past continuous tense • converts sentences in past simple to past continuous tense (I wrote a letter – I was writing a letter) • converts present tense to past tense, uses correct adverbs with tenses (I eat my lunch every day – I am eating my lunch now – I was eating my lunch for half an hour – I ate my lunch yesterday)
Question in past simple tense • Definition of question • Principle of question making in past simple tense using "did" • Principle of taking changing past form of verb back to present form (He wrote – Did he write?) • Filling "did" and verb to the spaces in the question sentences (sleep, did; _____she_____in the bed? – Did she sleep in the bed?) • Converting short sentences in to the questions (She ran in the garden – Did she run in the garden?) • Reading, writing and memorizing principle of question • Choosing correctly written question to sentence • Making questions of given word (she read book a did – Did she read a book?)	**Student** • understands what the question means • understands principle of question making in past simple tense using "did" and memorizes it • understands principle changing past form of the verb back to its present form (She learn**ed** – Did she learn? • fills "did" and verb to the spaces in the question sentence • converts short sentence into the question (He sat on the chair. – Did he sit on the chair?) • reads question with correct intonation • writes question using question mark in the end of the sentence • chooses correctly written question to sentence • makes question of given word (he yesterday

	English learn did – Did he learn English yesterday?)
Question in past continuous tense • Principle of question making in past continuous tense • Filling "was, were", ending "-ing" and verb to the spaces in the question sentences. (sleep, was; _____she_____in the bed? – Was she sleeping in the bed?) • Converting short sentences in to the questions (She was reading the book for 2 hours. – Was she reading the book for 2 hours?) • Reading, writing and memorizing principle of question • Choosing correctly written question to sentence • Making questions of given word (she reading book a was – Was she reading a book?) • Converting questions in past simple tense to past continuous tense (and reverse) • Converting questions in present tense to past tense, using correct adverbs with tenses	**Student** • understands principle of question making in past continuous tense • fills "was, were", ending "-ing" and verb to the spaces in the question sentence • converts short sentence into the question • reads question with correct intonation • writes question using question mark in the end of the sentence • chooses correctly written question to sentence • makes question of given words (he English learning was – Was he learning English?) • converts questions in past simple tense to continuous tense (Did I write my homework? – Was I writing my homework?) • converts questions in present tense to past tense and uses correct adverbs (Do you read a book every day? – Are you reading book now? – Did you read a book yesterday? – Were you reading a book all afternoon?)
Negative in past simple tense • Definition of negative • Principle of negative in past simple tense using "did" and "not" • Principle of changing past simple tense of verb to present simple tense (He wrote – He did not write.) • Filling "did", "not" and verb to the spaces in the question sentences. (sleep, did, not; She__ __ __in the bed. – She did not sleep in the bed) • Converting short sentences in to the negative (She ran in the garden – She did not run in the garden.) • Reading, writing and memorizing principle of negative • Apostrophe form "didn't" • Filling "didn't" and verb to the spaces in the question sentences. (sleep, didn't; She__ __ __in the bed. – She didn't sleep in the bed) • Converting short sentences in to the negative (She ran in the garden – She didn't run in the garden.) • Reading, writing and memorizing principle of negative using short form • Choosing correctly written negative of sentence • Making questions of given words (she read not book a does – She does not read a book)	**Student** • understands what the negative means • understands principle of negative making in past simple tense using "did" and "not, memorizes it • understands principle of changing past simple tense of verb to present simple tense (She learn**ed** – She did not learn.) • fills "did", "not" and verb to the spaces in the negative sentence • converts short sentence into the negative • reads, writes and memorizes principle of negative for past simple tense • understands and uses short form "didn't" • fills "didn't" and verb to the spaces in the negative sentence • converts short sentence into the negative using short form "didn't' • reads, writes and memorizes principle of negative for past simple tense using short form • chooses correctly written negative of sentence • makes negative of given words (he not English learn does – He does not learn English.) (he sit chair on a didn't – He didn't sit on the chair)
Negative in past continuous tense • Principle of negative in past continuous tense using "was, were" and "not" • Filling "was, were", "not" and verb with ending "-ing" to the spaces in the question sentences. (sleep, was, not; She__ __ __in the bed. – She was not sleeping in the bed) • Converting short sentences in to the negative (She was	**Student** • understands what the negative means • understands principle of negative making in past continuous tense using "was, were" and "not, memorizes it • fills "was, were", "not" and verb with ending "-ing" to the spaces in the negative sentence

running in the garden – She was not running in the garden.) • Reading, writing and memorizing principle of negative • Apostrophe form "wasn't, weren't" • Filling "wasn't, weren't" and verb with ending "-ing" to the spaces in the question sentences. (sleep, wasn't; She__ __ __in the bed. – She wasn't sleeping in the bed) • Converting short sentences in to the negative (She was running in the garden – She wasn't running in the garden.) • Reading, writing and memorizing principle of negative using short form • Choosing correctly written negative of sentence • Making questions of given words (she reading not book was a – She was not reading a book.) • Converting negative sentences in past simple tense to past continuous tense (and reverse) • Converting sentences in present tense to negative in past tense, using correct adverbs for tenses	• converts short sentence into the negative • understands and uses short form "wasn't, weren't" • fills "wasn't, weren't" and verb with ending "-ing" to the spaces in the negative sentence • converts short sentence into the negative using short form "wasn't, weren't" • reads, writes and memorizes principle of negative for past simple tense using short form • chooses correctly written negative of sentence • makes negative of given words (he not English learning was – He was not learning English.) (he reading a wasn't book – He wasn't reading a book) • converts negative sentences from past simple tense to past continuous tense (I didn't read the book – I wasn't reading the book) • converts sentences in present tense to negative in past tense, uses correct adverbs (I don't write my homework every day - I'm not writing homework now – I wasn't writing homework for two hours – I didn't write my homework yesterday)
TOPIC 5 – ADVERBS	
Adverbs of manner • Repetition from previous class • Relation of adjective and manner adverb (slow – slowly, quick – quickly..) • Making adverbs of manner from adjectives by adding ending "-ly" • Underlining and filling adverbs of manner in the written sentence • Performing adverbs of manner (He walks quickly)	**Student** • understands meaning of adverbs of manner • understands relation between adjective and adverb of manner • assigns adjective and adverb of manner with equal meaning • makes adverbs of manner from adjectives using ending "-ly" • underlines or chooses correctly adverb of manner in the written sentence • performs adverb of manner (She speaks slowly)
Adverbs of time • Repetition from previous class • Underlining and filling adverb of time in the written sentence • Opposite adverbs of time (soon – late)	**Student** • understands meaning of adverbs of time • underlines or chooses correctly adverb of time in the written sentence • assigns opposite adverbs of time • changes adverb of time in the opposite in the sentence
Adverbs of place • Repetition from previous class • Underlining and filling adverbs of place in the written sentence • Opposite adverbs of place (up – down) • Performing adverbs of place	**Student** • understands meaning of adverbs of place • underlines or chooses correctly adverb of place in the written sentence • assigns opposite adverbs of place • changes adverb of time in the opposite in the sentence • performs adverbs (up, down, here..)
Adverbs of frequency	**Student**

• Definition of adverbs of frequency as word which tell us how often an action is done • Usually, sometimes, seldom, never, always, often • Underlining and filling adverbs of frequency in the written sentence	• understands meaning of adverbs of place • memorizes adverbs of frequency and uses them • underlines or chooses correctly adverb of frequency in the written sentence
Adverbs of degree • Definition of adverbs of degree as word which tell us about intensity • Extremely, totally, completely, hardly, enough, very, almost, quite • Underlining and filling adverbs of degree in the written sentence	**Student** • understands meaning of adverbs of degree • memorizes adverbs of degree and uses them • underlines or chooses correctly adverb of degree in the written sentence
TOPIC 6 – PREPOSITIONS	
Prepositions • Repetition of preposition from previous class (under, in, on, behind, between, in front of, at, into, out of, near, through, about) • To, with, for • Underlining and filling prepositions "to, with, for, from" in the written sentence • Describing position of a person, thing, picture using "to, with, for, from" (Cat runs to the house) • Towards, around, beside, over • Underlining and filling prepositions "towards, around, beside, over" in the written sentence • Describing position of a person, thing, picture using "towards, around, beside, over" (Cat runs around the bad) • Filling prepositions into the sentences (including prepositions from previous class) • Performing prepositions, including preposition from previous class (Stanzin is behind the Disket)	**Student** • understands meaning of prepositions • uses correctly prepositions from previous class • underlines or chooses correctly "to, with, for" in the written sentence • describes position of a person, thing using correctly "to, with, for, from" (cat is jumping into the river) • underlines or chooses correctly "towards, around, beside, over" in the written sentence • describes position of a person, thing using correctly "towards, around, beside, over" (She is beside the table) • fills correctly the preposition, including preposition from previous class, into the sentences • performs prepositions, including preposition from previous class (Stanzin is in front of Disket)
TOPIC 7 – CONJUNCTIONS	
Conjunction • Definition of conjunction as a word which joins other words or sentences • And, or, but, because (repetition from previous class) • Underlining and filling conjunction in the written sentence • Connection of two sentences using correct conjunction	**Student** • understands meaning of conjunctions • understands difference in using conjunctions "and, or, but, because" • underlines or chooses correct conjunction in the written sentence • joints two sentences using correct conjunction
TOPIC 8 – ARTICLES	
Articles • Repetition of articles "a, an" and "the" (meaning, using) • Difference in using "an" and "a" • Difference in using "a, an" and "the" • Writing short sentences using articles "a, an" and "the" (I have a ball. The ball is red) • Underlining or filling articles "a, an" and "the" in to the	**Student** • understands meaning of articles • understands differences in using articles "a" and "an" • difference in using "a, an" and "the" • writes short sentences using articles "a, an" and "the" (This is a car. The car is mine.)

text • Rewriting sentences with filling articles in • Describing a person, thing or place using articles • Performing with articles “a, an” (It is a plane. It is the Sun)	• underlines or chooses correctly “a, an” or “the” in the text • rewrites short sentences using correctly the articles • describes a person, thing, place using correctly “a, an” (It is a plane. The plane is yellow.) • performs pantomime for nouns (it is a car, it is the Moon)
TOPIC 8 – PUNCTUATION AND PHRASES	

5.5.1.7. English – 5th class

Subject matter	Student's outputs
TOPIC 1 – NOUNS	
Common nouns and proper nouns • Repetition of common and proper nouns • Filling and underlining common and proper nouns in the sentence • Rewriting sentence using correctly capitals or small letters	**Student** • writes common nouns with small letters • writes proper nouns with capital letters • fills or underlines correctly common and proper nouns in the sentence • rewrites correctly sentence using small or capital letters
Singular and plural • Repetition of singular and plural • Ending "-s", "-es" • Ending "-ves" (knife – knives, leaf – leaves) • Ending "-ies" (puppy – puppies) • Reading singular and plural (with accent on "s") of the nouns • Writing singular and plural of the nouns • Irregular plural form (man – men, foot – feet, child – children, woman – women…) • Filling and underlining correct form of plural • Song "One little Indian" by changing noun Indian to other (irregular) words	**Student** • understands term singular • understands term plural • understands difference between singular and plural • joins one with singular and many with plural form of nouns • uses correctly endings "-es", "-ies", "-ves" • underlines or chooses words in plural on singular form • reads singular and plural of the nouns, makes accent on "s" in plural form of the nouns • memorizes irregular plural form of nouns • writes singular and plural of the nouns filling them in sentence • rewrites singular into the plural form (and plural into the singular form) • sings song "One little Indian" by changing noun Indian to other (irregular) words
Countable and uncountable nouns • Repetition of countable and uncountable nouns • Choosing countable nouns • Choosing uncountable nouns • Many, much, a few, a little • Assigning, choosing, filling or underlining "many, much, a little, a few" with countable or uncountable nouns • Filling "many, much, a few, a little" in the text • Plenty of, a lot of • Assigning, choosing, filling or underlining "plenty of, a lot of" with uncountable and countable nouns • Filling "many, much, a few, a little, plenty of, a lot of" in the text	**Student** • understands what countable and uncountable noun is • understands difference between countable and uncountable nouns • chooses countable nouns from the list of nouns • chooses uncountable nouns from the list of nouns • understands expressions "many, much, a few, a little" and difference between them • assigns, chooses, fills or underlines "many, much, a few, a little" with countable or uncountable noun • fills "many, much, a few, a little" into to text • understands expressions "plenty of, a lot of" • assigns, chooses, fills or underlines "plenty of, a lot of" with uncountable and countable nouns • fills "plenty of, a lot of" into to text • chooses and fills correctly "many, much, a

	few, a little, plenty of, a lot of" in the text
Some and any • Repetition of using "some" and "any" • Using "some" and "any" for countable and uncountable words • Using "some" in positive sentences (I have got some milk) • Using "any" in negative sentences or questions (I haven't got any milk) (Have you got any milk?) • Assigning, choosing, filling or underlining "some" or "any" in the text	**Student** • understands expressions "some, any" and difference between them • uses "some, any" with countable and uncountable nouns • writes, reads "some" in positive sentences (I have got some water) • writes, reads "any" in negative sentences (I haven't got any water) • assigns, chooses, fills or underlines "some, any" in the text
Collective nouns • Definition of collective nouns as the name given to a group • Gang, class, cluster, army, swarm, shoal, bunch, choir (explaining words) • Assigning collective noun with a picture, sentence or words • Filling collective nouns into the text • Performing collective nouns in the group (a shoal of fish)	**Student** • understands meaning of collective noun • memorizes and understand expressions gang, class, cluster, army, swarm, shoal, bunch, choir • writes, reads "some" in positive sentences (I have got some water) • writes, reads "any" in negative sentences (I haven't got any water) • assigns, chooses, fills or underlines "some, any" in the text • performs in the group collective nouns (swarm of bees)
Genders • Differences between masculine, feminine, common and neutral gender • Choosing and underlining masculine, feminine, common and neutral gender of the nouns	**Student** • understands differences between genders • names nouns in masculine, feminine, common and neutral gender • underlines or chooses masculine, feminine, common and neutral gender of the nouns
TOPIC 2 – PRONOUNS	
Personal pronouns • Me, you, us, him, her, them • Pairs (I – me, you – you, he – him, she – her, it – it we – us, they – them) • Assigning pronouns pairs • Underlining and filling personal pronouns into the sentence (It is my ball. Give it to me) • Filling or underlining correct personal pronouns in the text	**Student** • memorizes pairs (I – me, you – you, he – him, she – her, it – it we – us, they – them) • assigns pairs • underlines and fills personal pronouns into the sentence (It is my ball. Give it to me) • Fills or underlines correct personal pronouns in the text
Possessive pronouns • Repetition of possessive pronouns form previous class • Using possessive pronouns in the spoken sentences (It is my doll. – The doll is mine.) • Filling or underlining possessive pronouns in the written sentence	**Student** • understands meaning of possessive pronouns • uses possessive pronouns in the spoken sentences • underlines or chooses correct possessive pronoun in the written sentence
Demonstrative pronouns • This, that, these, those • Repetition of using demonstrative pronouns • Using demonstrative pronouns in the spoken sentences, pointing on the things, persons or places (This is a doll. It is beside me. – That is a doll. It is far of me) (These are	**Student** • understands meaning of "this, that, these, those" and difference between them • uses demonstrative pronouns in the spoken sentences pointing on the things, persons or places (This is a book. It is beside me. – That is

dolls. They are beside me. – Those are dolls. They are far of me) • Filling or underlining demonstrative pronouns in the written sentence • question "what is this?", "what is that?" • Performing nouns (answer "This is a cat!", "These are the mice!")	a book. It is far of me.) • underlines or chooses correctly demonstrative pronouns in the written sentence • uses question "what is this", "what is that" in the dialog with other student • uses question "what are these", "what are those" in the dialog with other student • performs nouns individually or in the group (other students answer – This is a dog! These are the cows!)
TOPIC 3 – ADJECTIVES	
Adjectives • Assigning nouns and adjectives which describe them • Filling or underlining correct adjectives in to the written sentence • Opposite adjective • Expression of sentence by one adjective (it cost a lot – expensive) • Describing a person using adjectives • Performing adjectives	**Student** • understands what the adjective is • assigns nouns and adjectives which describe them • underlines or chooses correct adjectives in to the sentence • assigns adjectives and its opposites • underlines or chooses correct opposites to the adjective in the written sentence • performs opposites of adjectives • expresses sentence using one adjective • describes person using various adjectives • performs adjectives (happy, sad, big..)
Degrees of comparison • Repetition from previous class • Assigning, filling and underlining of adjectives, their comparatives and superlatives • Irregular adjectives good, bad, little, many and their comparatives and superlatives • Comparison using "more, the most", "less, the least" as a 2^{nd} and 3^{rd} degree for "long adjectives" • Assigning 2^{nd} and 3^{rd} degree of "long adjectives" (intelligent – more intelligent – the most intelligent) (intelligent – less intelligent – the least intelligent) • Filling, underlining 2^{nd} and 3^{rd} degree of "long adjectives" • Comparison of quantity of countable nouns (using more than, fewer than, as more as, as few as) • Comparison of quantity of uncountable nouns (using more than, less than, as much as, as little as) • Performing adjectives and its 2^{nd} and 3^{rd} degree (short – shorter – the shortest)	**Student** • understands what comparison means • understands adjective and its 2^{nd} degree (comparative) and 3^{rd} degree (superlative) • assigns adjectives and its 2^{nd} and 3^{rd} degree • underlines or chooses correct 2^{nd} and 3^{rd} degree of the adjective in the written sentence • memorizes irregular adjectives and its 2^{nd} and 3^{rd} degree • assigns irregular adjectives and its 2^{nd} and 3^{rd} degree • underlines or chooses correct 2^{nd} and 3^{rd} degree of the irregular adjective in the written sentence • understands difference between "more, the most" and "less, the least" • understands principle of making 2^{nd} and 3^{rd} degree of "long adjectives" • assigns long adjectives and its 2^{nd} and 3^{rd} degree • underlines or chooses correct 2^{nd} and 3^{rd} degree of the long adjective in the written sentence • distinguish countable and uncountable nouns • understands "less than, more than, as much as, as little as" as terms for comparison of uncountable nouns

	• understands "fewer than, more than, as many as, as few as" as terms for comparison of countable nouns • compares quantity of objects with understanding between countable and uncountable nouns • assigns, chooses or fills terms for comparison (Stanzin has LESS/**FEWER** children than Sonam. Stanzin drinks **LESS**/FEWER milk than Sonam) • performs adjectives and its 2nd and 3rd degree
TOPIC 4 – VERBS	
Present simple and present continuous tense • Repetition from previous classes • Reading and writing verbs in present simple and present continuous tense • present tense for "he, she, it" (ending "-s") • Finding, underlining and filling verbs in correct present form in the written sentence • Describing person's activity using present continuous • Converting present simple into present continuous and reverse • Negative in present simple and present continuous tense • Question in present simple and present continuous tense • Performing verbs	**Student** • reads and writes verbs • reads and writes verbs in present tense for "he, she, it" • underlines or chooses correct present form of verb in the written sentence • describes person's activity using present continuous tense • rewrites present simple tense to present continuous tense (and reverse) • uses and makes correctly negative in present simple and present continuous tense • uses and makes correctly questions • performs verbs
Past simple tense and past continuous tense • Repetition of past simple and past continuous tense • Reading and writing verbs in past simple and past continuous tense • Past simple tense for regular verbs by adding ending "-ed" • Assigning, reading and writing regular verbs in infinitive and verb in past simple tense (learn – learned) • Irregular verbs (adding others (at least)15 irregular verbs) • Assigning, reading and writing irregular verbs in infinitive, verb in past simple tense and verb in past participate (draw – drew – drawn) • Finding, underlining and filling irregular verbs in past simple tense in the written sentence • Rewriting sentences form present tense to past tense (and reverse) • Converting sentences in past simple tense to past continuous tense (and reverse) • Converting sentences in present tense to past tense, using correct adverbs with tenses • Describing person's activity using past simple or past continuous tense • Questions in past simple and continuous tense • Converting questions in past simple tense to past continuous tense (and reverse) • Converting questions in present tense to past tense, using correct adverbs with tenses	**Student** • understands using of past simple and past continuous tense • understands principle of making past simple tense for regular verbs by adding ending "-ed" • understands principle of making past continuous tense using "was, were" and verb with ending "-ing" • assigns, reads and writes pair of regular verbs in infinitive and past simple tense (move – moved) • underlines or chooses correctly past simple tense of verb in the written sentence • assigns, reads and writes pair of irregular verbs in infinitive, past simple tense and past participate (sit – sat – sat) • underlines or chooses correctly past simple tense of verb in the written sentence • rewrites sentences from present simple tense to past simple tense (and reverse) • converts sentences in past simple to past continuous tense (I wrote a letter – I was writing a letter) • converts present tense to past tense, uses correct adverbs with tenses (I eat my lunch every day – I am eating my lunch now – I was eating my lunch for half an hour – I ate my lunch yesterday) • describes person's activity using past simple

• Negative in past simple and continuous tense • Converting negative sentences in past simple tense to past continuous tense (and reverse) • Converting sentences in present tense to negative in past tense, using correct adverbs for tenses • Performing verbs	tense • converts questions in past simple tense to continuous tense (Did I write my homework? – Was I writing my homework?) • converts questions in present tense to past tense and uses correct adverbs (Do you read a book every day? – Are you reading book now? – Did you read a book yesterday? – Were you reading a book all afternoon?) • converts negative sentences from past simple tense to past continuous tense (I didn't read the book – I wasn't reading the book) • converts sentences in present tense to negative in past tense, uses correct adverbs (I don't write my homework every day - I'm not writing homework now – I wasn't writing homework for two hours – I didn't write my homework yesterday) • performs verbs
Future simple tense • Definition of future simple tense as a tense, which tells us about actions, which we expect to happen in the future • Shall, will • Using "shall" with "I, we" • Filling "shall" to the sentences • Reading and writing short sentences using "shall" • Using "will" with all personal pronouns • Filling "will" to the sentences • Reading and writing short sentences using "will" • Filling, underlining verbs in future simple tense in to the sentences • Converting sentences from present tense into the future (I read the book. – I will read the book) • Converting sentences from past simple to present simple and future tense using correct adverb of time (He ran in the garden yesterday. – He runs in the garden every day. – He will run in the garden tomorrow.) • Making sentence from given words (he tomorrow his do homework will – He will do his homework tomorrow.) • Performing verbs	**Student** • understands definition of future simple tense and its principle • memorizes "shall" as a pair word for "I, we" • fills "shall" to the sentences • reads, writes short sentences using "shall" • memorizes "will" as a pair word for all personal pronouns • fills "will" to the sentences • reads, writes short sentences using "will" • fills, underlines or chooses verb in future tense in to the sentences • converts sentence form present tense into the future (I eat my dinner. – I will eat my dinner) • converts sentences from past simple to present simple and future tense using correct adverb of time (He ran in the garden yesterday. – He runs in the garden every day. – He will run in the garden tomorrow.) • makes sentence from given words (he tomorrow his do homework will – He will do his homework tomorrow.) • performs verbs individually or in the group
Question in future simple tense • Principle of question in future simple tense • Converting sentences in to the questions (I will do my homework tomorrow. – Will I do my homework tomorrow?) • Answering and asking questions (When will you read the book? – I will read the book after tomorrow) • Making question from given words (a drink they water will – Will they drink water?) • Converting questions past simple tense to present simple tense and future simple tense using correct adverbs with tenses (and reverse) • Interview	**Student** • understands principle of making questions in future simple tense • converts sentence in to the question (She will sing a song. – Will she sing a song?) • answers and asks question (When you will clean your teeth? – I will clean my teeth before go to the bed.) • makes question from the given words (shall go the school we to – Shall we go to the school?) • converts questions in past simple tense to present simple and future simple tense (and

	reverse) using correct adverbs of time (Did Stanzin go to school yesterday? – Does Stanzin go to school today? – Will Stanzin go to school tomorrow?) • makes interview with the schoolmate/teacher
Negative in future simple tense • Principle of negative in future simple tense and its short form with apostrophe • Converting sentences in to the negative in the long and short form (I will do my homework tomorrow. – I will not do my homework tomorrow. – I won't do my homework tomorrow.) • Answering questions in negative by long and short form (Will you read the book? – I will not read the book. – I won't read the book.) • Making question from given words (a not drink they water will – They will not drink water.) • Converting negative in past simple tense to present simple tense and future simple tense (and reverse) using correct adverbs with tenses • Interview	**Student** • understands principle of making negative in future simple tense by long and short form • converts sentence in to the long and short form of negative (She will sing a song. – She will not sing a song. – She won't sing a song.) • answers question in long and short form of negative (Will you clean your teeth? – I will not clean my teeth. – I won't clean my teeth.) • makes negative from the given words (shall go the school we to – We shall go to the school.) • converts sentences in past simple tense to present simple and future simple tense (and reverse) using correct adverbs of time (Stanzin didn't go to school yesterday. – Stanzin doesn't go to school today. – Stanzin won't go to school tomorrow.) • makes interview with the schoolmate/teacher, uses positive and negative answers
TOPIC 5 – ADVERBS	
Adverbs of manner • Repetition from previous class • Relation of adjective and manner adverb (slow – slowly, quick – quickly..) • Making adverbs of manner from adjectives by adding ending "-ly" • Underlining and filling adverbs of manner in the written sentence • Performing adverbs of manner (He walks quickly)	**Student** • understands meaning of adverbs of manner • understands relation between adjective and adverb of manner • assigns adjective and adverb of manner with equal meaning • makes adverbs of manner from adjectives using ending "-ly" • underlines or chooses correctly adverb of manner in the written sentence • performs adverb of manner (She speaks slowly)
Adverbs of time • Repetition from previous class • Underlining and filling adverb of time in the written sentence • Opposite adverbs of time (soon – late)	**Student** • understands meaning of adverbs of time • underlines or chooses correctly adverb of time in the written sentence • assigns opposite adverbs of time • changes adverb of time in the opposite in the sentence
Adverbs of place • Repetition from previous class • Underlining and filling adverbs of place in the written sentence • Opposite adverbs of place (up – down) • Performing adverbs of place	**Student** • understands meaning of adverbs of place • underlines or chooses correctly adverb of place in the written sentence • assigns opposite adverbs of place • changes adverb of time in the opposite in the sentence • performs adverbs (up, down, here..)

Adverbs of frequency • Repetition form previous class • Usually, sometimes, seldom, never, always, often • Underlining and filling adverbs of frequency in the written sentence	**Student** • understands meaning of adverbs of place • memorizes adverbs of frequency and uses them • underlines or chooses correctly adverb of frequency in the written sentence
Adverbs of degree • Repetition from previous class • Extremely, totally, completely, hardly, enough, very, almost, quite • Underlining and filling adverbs of degree in the written sentence	**Student** • understands meaning of adverbs of degree • memorizes adverbs of degree and uses them • underlines or chooses correctly adverb of degree in the written sentence
Comparative and superlative of adverbs • General form of comparative of adverb (hard – harder, late – later, fast – faster) • General form of superlative of adverb (hard – the hardest, late – the latest, fast – the fastest) • Comparative of adverbs with ending "-ly" (quietly – more quietly, slowly – more slowly, seriously – more seriously) • Superlative of adverbs with ending "ly" (quietly – most quietly, slowly – most slowly, seriously – most seriously) • Comparative and superlative of irregular adverbs (badly – worse – worst, far – farther – farthest, little – less – least, well – better – best)	**Student** • understands meaning of comparison of adverbs • comprehends comparative as 2nd degree and superlative as 3rd degree for comparison of adverbs • understands general principle of comparative of adverbs by adding ending "-er" (hard – harder) • assigns, fills or chooses comparative to adverbs • understands general principle of superlative of adverbs by adding ending "-est" (hard – hardest) • assigns, fills or chooses superlative to adverbs • understands principle of comparative of adverbs with ending "-ly" by adding "more" (slowly – more slowly) • understands principle of superlative of adverbs with ending "-ly" by adding "most" (slowly – most slowly) • assigns, fills or chooses comparative and superlative to adverbs with ending "-ly" • assigns, fills or chooses comparative and superlative to irregular adverbs (well – better – best, badly – worse – worst)
TOPIC 6 – PREPOSITIONS	
Prepositions • Repetition of preposition from previous class • Underlining and filling prepositions in the written sentence • Describing position of a person, thing, picture using correct preposition (Cat runs to the house) • Performing prepositions (Stanzin is behind the Disket)	**Student** • understands meaning of prepositions • uses correctly prepositions from previous class • underlines or chooses correctly preposition in the written sentence • describes position of a person, thing using correct preposition (cat is jumping into the river) • performs prepositions (Stanzin is in front of Disket)
TOPIC 7 – CONJUNCTIONS	
Conjunction	**Student**

• Repetition of conjunction form previous class • Underlining and filling conjunction in the written sentence • Connection of two sentences using correct conjunction	• understands meaning of conjunctions • underlines or chooses correct conjunction in the written sentence • joints two sentences using correct conjunction
TOPIC 8 – ARTICLES	
Articles • Repetition of articles “a, an” and “the” (meaning, using) • Difference in using “an” and “a” • Difference in using “a, an” and “the” • Writing short sentences using articles “a, an” and “the” (I have a ball. The ball is red) • Underlining or filling articles “a, an” and “the” in to the text • Rewriting sentences with filling articles in • Describing a person, thing or place using articles • Performing with articles “a, an” (It is a plane. It is the Sun)	**Student** • understands meaning of articles • understands differences in using articles “a” and “an” • understands difference in using “a, an” and “the” • writes short sentences using articles “a, an” and “the” (This is a car. The car is mine.) • underlines or chooses correctly “a, an” or “the” in the text • rewrites short sentences using correctly the articles • describes a person, thing, place using correctly “a, an” (It is a plane. The plane is yellow.) • performs pantomime for nouns (it is a car, it is the Moon)
TOPIC 8 – PUNCTUATION AND PHRASES	

5.5.1.8. English – 6th class

5.5.1.9. English – 7th class

5.5.1.10. English – 8th class

5.5.1.11. English – 9th class

5.5.1.12. English – 10th class

5.5.2. MATHEMATICS

5.5.2.1. Mathematics – LKG class

Subject matter	Student's outputs
TOPIC 1 – NUMBERS	
Numbers 0 – 10: • Name of numbers • Imagination of the value of the number • Determination and estimating of quantity of the objects • Hand writing training (light and bold lines, dot lines, curly lines, circles, spirals, polygonal lines) • Writing numbers • Numbers on number line • Comparing of two numbers ("bigger or smaller")	**Student** • joins name of the number with its symbol • joins quantity of the objects with the number • names numbers 0 – 10 • counts and estimates quantity of the objects • makes selections with given quantity of objects till 10 • copies various types of line by hand, develops the sense of writing and muscle memory of the palm and arm muscles • writes numbers till 10 • draws numbers on the number line till 10 • compares quantity of two objects till 10 • compares two numbers till 10 using symbols >, <, = or words bigger, smaller, equal
TOPIC 2 – GEOMETRY	
Plane shapes: • Circle, triangle, square • Plane shapes in daily life • Hand writing training (drawing of shapes by light and bold line, dot line, colouring shapes, drawing pictures joining various shapes) • Counting and comparing number of shapes • Elementary patterns (logic line with two shapes, finding and counting shapes in the mixture of shapes)	**Student** • joins shape with its name • names examples of shapes in the daily life (triangle –roof, circle – wheel, square – window..etc) • copies various types of line by hand, develops the sense of writing and muscle memory of the palm and arm muscles • draws pictures using various shapes (house – square + triangle, windows – square, sun – circle… etc.) • counts and compares number of shapes • solves elementary logic lines, made of two kind of shapes • finds and counts shapes in the mixture of shapes

5.5.2.2. Mathematics – UKG class

Subject matter	Student's outputs
TOPIC 1 – NUMBERS	
Numbers 0 – 10: • Name of numbers • Imagination of the value of the number • Determination and estimating of quantity of the objects • Hand writing training (light and bold lines, dot lines, curly lines, circles, spirals, polygonal lines) • Writing numbers • Numbers on number line • After, between, before • Greater or smaller; Increasing and decreasing order	**Student** • joins name of the number with its symbol • joins quantity of the objects with the number • names numbers 0 – 10 • counts and estimates quantity of the objects • makes selections with given quantity of objects till 10 • copies various types of line by hand, develops the sense of writing and muscle memory of the palm and arm muscles • writes numbers till 10 • draws numbers on the number line till 10 • compares quantity of two objects till 10 • compares two numbers till 10 using symbols >, <, = or words "bigger, smaller, equal" • arranges numbers till 10 in increasing or decreasing order
Addition (with results till 10) • Principle of addition • Symbol of addition • Rewriting addition from picture form to symbolic form (and reverse) and determination of results • Adding groups of objects till result 10 • Number 0 • Adding 0 • Performing addition	**Student** • understands principle of addition • memorizes symbol of addition, reads it as "plus" • rewrites addition of group of objects (in the picture) to symbolic form (two apples and three apples is five apples ; 2 + 3 = 5) • rewrites symbolic form of addition to picture form • in the group performs the addition (2 + 4 = 6
Subtraction (using numbers till 10) • Principle of subtraction • Symbol of subtraction • Rewriting subtraction from picture form to symbolic form and determination of results • Subtraction of groups of objects using numbers till 10 • Number 0 • Subtraction 0 • Performing subtraction	**Student** • understands principle of subtraction • memorizes symbol of subtraction, reads it as "minus" • rewrites subtraction of group of objects (in the picture) to symbolic form (three apples minus two apples is one apple ; 3 – 2 = 1) • rewrites symbolic form of subtraction to picture form • in the group performs the subtraction (6 - 4 = 2)
TOPIC 2 – GEOMETRY	
Plane shapes: • Circle, triangle, square, rectangle • Plane shapes in daily life • Hand writing training (drawing of shapes by light and bold line, dot line, colouring shapes, drawing pictures joining various shapes) • Counting and comparing number of shapes • Elementary patterns (logic line with two shapes, finding	**Student** • joins shape with its name • names examples of shapes in the daily life (triangle –roof, circle – wheel, square – window, rectangle – door..etc) • copies various types of line by hand, develops the sense of writing and muscle memory of the palm and arm muscles

and counting shapes in the mixture of shapes)	• draws pictures using various shapes (house – square + triangle, windows – square, door – rectangle, sun – circle… etc.) • counts and compares number of shapes • solves elementary logic lines, made of two kind of shapes • finds and counts shapes in the mixture of shapes

5.5.2.3. Mathematics – 1st class

Subject matter	Student's outputs
TOPIC 1 – NUMBERS	
Numbers 0 – 10: • Writing numbers, name of numbers • Determination and estimating of quantity of the objects • Numbers on number line • After, between, before • Greater or smaller; Increasing and decreasing order	**Student** • reads, writes and uses numbers till 10 • counts and estimates number of objects till 10 • draws numbers on the number line till 10 • makes selections with given quantity of objects till 10 • compares the amounts of objects till 10, arranges numbers till 10 in increasing or decreasing order
Addition (with results till 10) • Adding 0 • Adding numbers till 5, adding groups of objects, memorizing results • Adding numbers till 10, adding groups of objects, memorizing results • Addition on the number line • Numerical snakes (adding more numbers with writing part-results) • Commutative fact (3+2=2+3=5), memorizing • Daily math – elementary words problems of addition till 10	**Student** • understands 0 as neutral element of addition • determines the sum till 10 • memorizes connection of example and its result • memorizes connection of example, its commutative pair and its result • solves elementary word problems with understanding
Subtraction (using numbers till 10) • Subtraction 0 • Subtraction using numbers till 5, subtracting group of objects, memorizing results • Subtraction using numbers till 10, subtracting group of objects, memorizing results • Subtraction on the number line • Daily math – elementary words problems	**Student** • understands 0 as a neutral element of subtraction • determines the difference using numbers till 10 • memorizes connection of example and its result • solves elementary word problems with understanding
Addition and subtraction together • Numerical snakes (adding and subtracting more numbers in line with part-results, subconscious using left-right rule) • Daily math – elementary words problems mixed of addition and subtraction	**Student** • understands the difference between addition and subtraction • doesn't mix up the results of addition and subtraction of the same numbers • solves elementary word problems with understanding of difference between addition and subtraction
Numbers 10 – 100 • Writing numbers, name of numbers • Place value – tents and ones • Determination and estimating of quantity of the objects • Numbers on number line • After, between, before • Greater or smaller; Increasing and decreasing order, comparing numbers	**Student** • reads, writes and uses numbers till 100 • recognizes tents and ones of a number, determines value of tents and ones of a number • counts and estimates number of objects till 100 • draws numbers on the number line till 100 • makes selections with given quantity of

	objects till 100 • compares the amounts of objects till 100 • arranges numbers till 100 in increasing or decreasing order
Addition (with results till 20) • Adding 0 • Adding numbers 0 – 9 with 10, adding groups of objects, memorizing results • Adding numbers 10 – 20 to result is 10 – 20, memorizing results • Adding numbers till 10 to result is over 10, memorizing results • Addition on the number line • Numerical snakes (adding more numbers with writing part-results) • Commutative fact (13+2=2+13=15), memorizing • Daily math – elementary words problems of addition till 20	**Student** • understands 0 as neutral element of addition • understands the principle of addition 10 and number 0 – 9 • understands the principle of addition numbers 10 – 20 to result 10 – 20 • determines the sum over 10 • memorizes connection of example and its result • memorizes connection of example, its commutative pair and its result • solves elementary word problems with understanding
Subtraction (using numbers till 20) • Subtraction 0 • Subtraction on the number line • Subtraction 20 and numbers 0 – 9, memorizing results (subtraction with no regrouping) • Subtraction numbers 10 – 20 with numbers 0 - 9 to result is 10 – 20, memorizing the results (subtraction with no regrouping) • Subtraction using numbers till 10 – 20 with numbers 0 – 20 to result is under 10, memorizing results (subtraction with regrouping) • Daily math – elementary words problems of subtraction using numbers till 20	**Student** • understands 0 as neutral element of subtraction • draws numbers on the number line • understands the principle of subtraction 20 and numbers 0 – 9 • understands the principle of subtraction numbers 10 – 20 with numbers 0 - 9 to result is 10 – 20 • determines the difference using numbers till 20 • memorizes connection of example and its result • solves elementary word problems
Addition and subtraction together (till 20) • Numerical snakes (adding and subtracting more numbers in line with part-results, subconscious using left-right rule) • Daily math – elementary words problems mixed for addition and subtraction	**Student** • understands the difference between addition and subtraction • doesn't mix up the results of addition and subtraction of the same numbers • solves elementary word problems with understanding of difference between addition and subtraction
Addition and subtraction together in tents (multiples of 10) • On number line • Memorizing results	**Student** • draws numbers on the number line • understands principle of addition and subtraction of multiples 10 • understands the difference between addition and subtraction • doesn't mix up the results of addition and subtraction of the same numbers
Addition (with results till 100) • Using row method for examples with no regrouping • Using vertical method for examples with no regrouping • Daily math – elementary words problems of addition	**Student** • understands and uses row method for examples with no regrouping as a more efficient for row counting • writes correctly numbers in vertical method (tents under tents, ones under ones) • understands and uses vertical form with no regrouping

	• solves words problems with understanding
Subtraction (using numbers till 100) • Using row method for examples with no regrouping • Using vertical method for examples with no regrouping • Daily math – elementary words problems mixed for addition and subtraction	**Student** • understands and uses row method for examples with no regrouping as a more efficient for row counting • writes correctly numbers in vertical method (tents under tents, ones under ones) • understands and uses vertical form with no regrouping • solves words problems with understanding
Addition and subtraction together (till 100) • Numerical snake • Daily math – elementary words problems mixed for addition and subtraction	**Student** • understands the difference between addition and subtraction • doesn't mix up the results of addition and subtraction of the same numbers • solves elementary word problems with understanding of difference between addition and subtraction using vertical or row method
TOPIC 2 – GEOMETRY	
Shapes • Circle, square, rectangle, triangle • Shapes in daily life • Patterns with shapes and objects (basic logic rows – with changing two and three shapes or objects)	**Student** • identifies and enumerates names of shapes • draws shapes by hand • understands principle of basic logic rows, uses this principle in various kind of logic rows

5.5.2.4. Mathematics – 2nd class

Subject matter	Student's outputs
TOPIC 1 – NUMBERS	
Numbers 0 – 1000: • Writing numbers, name of numbers • Numbers on number line • Place value – hundreds, tents, ones • Predecessor and successor • Greater or smaller; Increasing and decreasing order	**Student** • reads, writes and uses numbers till 1000 • draws numbers on the number line till 1000 • recognizes hundreds, tents and ones of number, determines value of hundreds, tents and ones of number • understands terms predecessor and successor and uses them • compares the amounts of objects till 1000, arranges numbers in decreasing or increasing order
Addition by row method (with results till 1000) • Adding 0 • Adding multiples of 100, commutative pairs, memorizing results • Adding multiples of 100 with numbers 0 – 900 to result is 0 – 1000, commutative pairs, memorizing the principle • Adding numbers till 1000 to result is 0 – 1000 with no regrouping, commutative pairs, memorizing the principle • Numerical snakes (adding more numbers with writing part-results) • Daily math – elementary words problems of addition till 1000	**Student** • understands 0 as neutral element of addition • understands the principle of addition multiples of 100 • understands the principle of addition multiples of 100 and numbers 0 – 900 to results is 100 – 1000 • understands the principle of row method with no regrouping • determines the sum till 1000 for example with no regrouping • solves elementary word problems with understanding
Addition by vertical method (with results till 1000) • Addition with no regrouping • Addition with regrouping (gradually examples for regrouping one, two and three numbers) • Daily math – elementary words problems of addition till 1000	**Student** • writes correctly numbers in vertical method (hundreds under hundreds, tents under tents, ones under ones) • understands and uses vertical form with no regrouping • understands and uses vertical form with regrouping • determines sum till 1000 • solves elementary word problems with understanding using vertical method
Subtraction by row method (using numbers till 1000) • Subtracting 0 • Subtraction of multiples of 100, memorizing results • Subtraction of multiples of 100 with numbers 0 – 1000 to result is 0 – 1000, memorizing the principle • Subtraction of numbers till 1000 to result is 0 – 1000 with no regrouping, memorizing the principle • Numerical snakes (subtraction of more numbers with writing part-results) • Daily math – elementary words problems of Subtraction till 1000	**Student** • understands 0 as neutral element of subtraction • understands the principle of subtraction of multiples of 100 • understands the principle of subtraction of multiples of 100 and numbers 0 – 1000 to results is 0 – 1000 • understands the principle of row method with no regrouping • determines the sum till 1000 for example with no regrouping • solves elementary word problems with understanding

Subtraction by vertical method (using numbers till 1000) • Subtraction with no regrouping • Subtraction with regrouping (gradually examples for regrouping one, two and three numbers) • Daily math – elementary words problems of Subtraction using numbers till 1000	**Student** • writes correctly numbers in vertical method (hundreds under hundreds, tents under tents, ones under ones) • understands and uses vertical form with no regrouping • understands and uses vertical form with regrouping • determines difference of numbers till 1000 • solves elementary word problems with understanding using vertical method
Addition and subtraction together (till 1000) • Numerical snakes (adding and subtracting more numbers in line with part-results, subconscious using left-right rule) • Daily math – elementary words problems mixed for addition and subtraction	**Student** • understands the difference between addition and subtraction • doesn't mix up the results of addition and subtraction of the same numbers • solves elementary word problems with understanding of difference between addition and subtraction
Multiplication (gradually from multiples of 2 to multiples of 10) • symbol of multiplication, writing of numerical multiplication form • groups of pictures • multiplication on the number line • multiplication table, memorizing results step-by-step, dividing table into three groups • commutative fact of multiplication (using commutative pair), memorizing • multiplication by 0 • Daily math – elementary word problems to multiplication	**Student** • re-writes group of pictures into numerical multiplication form • re-writes multiplication represented on the number line into numerical multiplication form • expresses multiplication by group of pictures and on the number line • uses multiplication table for memorizing example and its results • memorizes example, its commutative pair and its result • understands zero as negative element of multiplication • determines results of multiplication number 1 – 10 with number 1 – 10
Division (gradually from factor 2 to factor 10) • symbol of division, writing of numerical division form • groups of pictures • division on the number line • relation between multiplication and division • division table, memorizing results step-by-step, dividing table into three groups • dividing by 0 • Daily math – elementary word problems of division	**Student** • re-writes group of pictures into numerical division form • re-writes division represented on the number line into numerical division form • expresses division by group of pictures and on the number line • uses divisions table for memorizing example and its results • memorizes impossibility of division by 0 • memorizes example and its result • determines results of division by factors 1 – 10
Multiplication and division together • Mixed examples for multiplication and division • Numerical snakes (multiplication and division of more numbers in line with part-results, subconscious using left-right rule) • Mixed examples for addition, subtraction, multiplication and division • Numerical snakes (addition, subtraction, multiplication	**Student** • understands difference between multiplication and division • doesn't mix up the results of multiplication and division of the same numbers • understands difference between addition, subtraction, multiplication and division • solves elementary word problems with

and division of more numbers in line with part-results) • Daily math – elementary words problems mixed for multiplication and division	understanding of difference between multiplication and division
TOPIC 2 – GEOMETRY	
Shapes • Types of lines – curved, horizontal, vertical, slanting • Line • Line segment • Plane shapes – square, rectangle, circle, oval, triangle • Solid shapes – cube, cuboid, cone, cylinder, sphere; daily math • Shapes in daily life • Patterns with shapes and objects (basic logic rows – with changing two and three shapes or objects)	**Student** • identifies and enumerates names of types of lines • identifies line and line segment • draws types of line by hand or with a ruler • draws line segments of a given length using ruler • identifies and enumerates names of plane shapes • draws plane shapes by hand • identifies and enumerates names of solid shapes • finds examples of daily life • understands principle of basic logic rows, uses this principle in various kind of logic rows
TOPIC 3 – MEASUREMENTS	
Measure • Units (mm, cm, dm, m) • Measuring length of line segment using ruler	**Student** • enumerates and arranges measure units of the length • understands ordering of the length units in decreasing and increasing order (m > dm > cm > mm) • draws line segment of a given length using a ruler
Time • Hours and minutes • Reading time from the analogy clock • Days of the week • Month of the year • Daily math	**Student** • understands difference between hour and minute • understands conversion relation between hours and minutes • enumerates days of the week, moths of the year • counts separately in minutes, hours, days, month with no regrouping • solves basic word problems using addition, subtraction, multiplication and division separately in minutes, hours, days of week, month of year with no regrouping

5.5.2.5. Mathematics – 3rd class

Subject matter	Student's outputs
TOPIC 1 – NUMBERS	
Numbers 0 – 10 000: • Writing numbers, name of numbers • Numbers on number line • Place value – thousands, hundreds, tents, ones • Predecessor and successor • Greater or smaller; Increasing and decreasing order	**Student** • reads, writes and uses numbers till 10 000 • draws numbers on the number line till 10 000 • recognizes thousands, hundreds, tents and ones of number, determines value of hundreds, tents and ones of number • understands terms predecessor and successor and uses them • compares the amounts of objects till 10 000, arrange numbers in decreasing or increasing order
Addition by rowing method (with results till 10 000) • Adding 0 • Adding multiples of 1000, commutative pairs, memorizing results • Adding multiples of 1000 with numbers 0 – 9000 to result is 0 – 10000, commutative pairs, memorizing the principle • Adding numbers till 10000 to result is 0 – 10000 with no regrouping, commutative pairs, memorizing the principle	**Student** • understands 0 as neutral element of addition • understands the principle of addition multiples of 1000 • understands the principle of addition multiples of 1000 and numbers 0 – 9000 to results is 1000 – 10000 • understands the principle of row method with no regrouping • determines the sum till 10000 for example with no regrouping
Addition by vertical method (with results till 10000) • Addition with no regrouping • Addition with regrouping (gradually examples for regrouping one, two, three and four numbers) • Daily math – elementary words problems of addition till 10000	**Student** • writes correctly numbers in vertical method (thousands, hundreds, tents, ones) • understands and uses vertical form with no regrouping • understands and uses vertical form with regrouping • determines sum till 10000 • solves elementary word problems with understanding using vertical method or row method
Subtraction by row method (using numbers till 10000) • Subtracting 0 • Subtraction of multiples of 1000, memorizing results • Subtraction of multiples of 1000 with numbers 0 – 10000 to result is 0 – 10000, memorizing the principle • Subtraction of numbers till 10000 to result is 0 – 10000 with no regrouping, memorizing the principle	**Student** • understands 0 as neutral element of subtraction • understands the principle of subtraction of multiples of 1000 • understands the principle of subtraction of multiples of 1000 and numbers 0 – 10000 to results is 0 – 10000 • understands the principle of row method with no regrouping • determines the sum till 10000 for example with no regrouping
Subtraction by vertical method (using numbers till 10000) • Subtraction with no regrouping	**Student** • writes correctly numbers in vertical method (thousands, hundreds, tents, ones)

• Subtraction with regrouping (gradually examples for regrouping one, two, three and four numbers) • Daily math – elementary words problems of Subtraction using numbers till 10000	• understands and uses vertical form with no regrouping • understands and uses vertical form with regrouping • determines difference of numbers till 10000 • solves elementary word problems with understanding using vertical or row method
Addition and subtraction together (till 10000) • Numerical snakes (adding and subtracting more numbers in line with part-results, subconscious using left-right rule) • Daily math – elementary words problems mixed for addition and subtraction	**Student** • understands the difference between addition and subtraction • doesn't mix up the results of addition and subtraction of the same numbers • solves elementary word problems with understanding of difference between addition and subtraction
Multiplication • repetition of multiplication by numbers 1 – 10 and multiplication by 0 • multiplication by multiples of 10, memorizing principle (20 x 30 = 600) • multiplication by one digit number using division method (12 x 4 = 10 x 4 + 2 x 4 = 40 + 8 = 48) and its short form (12 x 4 = 40 + 8 = 48) • Daily math – elementary word problems of multiplication	**Student** • understands zero as negative element of multiplication • determines results of multiplication number 1 – 10 with number 1 – 10 • understands principle of multiplication by multiples of 10 and memorizes it • understands and uses division method of multiplication and its short form • solves words problems of multiplication
Division • Repetition of division by factors 1 – 10, division by 0 • Even and odd numbers • Division numbers till 100 by factors 1 – 10 with remainder (23 : 4 = 5 Remainder 3) • Division multiples of 10 by multiples of 10, memorizing principle (4000 : 20 = 200) • Daily math – elementary word problems of division	**Student** • understands impossibility of division by 0 • determines results of division by factors 1 – 10 • understands difference between even and odd numbers • chooses even and odd numbers from a list of numbers • divides numbers till 100 by factors 1 – 10 with remainder • divides multiples of 10 by multiples of 10, memorizes the principle • understands term remainder
Multiplication and division together • Mixed examples for multiplication and division • Numerical snakes (multiplication and division of more numbers in line with part-results, subconscious using left-right rule) • Mixed examples for addition, subtraction, multiplication and division • Numerical snakes (addition, subtraction, multiplication and division of more numbers in line with part-results) • Daily math – elementary words problems mixed for multiplication and division	**Student** • understands difference between multiplication and division • doesn't mix up the results of multiplication and division of the same numbers • understands difference between addition, subtraction, multiplication and division • solves elementary word problems with understanding of difference between multiplication and division
TOPIC 2 – GEOMETRY	
Shapes • Types of lines – curved, horizontal, vertical, slanting • Line • Line segment	**Student** • identifies and enumerates names of types of lines • identifies line and line segment

• Plane shapes – square, rectangle, circle, oval, triangle • Solid shapes – cube, cuboid, cone, cylinder, sphere; daily math • Shapes in daily life • Patterns with shapes and objects (basic logic rows – with changing two and three shapes or objects)	• draws types of line by hand or with a ruler • draws line segments of a given length using ruler • identifies and enumerates names of plane shapes • draws plane shapes by hand • identifies and enumerates names of solid shapes • finds examples of daily life • understands principle of basic logic rows, uses this principle in various kind of logic rows
TOPIC 3 – MEASUREMENTS	
Measure • Units (mm, cm, dm, m) • Measuring length of line segment using ruler	**Student** • enumerates and arranges measure units of the length • understands ordering of the length units in decreasing and increasing order (m > dm > cm > mm) • draws line segment of a given length using a ruler
Time • Hours and minutes • Reading time from the analogy clock • Days of the week • Month of the year • Daily math	**Student** • understands difference between hour and minute • understands conversion relation between hours and minutes • enumerates days of the week, moths of the year • counts separately in minutes, hours, days, month with no regrouping • solves basic word problems using addition, subtraction, multiplication and division separately in minutes, hours, days of week, month of year with no regrouping

5.5.2.6. Mathematics – 4th class

Subject matter	Student's outputs
TOPIC 1 – NUMBERS	
Numbers 0 – 10 000: • Writing numbers, name of numbers • Numbers on number line • Place value – thousands, hundreds, tents, ones • Greater or smaller; Increasing and decreasing order • Principle of rounding numbers • Rounding numbers which ends by 0,1,2,3,4 to nearest tents • Rounding numbers which ends by 5,6,7,8,9 to nearest tents • Rounding numbers to nearest hundreds • Rounding numbers to nearest thousands	**Student** • reads, writes and uses numbers till 10000 • draws numbers on the number line till 10 000 • recognizes thousands, hundreds, tents and ones of number, determines value of hundreds, tents and ones of number • compares the amounts of objects till 10 000, arrange numbers in decreasing or increasing order • understands principle of rounding numbers • rounds numbers which ends by 0,1,2,3,4 to nearest tents (7**2**3 ≡ 720) • rounds numbers which ends by 5,6,7,8,9 to nearest tents (7**2**8 ≡ 730) • rounds numbers to nearest hundreds (**7**23 ≡ 700) • rounds numbers to nearest thousands **(6**723 ≡ 7000)
Addition and subtraction together (till 10000) • Addition and subtraction by row method with no regrouping • Addition and subtraction by vertical method with regrouping • Numerical snakes (adding and subtracting more numbers in line with part-results, subconscious using left-right rule) • Daily math – elementary words problems mixed for addition and subtraction	**Student** • understands the difference between addition and subtraction • adds or subtracts (with no regrouping) numbers using row method (340 + 210 = 550, 660 – 120 = 440) • adds or subtracts (with regrouping) numbers using vertical method • doesn't mix up the results of addition and subtraction of the same numbers • solves elementary word problems with understanding of difference between addition and subtraction
Multiplication – repetition from previous class • Repetition of multiplication by numbers 1 – 10 and multiplication by 0 • Multiplication by multiples of 10, memorizing principle • Multiplication by one digit number using division method (12 x 4 = 10 x 4 + 2 x 4 = 40 + 8 = 48) and its short form (12 x 4 = 40 + 8 = 48) • Daily math – elementary word problems of multiplication	**Student** • understands zero as negative element of multiplication • determines results of multiplication number 1 – 10 with number 1 – 10 • understands principle of multiplication by multiples of 10 • understands and uses division method of multiplication and its short form • solves words problems of multiplication
Multiplication by vertical method • Principle of vertical method for multiplication by one-digit number (taught gradually – two-digit number x one-digit number, three-digit number x one-digit number, ….) • Principle of vertical method for multiplication by two-digit number (taught gradually – two-digit number x two-digit number, three-digit number x two-digit number, ….) • Daily math – word problems of multiplication	**Student** • understands principle of vertical method for multiplication by one-digit number • multiplies two-digit number by one-digit number using vertical method • multiplies three-digit number by one-digit number using vertical method • multiplies four-digit number by one-digit

	number using vertical method • understands principle of vertical method for multiplication by two-digit number • multiplies two-digit number by two-digit number using vertical method • multiplies three-digit number by two-digit number using vertical method • multiplies four-digit number by two-digit number using vertical method • solves words problems of multiplication
Division – repetition form previous class • Repetition of division by factors 1 – 10, division by 0 • Division numbers till 100 by factors 1 – 10 with remainder (23 : 4 = 5 Remainder 3) • Division multiples of 10 by multiples of 10 (240 : 60 = 4) • Daily math – elementary word problems of division	**Student** • understands impossibility of division by 0 • determines results of division by factors 1 – 10 • understands term remainder • divides numbers till 100 by factors 1 – 10 with remainder • divides multiples of 10 by multiples of 10, memorizes principle
Divisibility • Even and odd numbers as a numbers divisible and non-divisible by 2 • Divisibility by 2 and its principle (numbers which ends by 0,2,4,6,8) • Divisibility by 5 and its principle (numbers which ands by 0, 5) • Divisibility by 10 and its principle (numbers which ends by 0)	**Student** • understands term even and odd numbers and difference between them • chooses even or odd numbers from a line of numbers • writes line of even of odd numbers • understands principle of divisibility by 5 • chooses numbers divisible by 5 from a line of numbers • writes line of numbers divisible by 10 • understands principle of divisibility by 10 • chooses numbers divisible by 10 from a line of numbers • writes line of numbers divisible by 10
Division by long method • Principle of long method for division by one-digit number (taught gradually – two-digit number divided by one-digit number; three-digit number divided by one-digit number, ….) • Determination of remainder • Daily math – word problems of division	**Student** • understands principle of long method for division by one-digit number • divides two-digit number by one-digit number using long method • divides three-digit number by one-digit number using long method • divides four-digit number by one-digit number using long method • determines remainder • solves words problems of division
Multiplication and division together • Mixed examples for multiplication and division • Numerical snakes (multiplication and division of more numbers in line with part-results, subconscious using left-right rule) • Mixed examples for addition, subtraction, multiplication and division • Numerical snakes (addition, subtraction, multiplication and division of more numbers in line with part-results) • Daily math – elementary words problems mixed for multiplication and division	**Student** • understands difference between multiplication and division • doesn't mix up the results of multiplication and division of the same numbers • understands difference between addition, subtraction, multiplication and division • solves elementary word problems with understanding of difference between multiplication and division

TOPIC 2 – GEOMETRY

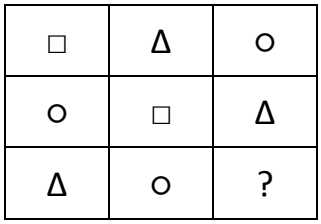
Lines • Line segment and its measure • Ray • Line • Parallel lines (general, parallel line through given point) • Perpendicular lines (general, perpendicular line through a given point on the line, perpendicular line through a given point out of the line)	**Student** • understands what the line segment is • constructs line segment of given measure • understands what the ray is • understands difference between ray and line segment • constructs a ray • constructs a ray through given points • understands what the line is • understands difference between line, ray and line segment • constructs a line • constructs a line through given points • understands what parallel means • constructs two (and more) parallel lines using two rulers • constructs parallel line to other line going through a given point • understands what perpendicular means • constructs perpendicular line to other line using a set square • constructs perpendicular line through a given point on the other line using set square • constructs perpendicular line through a given point out of other line using set square
Shapes • Square (vertices, sides, properties) • Construction of square of given side • Rectangle (vertices, sides, properties) • Construction of rectangle of given sides • Types of triangle (equilateral, isosceles, scalene) and its side properties • Construction of triangle of given sides	**Student** • describes properties of square • constructs square of given side using set square and compass (makes properly perpendicular lines and equal measures of square sides) • describes properties of rectangle • constructs rectangle of given sides using set square and compass (makes properly perpendicular lines and measures of rectangle sides) • describes properties of triangle • enumerates, assigns or points out types of triangle • understands side properties of equilateral, isosceles, scalene triangle • constructs triangle of given side using ruler and compass (makes properly measures of triangle sides)
Perimeter • Square (vertices, sides, properties) • Definition of perimeter • Perimeter of square, rectangle and triangle • Units of perimeter • Determination of perimeter of square • Determination of perimeter of rectangle • Determination of perimeter of triangle	**Student** • understands term perimeter • understands principle of determination of perimeter for square, rectangle and triangle by adding of measure its sides • understands and memorizes units of perimeter • determinates perimeter of square, rectangle and triangle

TOPIC 3 – MEASUREMENTS

Length • Units (mm, cm, dm, m) • Relation between units Converting units of length "from bigger to smaller" (gradually - m→dm, m→cm, m→mm; dm→cm, dm→mm; cm→mm) • Converting units of length "from smaller to bigger" (gradually - mm→cm, mm→dm, mm→m; cm→dm, cm→m; dm→m)	**Student** • names units of the length • understands relation between length units and its ordering in decreasing and increasing order (m > dm > cm > mm) • assigns, underlines or chooses length units and relation between them (mm→**10**→cm; mm→10→**cm**) • converts units of length "from bigger to smaller (2 m = **20** cm)
Time • Hours and minutes • Half an hour, quarter an hour • Half past, quarter past • Quarter to • Reading time from the analogy and digital clock • Days of the week • Month of the year • Daily math	**Student** • understands difference between hour and minute • understands conversion relation between hours and minutes • understands term "half an hour" as 30 minutes • understands term "quarter an hour" as 15 minutes • reads time from analogy or digital clock using terms "half past, quarter past, quarter to" • reads time from analogy clock using principle "minutes – past – hour" (twenty past two) • rewrites time by words from analogy and digital clock (2,^{30}h **– half past two**) • re-writes time by numbers from dictate or written form using "half past, quarter past" (half past two – **2,^{30}h**, quarter past six – **6,^{15}h**) • re-writes time by numbers from dictate or written form using "quarter to" (quarter to six – **5,^{15}h**) • re-writes time by numbers from dictate or written form using principle "minutes – past – hour" (twenty past two – **2,^{20} h**) • enumerates days of the week, moths of the year • counts separately in minutes, hours, days, month with no regrouping • solves basic word problems using addition, subtraction, multiplication and division separately in minutes, hours, days of week, month of year with no regrouping

TOPIC 4 – DATA HANDLING

Pictograph • Introducing pictograph • Reading from pictograph • Making a pictograph	**Student** • understands what the pictograph means • reads data from pictograph • re-writes data from pictograph in to the numerical form • compares and arranges data in pictograph • makes individually or in the group basic research and pictograph (for 3-5 items, for ex.

	schoolmates who like momo, tukpa, papa)
TOPIC 5 – PATTERNS	
Patterns • Logic rows (using two, three, four shapes, pictures or numbers with a system of position of objects) • Logic rows with numbers (using system of relation between numbers) • Introducing logic squares • Basic logic squares	**Student** • understands principle of logic rows with a system of positions • fills logic rows with system of position (1 2 3 1 2 3 1 2 ….; □ ○ ● □ ○ ● □ ○….) • understands principle of logic rows with system of relation between numbers (2 4 6 8 10 12….. – multiples of 2 = even numbers; 3 7 11 15 19 23 27… "plus 4 system") • understands principle of logic squares (in each row and in each column have to be one object just one time) • fills basic logic squares (replaces question mark by correct object - □) 

5.5.2.7. Mathematics – 5th class

Subject matter	Student's outputs
TOPIC 1 – NUMBERS	
Numbers 0 – 100 000 000 • Indian place-value system • Introduction lakh, crore • Writing numbers, name of numbers in Indian place-value system • International place-value system • Introduction ten thousands, hundred thousands, million • Writing numbers, name of numbers in international place-value system • Greater or smaller; Increasing and decreasing order • Rounding numbers (to nearest tents, hundred, thousand, ten thousands, lakh=hundred thousands, million, crore = ten millions) • Expanded form	**Student** • understands Indian place-value system • understands term "lakh, crore" • reads, writes and uses numbers in international place-value system • understands international place-value system • understands term "ten thousands, hundred thousands, million" • reads, writes and uses numbers in international place-value system • recognizes crore, million, lakh, ten thousands, thousands, hundreds, tents and ones of number, determines its value • compares numbers using <, >, = • arranges numbers in decreasing or increasing order • rounds numbers (to nearest tents, hundred, thousand, ten thousands, lakh=hundred thousands, million, crore = ten millions) • understands principle of expanded form of number • re-writes number to its expanded form (and reverse) (54 678 = 5x10000 + 4x1000 + 6x100 + 7x10 + 8x1)
Addition and subtraction together (till 100 000 000) • Addition and subtraction by row method with no regrouping • Addition and subtraction by vertical method with regrouping • Daily math – elementary words problems mixed for addition and subtraction	**Student** • understands the difference between addition and subtraction • adds or subtracts (with no regrouping) numbers using row method (34000 + 21000 = 55000, 66000 – 1000 = 65000) • adds or subtracts (with regrouping) numbers using vertical method • solves word problems with understanding difference between addition and subtraction
Multiplication • Repetition of multiplication by numbers 1 – 10 and multiplication by 0 • Multiplication by multiples of 10, memorizing principle • Multiplication by one digit number using division method (12 x 4 = 10 x 4 + 2 x 4 = 40 + 8 = 48) and its short form (12 x 4 = 40 + 8 = 48) • Multiplication by vertical method (multiplication by one-digit, two-digit and three-digit number) • Daily math – elementary word problems to multiplication	**Student** • understands zero as negative element of multiplication • determines results of multiplication number 1 – 10 with number 1 – 10 • understands principle of multiplication by multiples of 10 • understands and uses division method of multiplication and its short form • understands and uses vertical method of multiplication • solves words problems for multiplication
Division • Repetition of division by factors 1 – 10, division by 0	**Student** • understands impossibility of division by 0

• Division numbers till 100 by factors 1 – 10 with remainder (23 : 4 = 5 Remainder 3) • Division multiples of 10 by multiples of 10 (240 : 60 = 4) • Divisibility (by 2, 5, 10) • Division by one-digit number using long method with and without remainder • Division by two-digit number using long method with and without remainder • Daily math – word problems to division	• determines results of division by factors 1 – 10 • understands term remainder • divides numbers till 100 by factors 1 – 10 with remainder • divides multiples of 10 by multiples of 10, memorizes principle • chooses, underlines or fills numbers divisible by 2, 5 and 10 • divides numbers by one-digit number using long method, determines remainder • divides numbers by two-digit number using long method, determines remainder
Four 0peration and arithmetic rules • Mixed examples for addition, subtraction, multiplication and division • Numerical snakes (addition, subtraction, multiplication and division of more numbers in line with part-results) • AS rule (addition and subtraction together from left to right) (10 – 3 + 2 – 1 = 7 + 2 – 1 = 9 – 1 = 8) • DM priority rule (division and multiplication priority before addition and subtraction) (7 + 6 x 2 = 7 + 12 = 19; 5 + 8 : 2 – 1 = 5 + 4 – 1 = 9 – 1 = 8) • Brackets () and its priority in simplification (7+2x(3+4)-2 = 7+2x7-2 = 7+14-2 = 21-2 = 19) • Daily math – words problems mixed for four operations	**Student** • understands difference between four operations • doesn't mix up the results of four operations of the same numbers (6+2 = 8, 6-2 = 4, 6x2 = 12, 6:2 = 3) • understands principle of AS rule and uses it correctly in examples • simplifies examples using AS rule • understands principle of DM rule and uses it correctly in examples • simplifies examples using DM and AS rule • memorizes priority of multiplication and division before addition and subtraction • understands meaning of brackets () in the examples and its priority there • simplifies examples with brackets • solves elementary word problems with understanding of difference between multiplication and division
Fractions • Introducing fractions as a part of one whole • Colouring fractions as a part of one whole • Writing fractions • Adding like fractions (fractions with equal denominator) by colouring parts of the whole • Adding like fractions in the written form • Subtraction of like fractions (fractions with equal denominator), using colouring parts of the whole • Subtraction of like fractions in the written form	**Student** • understands term whole • understands fraction as a part of a whole • colours fraction as a part of a whole • writes fraction, expresses colour part of a whole as a fraction • adds like fraction by colouring parts of a whole and expresses it in numerical form • adds like fractions in numerical form • subtracts like fraction by colouring parts of a whole and expresses it in numerical form • subtracts like fractions in numerical form
Roman numerals • Introduction of roman numerals, its history and its using nowadays • Roman numerals and its Arabic pairs (I – 1, V – 5, X – 10, L = 50, C = 100, D = 500, M = 1000) • Performing roman numerals in the group • Roman numerals till 10 (using I, V, X) • Writing roman numerals till 10 • Assigning, underlining or filling roman numerals till 10 with their Arabic pairs • Roman numerals 10 - 39 (using I, V, X) • Writing roman numerals till 39	**Student** • understands historical meaning of roman numerals • enumerates examples of using roman numeral nowadays • assigns, underlines or fills elementary roman numerals with its Arabic pairs (I – 1, V – 5, X – 10, L = 50, C = 100, D = 500, M = 1000) • performs in the group roman numerals • writes roman numerals till 10 • assigns, underlines or fills roman numerals till 10 with its Arabic pairs

• Assigning, underlining or filling roman numerals till 39 with their Arabic pairs • Roman numerals till 100 (using I, V, X, L, C) • Writing numerals till 100 • Assigning, underlining or filling roman numerals till 100 with their Arabic pairs • Roman numerals till 1000 (using I, V, X, L, C, D, M) • Writing numerals till 1000 • Assigning, underlining or filling roman numerals till 1000 with their Arabic pairs • Roman numerals till 2000 (using I, V, X. L, C, D, M) • Writing numerals till 2000 • Assigning, underlining or filling roman numerals till 10 with their Arabic pairs • Counting with roman numerals (four operations)	• writes roman numerals till 39 • assigns, underlines or fills roman numerals till 39 with its Arabic pairs • writes roman numerals till 100 • assigns, underlines or fills roman numerals till 100 with its Arabic pairs • writes roman numerals till 1000 • assigns, underlines or fills roman numerals till 1000 with its Arabic pairs • writes roman numerals till 2000 • assigns, underlines or fills roman numerals till 2000 with its Arabic pairs • counts with roman numerals elementary examples (by converting them to Arabic and back result to Romans) (XIV + LVI = 14 + 56 = 70 = LXX)
TOPIC 2 – GEOMETRY	
Lines - repetition • Line segment and its measure • Ray • Line • Parallel lines (general, parallel line through given point) • Perpendicular lines (general, perpendicular line through a given point on the line, perpendicular line through a given point out of the line)	**Student** • understands what the line segment is • constructs line segment of given measure • understands what the ray is • understands difference between ray and line segment • constructs a ray • constructs a ray through given points • understands what the line is • understands difference between line, ray and line segment • constructs a line • constructs a line through given points • understands what parallel means • constructs two (and more) parallel lines using two rulers • constructs parallel line to other line going through a given point • understands what perpendicular means • constructs perpendicular line to other line using a set square • constructs perpendicular line through a given point on the other line using set square • constructs perpendicular line through a given point out of other line using set square
Shapes • Repetition – square, triangle, rectangle (vertices, sides, properties) • Types of triangle (equilateral, isosceles, scalene) and its side properties • Construction of square, rectangle and triangle of given sides • Circle (radius, centre) • Construction of circle of given radius (firstly drawing the centre of circle, then uses compass)	**Student** • describes properties of square, rectangle and triangle (number of vertex, properties of sides) • enumerates, assigns types of triangle and its side properties • constructs square, rectangle and triangle of given sides using set square and compass (makes properly perpendicular lines and equal measures of square sides) • understands terms “radius” and “centre” of the circle • constructs circle of a given radius using correct procedure (firstly draws the centre of

	the circle, then takes correct measure to the compass, then constructs the circle)
Perimeter • Repetition of perimeter and its units • Perimeter of square, rectangle and triangle • Perimeter of polygon • Daily math – elementary word problems	**Student** • understands term perimeter • understands principle of determination of perimeter for square, rectangle and triangle by adding of measure its sides • understands and memorizes units of perimeter • determinates perimeter of square, rectangle and triangle • determines perimeter of polygon • solves elementary word problems
Area • Definition of area • Area of shapes on the square net • Units of area • Area of square • Area of rectangle • Daily math – words problems	**Student** • understands term area • determines area of shapes on the square net • understands and memorizes units of perimeter • understands principle of determination of area for square • determinates area of square • understands principle of determination of area for rectangle • determinates area of rectangle • solves word problems
Solids • Definition of term "solid" • Cube, rectangular prism, cylinder, cone, pyramid, sphere • Solids in daily life • Assigning, underlining or filling names of solids	**Student** • understands what solid is • memorizes names of solids (cube, rectangular prism, cylinder, cone, pyramid, sphere) • enumerates types of solids in daily life (cube – cube of sugar, rectangular prism – house, cylinder – can, cone – party hat, pyramid – pyramid, sphere – Earth,…etc.) • assigns, underlines or fills names of solids
TOPIC 3 – MEASUREMENTS	
Length • Repetition - units (mm, cm, dm, m) • Relation between units • Converting units of length "from bigger to smaller" • Converting units of length "from smaller to bigger"	**Student** • names units of the length • understands relation between length units and its ordering in decreasing and increasing order (m > dm > cm > mm) • assigns, underlines or chooses length units and relation between them (mm→**10**→cm; mm→10→**cm**) • converts units of length "from bigger to smaller (2 m = **20** cm)
Time – repetition • Hours and minutes • Half an hour, quarter an hour • Half past, quarter past, quarter an hour • Reading time from the analogy and digital clock • Days of the week • Month of the year • Daily math	**Student** • understands difference between hour and minute • understands conversion relation between hours and minutes • understands term "half an hour, quarter an hour" • reads time from analogy or digital clock

	using terms “half past, quarter past, quarter to” • reads time from analogy clock using principle “minutes – past – hour” (twenty past two) • rewrites time by words from analogy and digital clock (2,^{30}h **– half past two**) • rewrites time by numbers from dictate or written form using “half past, quarter past, quarter to” (half past two – **2,^{30}h**, quarter past six – **6,^{15}h**) • rewrites time by numbers from dictate or written form using principle “minutes – past – hour” (twenty past two – **2,^{20} h**) • enumerates days of the week, moths of the year • counts separately in minutes, hours, days, month with no regrouping • solves basic word problems using addition, subtraction, multiplication and division separately in minutes, hours, days of week, month of year with no regrouping
TOPIC 4 – DATA HANDLING	
Table • Introducing table • Reading data from table • Research making • Making a table	**Student** • reads data from the table with understanding • compares and arranges data in table • makes individually or in the group basic research and table (for 3-5 items, for ex. schoolmates who like cricket, volleyball, football)
Graph • Introducing point graph • Reading data from point graph • Research making • Making a point graph	**Student** • understands what the point graph means • reads data from point graph • compares and arranges data in point graph • makes individually or in the group basic research and point graph (for 2 items, for ex. temperature during the week)
TOPIC 5 – PATTERNS	
Patterns • Logic rows (using two, three, four shapes, pictures or numbers with a system of position of objects) • Logic rows with numbers (using system of relation between numbers) • Introducing logic squares • Basic logic squares with a system of position (using shapes, solids, numbers)	**Student** • understands principle of logic rows with a system of positions • fills logic rows with system of position (1 2 3 1 2 3 1 2 ….; □ ○ ● □ ○ ● □ ○….) • understands principle of logic rows with system of relation between numbers (2 4 6 8 10 12….. – multiples of 2 = even numbers; 3 7 11 15 19 23 27… “plus 4 system”) • understands principle of logic squares (in each row and in each column have to be one object just one time) • fills basic logic squares (replaces question mark by correct object - □)

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5.5.2.8. Mathematics – 6th class

Subject matter	Student's outputs
TOPIC 1 – NUMBERS	
Numbers 0 – 100 000 000 (repetition) • Indian place-value system (lakh, crore) • International place-value system • Greater or smaller; Increasing and decreasing order • Rounding numbers (to nearest tents, hundred, thousand, ten thousands, lakh=hundred thousands, million, crore = ten millions) • Expanded form	**Student** • understands Indian place-value system • reads, writes and uses numbers in international place-value system • understands international place-value system • reads, writes and uses numbers in international place-value system • compares numbers using <, >, = • arranges numbers in decreasing or increasing order • rounds numbers (to nearest tents, hundred, thousand, ten thousands, lakh=hundred thousands, million, crore = ten millions) • re-writes number to its expanded form (and reverse) (54 678 = 5x10000 + 4x1000 + 6x100 + 7x10 + 8x1)
Addition and subtraction together (till 100 000 000) - repetition • Addition and subtraction by row method with no regrouping • Addition and subtraction by vertical method with regrouping • Daily math – elementary words problems mixed for addition and subtraction	**Student** • understands the difference between addition and subtraction • add or subtract (with no regrouping) numbers using row method (34000 + 21000 = 55000, 66000 – 1000 = 65000) • add or subtract (with regrouping) numbers using vertical method • solves word problems with understanding difference between addition and subtraction
Multiplication – repetition • Repetition of multiplication by numbers 1 – 10 and multiplication by 0 • Multiplication by multiples of 10, memorizing principle • Multiplication by one digit number using division method (12 x 4 = 10 x 4 + 2 x 4 = 40 + 8 = 48) and its short form (12 x 4 = 40 + 8 = 48) • Multiplication by vertical method (multiplication by one-digit, two-digit and three-digit number) • Daily math – elementary word problems to multiplication	**Student** • understands zero as negative element of multiplication • determines results of multiplication number 1 – 10 with number 1 – 10 • understands principle of multiplication by multiples of 10 • understands and uses division method of multiplication and its short form • understands and uses vertical method of multiplication • solves words problems for multiplication
Division – repetition • Repetition of division by factors 1 – 10, division by 0 • Division numbers till 100 by factors 1 – 10 with remainder (23 : 4 = 5 Remainder 3) • Division multiples of 10 by multiples of 10 (240 : 60 = 4) • Division by one-digit and two-digit number using long method with and without remainder • Daily math – word problems to division	**Student** • understands impossibility of division by 0 • determines results of division by factors 1 – 10 • understands term remainder • divides numbers till 100 by factors 1 – 10 with remainder • divides multiples of 10 by multiples of 10, memorizes principle • divide numbers by one-digit and two digit number using long method, determines remainder

Four 0peration and arithmetic rules - repetition • Mixed examples for addition, subtraction, multiplication and division • Numerical snakes (addition, subtraction, multiplication and division of more numbers in line with part-results) • AS rule (addition and subtraction together from left to right) (10 – 3 + 2 – 1 = 7 + 2 – 1 = 9 – 1 = 8) • DM priority rule (division and multiplication priority before addition and subtraction) (7 + 6 x 2 = 7 + 12 = 19; 5 + 8 : 2 – 1 = 5 + 4 – 1 = 9 – 1 = 8) • Brackets () and its priority in simplification (7+2x(3+4)-2 = 7+2x7-2 = 7+14-2 = 21-2 = 19) • Daily math – words problems mixed for four operations	**Student** • understands difference between four operations • doesn't mix up the results of four operations of the same numbers (6+2 = 8, 6-2 = 4, 6x2 = 12, 6:2 = 3) • understands principle of AS rule and uses it correctly in examples • simplifies examples using AS rule • understands principle of DM rule and uses it correctly in examples • simplifies examples using DM and AS rule • memorizes priority of multiplication and division before addition and subtraction • understands meaning of brackets () in the examples and its priority there • simplifies examples with brackets • solves elementary word problems with understanding of difference between multiplication and division
Fractions • Introducing fractions as a part of one whole • Fractions in daily life • Colouring fractions as a part of one whole • Decimal fraction • Colouring decimal fractions • Writing fractions • Adding and subtracting like fractions	**Student** • understands term whole • understands fraction as a part of a whole • enumerate examples of using fractions in daily life • colours fraction as a part of a whole • understands term decimal fraction • colours decimal fraction as a part of a whole • writes fraction, expresses colour part of a whole as a fraction • adds and subtracts like fractions
Decimal numbers • Introduction of decimal numbers and its relation to decimal fractions • Decimals in daily life • Definition of terms "decimal place, decimal dot" • Principle of converting decimal fractions to decimal numbers (and reverse) • Decimal numbers on the number line • Comparing decimals • Arranging decimals in increasing and decreasing form • Rounding decimals	**Student** • understands meaning of decimal number • enumerate examples of using decimals in daily life • understands relation of decimal fractions to decimal numbers • understands terms "decimal place, decimal dot" and points them out • converts decimal fraction to decimal number (and reverse) using principle of equal quantity of decimal places and zeros in denominator • draws decimals on the number line • compares decimals using <, >, = • arrange line of decimals into the increasing and decreasing line • rounds decimals in to nearest ones, tenth, hundredth, thousandth
Addition of decimal numbers • Addition by row method with no regrouping (basic examples: 0.2 + 0.3 = 0.5, 1,2 + 2,7 = 3,9) • Addition by heart (basic examples) (using repetition cards) • Writing decimals properly in to the vertical method ("dot under dot" principle) • Addition by vertical method with no regrouping	**Student** • adds decimals (with no regrouping) using row method • adds decimals by heart (basic examples), says results automatically • writes decimals correctly in to the vertical method, memorize principle "dot under dot" • adds bigger decimal numbers using vertical

(bigger numbers: 567.243 + 21.23) using properly "dot under dot" principle • Addition by vertical method with regrouping • Daily math – word problems to addition of decimals	method, writes correctly decimals in vertical method • adds decimals with regrouping using vertical method • solves words problems for addition of decimals
Subtraction of decimal numbers • Subtraction by row method with no regrouping (basic examples: 0.7 – 0.3 = 0.4, 2,8 – 1,7 = 1,1) • Subtraction by heart (basic examples) (using repetition cards) • Writing decimals properly in to the vertical method ("dot under dot" principle) • Subtraction by vertical method with no regrouping (bigger numbers: 567.243 – 21.13) using properly "dot under dot" principle • Subtraction by vertical method with regrouping • Daily math – word problems to subtraction of decimals	**Student** • subtracts decimals (with no regrouping) using row method • subtracts decimals by heart (basic examples), says results automatically • writes decimals correctly in to the vertical method, memorize principle "dot under dot" • subtracts bigger decimal numbers using vertical method, writes correctly decimals in vertical method • subtracts decimals with regrouping using vertical method • solves words problems for subtraction of decimals
Addition and subtraction of decimals together • Addition and subtraction by row method with no regrouping (basic examples: 0.5 + 0.3 = 0.8, 2,8 – 1,7 = 1,1) • Addition and subtraction by heart (basic examples) (using repetition cards) • Addition and subtraction by vertical method • Daily math – word problems to addition and subtraction of decimals	**Student** • see difference between addition and subtraction • doesn't mix up addition and subtraction for the same numbers • adds and subtracts decimals (with no regrouping) using row method • adds and subtracts decimals by heart (basic examples), says results automatically • adds and subtracts decimals by vertical method • solves words problems for subtraction of decimals
Multiplication of decimal numbers • Principle of multiplication of decimals (sum of decimal places) • Multiplication decimal by decimal by row method for elementary examples (0.2 x 0.3 = 0.06) • Multiplication decimal by natural number (and reverse) by row method (0.2 x 3 = 0.6) • Multiplication by heart (basic examples) (using repetition cards) • Introduction of vertical method of multiplication, principle of sum of decimal places • Vertical multiplication decimal by natural number • Vertical multiplication decimal by decimal • Daily math – word problems to multiplication of decimals	**Student** • understands and memorizes principle of multiplication of decimals (sum of decimal places: 0.7 x 0.02 = [7x2 = 14] = [1+2 = 3 decimal places] = 0.014 • multiplies decimal by decimal using row method for elementary examples • multiplies decimals by heart (basic examples), says results automatically • assigns or underlines correct results to examples • multiplies decimals using vertical method, uses correctly principle of sum of decimal places • solves words problems for multiplication of decimals
Division of decimal numbers • Principle of division of decimals (difference of decimal places) • Division decimal by natural number by row method for elementary examples (0.9 : 3 = 0.3) • Division decimal by decimal number (to difference of decimal places is not negative) by row method (0.27 : 0,3 = 0,9) • Division by heart (basic examples) (using repetition cards)	**Student** • understands and memorizes principle of division of decimals (difference of decimal places: 0.008 : 0.2 = [8:2 = 4] = [3-1 = 2 decimal places] = 0.04 • divides decimal by decimal using row method for elementary examples • divides decimals by heart (basic examples), says results automatically • assigns or underlines correct results to examples

• Division decimal by decimal number (to difference of decimal places is negative) by row method (0,9 : 0,003 = 300) • Introduction of long method of division, principle of difference of decimal places • Long method of division decimal by natural number • Long method of division decimal by decimal (to difference of decimal places is not negative) • Long method of division decimal by decimal (to difference of decimal places is negative) • Daily math – word problems to multiplication of decimals	• divides decimals using vertical method, uses correctly principle of difference of decimal places • solves words problems for multiplication of decimals
Division and multiplication of decimals together • Division and multiplication by row method (basic examples: 0.06 x 0.3 = 0.018, 0.06 : 0.3 = 0.2) • Division and multiplication by heart (basic examples) (using repetition cards) • Division and multiplication by long and vertical method • Daily math – word problems to addition and subtraction of decimals	**Student** • see difference between division and multiplication • doesn't mix up division and multiplication for the same numbers • uses correctly principles of sum (multiplication) and difference (division) of decimal places, doesn't mix them up • multiplies and divides decimals using row method • multiplies and divides decimals by heart (basic examples), says results automatically • multiplies and divides decimals by vertical method • solves words problems for subtraction of decimals
Factor and multiple • Definition of factor and its properties (always smaller then the number to which it belongs) • Practical meaning of factor (division of measure, division of object's amount ..etc) • Underlining, assigning factors to the number • Principle of factorization of the number (finding all factors of the number) • Definition of multiple and its properties (always bigger then the number to which it belongs) • Practical meaning of multiple (frequency of the signal, sequence of steps..) • Underlining, assigning multiples to the number • Factors and multiples of the number • Daily math – words problems for factors and multiples	**Student** • understands what the factor is, memorizes that it is always smaller then the number to which it belongs • enumerates examples of using factors in daily life • underlines, assigns factors to the number • understands principle of factorization of number and uses it • understands what the multiple is, memorizes that it is always bigger then the number to which it belongs • enumerates examples of using multiples in daily life • underlines, assigns multiples to the number • understand difference between factor and multiples of the number • underlines, assigns or enumerate factors and multiples of the number • solves elementary word problems to factors and multiples
Divisibility • Repetition of divisibility by 2, 5, 10 • Digit sum • Divisibility by 3 and its principle (digit sum divisible by 3) • Divisibility by 9 and its principle (digit sum divisible by 9) • Divisibility by 4 and its principle (two last digits of a	**Student** • understands and uses principle of divisibility by 2, 5, 10 • understands term "digit sum" • makes "digit sum" of numbers • understands principle of divisibility by 3 and uses it • understands principle of divisibility by 9 and

number make a number divisible by 4) • Divisibility by 6 and its principle (numbers which are divisible by 2 and 3)	uses it • understands principle of divisibility by 4 and uses it • understands principle of divisibility by 6 and uses it • chooses numbers divisible by 2, 3, 4, 5, 6, 9, 10 from a line of numbers • writes line of numbers divisible by 2, 3, 4, 5, 6, 9, 10
Prime and composite numbers • Definition of prime number and its properties (it is divisible ONLY by 2 numbers – by 1 and itself) • Table of prime numbers, memorizing prime numbers till 50 • Underlining, assigning prime numbers • Definition of composite number and its properties (it is divisible by 3 or more numbers) • Underlining, assigning composite numbers	**Student** • understands what the prime number is, memorizes that it has got just two factors – number 1 and itself • introduces with table of primes • memorizes prime numbers till 50 • underlines, assigns prime numbers • understands what the composite number is, memorizes that it has got always 3 or more factors • underlines, assigns multiples to the number
Common factor • Definition of common factor of two (three) numbers • Finding common factor of two (three) numbers in the lines of numbers' factors (10 = **1**, 2, **5**, 10; 15 =**1**, 3, **5**, 10 → 1, 5 are common factors of numbers 10, 15) • Definition of highest common factor (HCF) • Finding highest common factor of two (three) numbers in the line of numbers' factors (10 = **1**, 2, **5**, 10; 15 =**1**, 3, **5**, 10 → 1, 5 are common factors → 5 is the highest of them → HCF=5) • Introduction of prime factorization of a number and its principle and advantages • Finding highest common factor of two (three) numbers using prime factorization • Daily math – words problems for HCF	**Student** • understands what common factor means • finds common factor of two (three) numbers in the lines of numbers' factors • understands what highest common factor means and determines it from the group of factors • finds highest common factor of two (three) numbers in the line of numbers' factors • understands and memorizes principle of prime factorization • uses prime factorization to find HCF of two (three) numbers • solves words problems for HCF with understanding
Common multiple • Definition of common multiple of two (three) numbers • Finding common multiples of two (three) numbers in the lines of numbers' multiples (10 = **10**, **20**, **30**, **40**..; 5 = 5, **10**, 15, **20**, 25, **30** → 10, 20, 30, … are common multiples of numbers 10, 5) • Definition of lowest common multiple (LCM) • Finding lowest common multiple of two (three) numbers in the line of numbers' multiples (10 = **10**, **20**, **30**, **40**..; 5 = 5, **10**, 15, **20**, 25, **30** → 10, 20, 30, … are common multiples → 10 is the lowest of them → LCM=10) • Finding lowest common multiple of two (three) numbers using prime factorization • Daily math – words problems for LCM and HCF	**Student** • understands what common multiple means • finds common multiple of two (three) numbers in the lines of numbers' factors • understands what lowest common multiple means and determines it from the group of multiples • finds lowest common multiple of two (three) numbers in the line of numbers' multiples • uses prime factorization to find LCM of two (three) numbers • understands difference between HCF and LCM (factor is always smaller, multiple is always bigger then the number to which it belongs) • solves words problems for LCM and HCF with understanding, always with thinking and checking if the result should be smaller (HCF) or bigger (LCM) than the numbers to which it belongs
TOPIC 2 – GEOMETRY	

Lines - repetition • Line segment, ray, line • Construction of centre and axis of line segment • Parallel lines (parallel line through given point) • Perpendicular lines (perpendicular line through a given point on the line, perpendicular line through a given point out of the line)	**Student** • understands difference between line, ray and line segment • constructs line segment of given length • constructs line and ray through given points • understands terms "centre, axis" of line segment • constructs "centre, axis" of line segment using compass and ruler • constructs parallel line to other line going through a given point • constructs perpendicular line through a given point on the other line using set square • constructs perpendicular line through a given point out of other line using set square
Angle • Definition of angle as a part of a plain between two rays • Angle in daily life • Vertex, sides of the angle • Naming of angle by three letters (rule that vertex is always middle letter) • Types of angle (right angle, obtuse angle, acute angle, straight angle, reflex angle) and its definition according to their measure • Introducing protractor • Units of angle (degree, minute) and its relation • Measuring angles using protractor, principle of measuring by protractor • Construction of convex angles (angles till 180^0) using protractor • Construction of non-convex angles (angles 180^0-360^0) • Counting with angles, using relation between minutes and degrees • Comparison of angles (by observation, by numerating) • Adding angles • Subtracting angles • Multiplication of angles (by 2, 3..) • Division of angles (by 2, 3, 4..) • Construction angles "60^0, 30^0, 120^0" using set square and compass • Construction angles "90^0, 45^0, 135^0" using set square and compass • Pairs of angles (vertically opposite angles, adjacent angles, corresponding angles, alternate angles)	**Student** • Definition of angle as a part of a plain between two rays • understands term angle and is able to define it • enumerate examples of using angle in daily life • enumerate parts of angle and point them out (vertex, sides) • names angles using three letters (from the drawing, to the drawing), uses and memorizes rule of vertex as a middle letter • memorizes types of angle and its definition (right angle = 900, obtuse angle >900 , acute angle < 900, straight angle = 1800, reflex angle = 3600) • assigns or names types of angles on the picture • memorizes units of angle and its relation • reads units degrees of the protractor in proper direction, finds centre of protractor • uses correctly protractor for measuring the angles (puts properly centre of protractor on angle vertex, reads degrees by correct direction) • estimates and determines measure of type of angle • constructs convex angles using protractor • constructs non-convex angles using division of non-convex angles to straight angle and convex angle ($200^0 = 180^0+20^0$) • converts minutes to degrees (and reverse) • compares angles by observation • compares angles using <, >, = • adds, subtracts, multiplies and divides measure of angle • Constructs angle "60^0" using set square and compass, based on equilateral triangle • Constructs angles "30^0, 120^0" using set square and compass and division or multiplication of angle "60^0" • Constructs angles "90^0" using set square

	(perpendicular line) • Constructs angles "45^0, 135^0"using set square and compass and division and multiplication of angle "90^0" • uses terms "vertically opposite angles, adjacent angles, corresponding angles, alternate angles" • understands properties of vertically opposite angles, adjacent angles, corresponding angles, alternate angles • determinates measure of angles using properties of pairs of angles
Triangle • Types of triangle by sides (equilateral, isosceles, scalene) and its angle and side properties • Types of triangle by angles (acute-angled triangle, right-angled triangle, obtuse-angled triangle) • Properties of triangle (sum of two-sides rule, sum of angles rule) • Construction of triangle by rule side-side-side • Construction of triangle by rule side-angle-side • Construction of triangle by rule angle-side-angle	**Student** • enumerate types of triangles in classification by sides, understands its side and angle properties • enumerate types of triangles in classification by angles, understands its angle properties • understands properties of triangle and "sum of two-sides rule" • understands properties of triangle and "sum of angle rule" • decides if the triangle is constructible using "sum rules" (AB=10, BC=7, AC=20→inconstuctible because AB+BC<AC) (<A=80^0, <B=60^0, <C=100^0 →inconstuctable because $80+60+100=240^0>180^0$) • constructs triangle with three given sides using rule s-s-s • constructs triangle with two given sides and angle between them using rule s-a-s • constructs triangle with given side and two angles belonging the side using rule a-s-a
Symmetry • Equal shapes • Definition of symmetry, symmetry axis • Symmetry on square net • Principle of construction in symmetry • Construction of point and group of points in symmetry • Construction of line segment and line in symmetry • Construction of triangle, square, rectangle, polygon in symmetry • Construction of circle in symmetry • Figures with one, two and more axis of symmetry	**Student** • understands what "equal" means • assigns or chooses equal shapes • understands term "symmetry" and "axis" of symmetry • draws figures or pictures in symmetry on the square net • understands principle of construction in symmetry • constructs point and group of points in symmetry • constructs line segment and line in symmetry • constructs triangle, square, rectangle, polygon in symmetry • constructs circle in symmetry • draws axis of symmetry of figures with one, two and more axis of symmetry
Perimeter and area • Repetition of perimeter and its units • Repetition of area and its units • Perimeter and area of square • Perimeter and area of rectangle • Daily math – elementary word problems	**Student** • understands term "perimeter" and enumerate units of perimeter • understands term "area" and enumerate units of area • understands difference between perimeter

	and area of shape and its units • determinates perimeter and area of square • determinates perimeter and area of rectangle • solves elementary word problems
Solids • Definition of term "solid" • Cube, rectangular prism, cylinder, cone, pyramid, sphere • Solids in daily life • Assigning, underlining or filling names of solids • Faces, vertices, sides, diagonals of cube and rectangular prism • Net of solids (cube, rectangular prism)	**Student** • understands what solid is • memorizes names of solids (cube, rectangular prism, cylinder, cone, pyramid, sphere) • enumerates types of solids in daily life (cube – cube of sugar, rectangular prism – house, cylinder – can, cone – party hat, pyramid – pyramid, sphere – Earth,…etc.) • assigns, underlines or fills names of solids • points out face, vertices, side, diagonals on cube and rectangular prism • assigns correct net to cube and rectangular prism • constructs net of cube and rectangular prism • makes a model of cube and rectangular prism
Area of solid • Definition of area of solid as sum of areas its faces • Area of solid in daily life • Area of cube • Area of rectangular prism • Daily math – word problems	**Student** • understands area of solid as a sum of areas its faces • enumerates examples of using area of solid in daily life (painting, present wrapping..) • understands area of cube as a sum of areas 6 squares • determinates area of square • solves word problems to area of cube and rectangular prism
Volume of solid • Introducing volume • Volume in daily life • Units of volume (cubic) • Converting cubic measure (see chapter "measurements") • Definition of volume of regular solid as multiplication base face of solid and its height • Area of cube • Area of rectangular prism • Daily math – word problems	**Student** • understands what volume means • enumerates examples of using volume in daily life (cooking, drinks, ….) • understands cubic measure and difference between cubic, square and length measure • uses cubic measure and converts m^3, dm^3, cm^3, mm^3 • understands volume of regular solid as multiplication of base face by height of a solid • understands principle of formula for volume of cube and memorizes it • determinates volume of cube • understands principle of formula for volume of rectangular prism and memorizes it • determinates volume of rectangular prism • solves word problems to volume of cube and rectangular prism
TOPIC 3 – MEASUREMENTS	
Length - repetition • Units (mm, cm, dm, m) • Relation between units • Converting units of length "from bigger to smaller"	**Student** • names units of the length • understands relation between length units and its ordering in decreasing and increasing

• Converting units of length "from smaller to bigger"	order (m > dm > cm > mm) • assign, underline or choose length units and relation between them (mm→**10**→cm; mm→10→**cm**) • converts units of length "from bigger to smaller (2 m = **20** cm)
Area - repetition • Units (m^2, dm^2, cm^2, mm^2) • Relation between units • Converting units of area "from bigger to smaller" • Converting units of area "from smaller to bigger"	**Student** • names units of the area • understands relation between area units based on units of length (double amount of "zeros"; mm→1**0**→cm – one "zero" mm^2→1**00**→cm2 – two "zeros") • arranges units of area in decreasing and increasing order (m^2 > dm^2 > cm^2 > mm^2) • assign, underline or choose area units and relation between them (mm^2→**100**→cm2; mm2→100→**cm^2**) • converts units of area "from bigger to smaller (2 m^2 = **20000** cm^2) • converts units of area "from smaller to bigger (200 cm^2 = **0.02** m^2)
Volume • Units (m^3, dm^3, cm^3, mm^3) • Relation between units • Converting units of volume "from bigger to smaller" • Converting units of volume "from smaller to bigger"	**Student** • names units of the volume • understands relation between volume units based on units of length (triple amount of "zeros"; mm→1**0**→cm – one "zero" mm^3→1**000**→cm3 – triple "zeros") • arranges units of volume in decreasing and increasing order (m^3 > dm^3 > cm^3 > mm^3) • assign, underline or choose volume units and relation between them (mm^3→**1000**→cm3; mm3→1000→**cm^3**) • converts units of volume "from bigger to smaller (2 m^3 = **2000000** cm^3) • converts units of volume "from smaller to bigger (200 mm^3 = **0.2** cm^3)
TOPIC 4 – DATA HANDLING	
Table and bar graph • Reading data from table • Reading data form bar graph • Research making • Making a table and bar graph	**Student** • reads data from the table with understanding • reads data from bar graph with understanding • compares and arranges data of table or bar graph • makes individually or in the group basic research (for ex. boys, girls who like cricket, volleyball, football, badminton) • makes table and bar graph for data from research
TOPIC 5 – PATTERNS	
Patterns • Logic rows (using two, three, four shapes, pictures or numbers with a system of position of objects)	**Student** • fills logic rows with system of position (1 2 3 1 2 3 1 2 ….; □ ○ ● □ ○ ● □ ○….)

- Logic rows with numbers (using system of relation between numbers)
- Logic squares with a system of position (using more properties in one square)
- Logic squares with a system of relation between numbers
- Sudoku (for shapes, pictures, numbers)

- fills logic rows with system of relation between numbers (2 4 6 8 10 12….. – multiples of 2 = even numbers; 3 7 11 15 19 23 27… "plus 4 system")
- fills basic logic squares with a principle of position (in each row and in each column have to be one object just one time) (replaces question mark by correct object - □)

□	Δ	○
○	□	Δ
Δ	○	?

- fills basic logic squares with a principle of relation between numbers (f.ex. adding numbers to in each row and line is result 9) (replaces question mark by correct numbers 5, 2, 3)

1	3	?
6	2	1
?	4	?

- fills Sudoku (each object has to be just one time in each row, in each column and each part) (fills objects to empty cells)

□	Δ		
○			Δ
	□		
Δ		♥	

Solution:

□	Δ	○	♥
○	♥	□	Δ
♥	□	Δ	○
Δ	○	♥	□

5.5.2.9. Mathematics – 7th class

Subject matter	Student's outputs
TOPIC 1 – NUMBERS	
Negative numbers and integers • Definition of negative numbers and its need • Negative numbers in daily life • Definition of integers (negative, positive, zero) • Integers on number line • Comparing integers • Arranging integers in increasing and decreasing order • Rounding integers to nearest tents, hundreds, thousands • Absolute value of integer	**Student** • understands meaning of negative numbers and its need • enumerate examples of using negative numbers in daily life • understands meaning of integers, enumerate numbers which belongs to integers • draws integers on number line • compares two, three integers using <, >, = • arranges group of integers in increasing or decreasing order • rounds integers in to nearest tents, hundreds, thousands • understand meaning of absolute value • determine absolute value of integer
Addiction of integers • Principle of addition (move on the number line to the right) • Basic examples for addition of integers on the number line (-3+2 = -1) • Basic examples for addition of integers, memorizing results, imagination of adding • Addition of integers till +-100 • Daily math – word problems to addition of integers	**Student** • understands principle of addition (as a move on the number line to the right) • solves basic examples for addition of integers on the number line (-3+2 = -1) • determines results of basic examples for addition of integers, memorizes results • makes imagination of adding • adds integers till +-100 • solves word problems to addition of integers
Subtraction of integers • Principle of subtraction (move on the number line to the left) • Basic examples for subtraction of integers on the number line (-3-2 = -5) • Basic examples for subtraction of integers, memorizing results, imagination of subtraction • Subtraction of integers till +-100 • Daily math – word problems to subtraction of integers	**Student** • understands principle of subtraction (as a move on the number line to the left) • solves basic examples for subtraction of integers on the number line (-3+2 = -1) • determines results of basic examples for subtraction of integers, memorizes results • makes imagination of adding • subtracts integers till +-100 • solves word problems to subtraction of integers
Addition and subtraction of integers together • Mixed examples for addition and subtraction • Addition and subtraction by heart (basic examples) (using repetition cards) • Daily math – word problems to addition and subtraction of decimals	**Student** • see difference between addition and subtraction • doesn't mix up addition and subtraction for the same numbers (-2+1=-1; -2-1=-3) • determines results for addition and subtraction of integers • determines results for basic examples for addition and subtraction by heart • solves words problems for addition and subtraction of integers

Multiplication of integers • Multiplication facts for integers ("+ x + = +"; "− x − = +"; "+ x − = − "; "− x + = − ") • Memorizing multiplication facts • Using of brackets to divide two symbols (f.ex. "x,-") • Basic examples for multiplication of integers using all multiplication facts (3x2 =6; -3x(-2)=6; 3x(-2)=-6; -3x2=-6) • Multiplication of integers till +-100 • Multiplication of multiples 10 (-200x(-70)=14000) • Daily math – word problems to multiplication of integers	**Student** • understands multiplication fact for integers and memorizes them • understands using of brackets to divide two symbols of mathematic operations • solves basic examples for multiplication of integers using all multiplication facts (3x2 =6; -3x(-2)=6; 3x(-2)=-6; -3x2=-6) • determines results of basic examples for multiplication of integers, memorizes results • multiplies integers till result +-100 • determines results for multiplication of multiples 10, uses correctly multiplication fact for integers (90x(-400)=36000) • solves word problems to multiplication of integers
Division of integers • Division facts for integers ("+ : + = +"; "− : − = +"; "+ : − = − "; "− : + = − ") • Memorizing division facts • Using of brackets to divide two symbols (f.ex. ":,-") • Basic examples for division of integers using all division facts (8:2 =4; -8x(-2)=4; 8x(-2)=-4; -8x2=-4) • Division of integers till +-100 • Division of multiples 10 (-600:(-20)=30) • Daily math – word problems to division of integers	**Student** • understands division fact for integers and memorizes them • understands using of brackets to divide two symbols of mathematic operations • uses brackets to divide two operations • solves basic examples for division of integers using all division facts (6:2 =3; -6x(-2)=3; 6x(-2)=-3; -6x2=-3) • determines results of basic examples for division of integers, memorizes results • divide integers till result +-100 • determines results for division of multiples 10, uses correctly division fact for integers (16000:(-40)=400) • solves word problems to division of integers
Multiplication and division of integers together • Mixed examples for multiplication and division • Multiplication and division by heart (basic examples) (using repetition cards) • Daily math – word problems to multiplication and division of decimals	**Student** • see difference between multiplication and division • doesn't mix up multiplication and division for the same numbers (-8x2=-16; -8:2=-4) • determines results for multiplication and division of integers • determines results for basic examples for multiplication and division by heart • solves words problems for multiplication and division of integers
Positive and negative decimal numbers, Rational numbers • Decimal place, decimal dot • Principle of converting decimal fractions to decimal numbers (and reverse) • Negative decimals • Decimal numbers on the number line • Comparing and arranging decimals in increasing and decreasing form • Rounding decimals • Rational numbers • Rational numbers on the number line	**Student** • understands meaning of decimal number • enumerate examples of using decimals in daily life • understands relation of decimal fractions to decimal numbers • understands terms "decimal place, decimal dot" and points them out • converts decimal fraction to decimal number (and reverse) using principle of equal quantity of decimal places and zeros in denominator

• Comparing and arranging of real numbers in increasing and decreasing form	• understands meaning of negative decimals • draws decimals (positive and negative) on the number line • compares decimals (positive and negative) using <, >, = • arrange line of decimals (positive and negative) into the increasing and decreasing line • rounds decimals in to nearest ones, tenths, hundredths, thousands • understands meaning of rational numbers • enumerates examples of rational numbers • compares rational numbers • arranges rational numbers in increasing and decreasing form
Addition of positive and negative decimal numbers • Principle of addition • Addition of basic examples on the number line • Addition by row method with no regrouping (basic examples: -0.7 + 0.3 = -0.4, -1,2 + 0,1 = -1,2) • Addition by heart (basic examples) (using repetition cards)	**Student** • understands principle of addition negative and positive decimals • adds decimals on the number line • adds decimals (with no regrouping) using row method and correctly principle of addition negative decimals • adds decimals by heart (basic examples), says results automatically
Subtraction of positive and negative decimal numbers • Principle of subtraction • Subtraction of basic examples on the number line • Subtraction by row method with no regrouping (basic examples: -0.7 + 0.3 = -0.4, -1,2 + 0,1 = -1,2) • Subtraction by heart (basic examples) (using repetition cards)	**Student** • understands principle of subtraction negative and positive decimals • subtracts decimals on the number line • subtracts decimals (with no regrouping) using row method and correctly principle of subtraction negative decimals • subtracts decimals by heart (basic examples), says results automatically
Multiplication of negative and positive decimal numbers • Principle of multiplication of decimals (sum of decimal places) and multiplication facts ("+ x + = +"; "− x − = +"; "+ x − = − "; "− x + = − ") • Multiplication decimal by decimal by row method for elementary examples using multiplication facts (0.2 x (-0.3) = -0.06) • Multiplication decimal by natural number (and reverse) by row method (-0.2 x(-3) = 0.6) • Multiplication by heart (basic examples) (using repetition cards)	**Student** • understands and memorizes principle of multiplication of decimals (sum of decimal places: 0.7 x 0.02 = [7x2 = 14] = [1+2 = 3 decimal places] = 0.014 • uses multiplication facts ("+ x + = +"; "− x − = +"; "+ x − = − "; "− x + = − ") • multiplies decimal by decimal using row method for elementary examples • multiplies decimals by heart (basic examples), says results automatically • assigns or underlines correct results to examples
Division of positive and negative decimal numbers • Principle of division of decimals (difference of decimal places) and division facts ("+ : + = +"; "− : − = +"; "+ : − = − "; "− : + = − ") • Division decimal by natural number by row method for elementary examples, using division facts (-0.9 : 3 = -0.3) • Division decimal by decimal number (to difference of decimal places is not negative) by row method, using	**Student** • understands and memorizes principle of division of decimals (difference of decimal places: 0.008 : 0.2 = [8:2 = 4] = [3-1 = 2 decimal places] = 0.04 • uses division facts ("+ : + = +"; "− : − = +"; "+ : − = − "; "− : + = − ") • divides decimal by decimal using row method for elementary examples

division facts (-0.27 : (-0,3) = 0,9) • Division by heart (basic examples) (using repetition cards) • Division decimal by decimal number (to difference of decimal places is negative) by row method (-0,9 : 0,003 = -300)	• divides decimals by heart (basic examples), says results automatically • assigns or underlines correct results to examples
Four 0peration and arithmetic rules for rational numbers • Mixed examples for addition, subtraction, multiplication and division of rational numbers (integers, decimals, fractions) • AS rule for rational numbers (addition and subtraction together from left to right) (1 – (-0.3) +(-0.2) – 0.1 = 1 + 0.3 – 0.2 – 0.1 = 1.3 – 0.2 – 0.1 = 1.1 – 0.1 = 1) • DM priority rule for rational numbers (division and multiplication priority before addition and subtraction) (0.7 + 0.6 x (-2) = 0.7 – 1.2 = -0.5) • Brackets (), [] and its priority in simplification (7+2x[14:(0.3+0.4)]-2 = 7+2x[14:0.7]-2 = 7+2x20-2 =7+40-2 = 45) • Daily math – words problems mixed for four operations	**Student** • understands difference between four operations • doesn't mix up the results of four operations of the same numbers (0.6+0.2 = 0.8, 0.6-0.2 = 0.4, 0.6x2 = 1.2, 0.6:2 = 0.3) • uses rules for counting with integers and decimals • understands principle of AS rule and uses it correctly in examples • simplifies examples using AS rule • understands principle of DM rule and uses it correctly in examples • simplifies examples using DM and AS rule • memorizes priority of multiplication and division before addition and subtraction • understands meaning of brackets () in the examples and its priority there • simplifies examples with brackets • solves elementary word problems with understanding of difference between multiplication and division
Fractions and mixed numbers • Repetition - fractions as a part of one whole • Numerator and denominator • Fractions in daily life • Colouring fractions as a part of one whole • Writing fractions • Mixed numbers • Converting improper fractions to mixed numbers or natural numbers (and reverse), memorizing principle • Converting fractions to prime fraction (its shortest form) • Converting decimal fractions to decimal numbers and reverse • Converting fractions to decimals and reverse	**Student** • understands term whole • understands fraction as a part of a whole • enumerate examples of using fractions in daily life • colours fraction as a part of a whole • writes fraction, expresses colour part of a whole as a fraction • understands term mixed number and writes them • understands and uses principle of converting improper fraction to mixed number of natural number (23/5 = 4 3/5) • understands and uses principle of converting mixed numbers in to improper fraction (2 7/8 = 23/8) • converts improper fraction to mixed number, or natural number (and reverse) • understand term prime fraction as a shortest form of fraction (20/30 = 2/3) • converts fractions to its shortest form • converts decimal fraction to decimal number and reverse (1/10 = 0.1; 0.3 = 3/10) • converts fraction to decimal number and reverse (1/2 = 0.5; 0.08 = 8/100 = 2/25)
Addition and subtraction of fractions • Common denominator of fractions • Addition and subtraction of like fractions (4/7 + 2/7 = 6/7)	**Student** • understands what the common denominator is • determinates, underlines or points out

• Addition of two unlike fractions and its principle • Subtraction of two unlike fractions and its principle • Addition and subtraction of three (and more) fractions with determination of the result in its shortest form (or as a mixed number) • Addition and subtraction of fractions and mixed numbers with determination of the result in its shortest form (or as a mixed number) • Daily math	common denominator of two, three or more fractions • adds and subtracts like fractions • understands principle of addition of unlike fractions and uses it • understands principle of subtraction of unlike fractions and uses it • adds and subtracts two unlike fractions • adds and subtracts three (and more) unlike fractions and converts the result to its shortest form (or as a mixed number) • adds and subtracts fractions and mixed numbers and converts the result to its shortest form (or mixed number) • assigns or underlines correct results to examples • solves words problems for addition and subtraction of fraction and mixed numbers
Multiplication of fractions • Principle of multiplication of fractions • Multiplication of fraction by fraction (always converting result to its shortest form or to mixed number) • Multiplication of fraction by natural number (and reverse) (always converting result to its shortest form or to mixed number) • Multiplication by heart (basic examples) (using repetition cards) • Multiplication of fraction by mixed number (and reverse) (always converting result to its shortest form or to mixed number) • Multiplication of mixed number by mixed number (always converting result to its shortest form or to mixed number) • Daily math – word problems to multiplication of fractions	**Student** • understands and memorizes principle of multiplication of fractions • multiplies fraction by fraction, always converts result into its shortest form of to mixed number • multiplies fractions by heart (basic examples), says results automatically • multiplies fraction by natural number, always converts result into its shortest form of to mixed number • multiplies fraction by mixed number, always converts result into its shortest form of to mixed number • multiplies mixed number by mixed number, always converts result into its shortest form of to mixed number • assigns or underlines correct results to examples • solves words problems for multiplication of fractions
Division of fractions • Principle of division of fractions (switch of denominator and numerator; cross rule) • Division of two fractions (always converting result to its shortest form or to mixed number) • Division of fraction by natural number (and reverse) (always converting result to its shortest form or to mixed number) • Division by heart (basic examples) (using repetition cards) • Division of fraction by mixed number (and reverse) (always converting result to its shortest form or to mixed number) • Division of mixed number by mixed number (and reverse) (always converting result to its shortest form or to mixed number) • Daily math – word problems to division of fractions	**Student** • understands and memorizes principle of division of fractions • divides fractions by heart (basic examples), says results automatically • divides fraction by natural number, always converts result into its shortest form of to mixed number • divides fraction by mixed number, always converts result into its shortest form of to mixed number • divides mixed number by mixed number, always converts result into its shortest form of to mixed number • assigns or underlines correct results to examples • solves words problems for division of fractions

Four 0peration and arithmetic rules for fractions • Mixed examples for addition, subtraction, multiplication and division of rational numbers (integers, decimals, fractions) • AS rule for rational numbers (addition and subtraction together from left to right) • DM priority rule for rational numbers (division and multiplication priority before addition and subtraction) • Brackets (), [] and its priority in simplification • Daily math – words problems mixed for four operations	**Student** • understands difference between four operations • doesn't mix up the results of four operations of the same numbers • uses rules for counting with integers and decimals • understands principle of AS rule and uses it correctly in examples • simplifies examples using AS rule • understands principle of DM rule and uses it correctly in examples • simplifies examples using DM and AS rule • memorizes priority of multiplication and division before addition and subtraction • understands meaning of brackets () in the examples and its priority there • simplifies examples with brackets • solves elementary word problems with understanding of difference between multiplication and division
Unitary method • Introduction of unitary method and its use in examples • Daily math – word problems to unitary method	**Student** • understands the use of unitary method • solves word problems to unitary method
Ratio, proportion and scale • Definition of ratio and its properties (reducing, enlarging) • Ratio in daily life • Simplest form of ratio • Continued proportion • Daily math – word problems to ratio (proportion), use of unitary method • Definition of scale (of a map, of a project) • Daily math – word problems to scale, simple map making, use of unitary method	**Student** • understands what the ratio (proportion) is • understands difference in reducing and enlarging • enumerates examples of using of ratio (proportion) in daily life • determinates simplest form of ratio (proportion) • understands term "continued proportion" • solves word problems to ratio and continued proportion, uses unitary method • understands what the scale is and its using in daily life • determinates distance between two places on the map and converts it to real distance • solves word problems to scale of a map, uses unitary method • draws a simple (fantasy) map, determinates its scale and distance between places there
Percentage and its applications • Definition of percentage • Percentage in daily life • Interchanging percentage, fractions, decimals and ratios • One percent of a quantity and its principle • Finding per cent of a quantity • Expressing one quantity as a per cent of another quantity • Daily math – word problems to percentage, profit and loss • Simple interest (principal, interest, simple interest; by formula method, by unitary method • Daily math – word problems to simple interest, interest	**Student** • understands what the percentage is • enumerates examples of using percentage in daily life • interchanges percentage, fractions, decimals and ratios • interchanges percentage, fractions, decimals and ratios by heart for basic examples • determines one percent of a quantity, memorizes the principle • finds per cent of a quantity

and principal)	• finds per cent of a quantity by heart for basic examples • expresses one quantity as a per cent of another quantity (for basic examples by heart) • understands terms “profit and loss” • solves word problems to percentage, profit and loss • understands terms “simple interest, principal, interest” • solves word problems to simple interest, interest and principal by formula method and by unitary method
TOPIC 2 – GEOMETRY	
Angle - repetition • Angle in daily life • Vertex, sides of the angle • Naming of angle by three letters (rule that vertex is always middle letter) • Types of angle (right angle, obtuse angle, acute angle, straight angle, reflex angle) and its definition according to their measure • Measuring angles using protractor, principle of measuring by protractor • Comparison of angles (by observation, by numerating) • Pairs of angle (vertically opposite angles, adjacent angles, corresponding angles, alternate angles) and its properties	**Student** • understands term angle and is able to define it • enumerates examples of using angle in daily life • enumerates parts of angle and point them out (vertex, sides) • names angles using three letters (from the drawing, to the drawing) • assigns or names types of angles on the picture(right angle, obtuse angle, acute angle, straight angle, reflex angle) • reads units degrees of the protractor in proper direction, finds centre of protractor • uses correctly protractor for measuring the angles (puts properly centre of protractor on angle vertex, reads degrees by correct direction) • estimates and determines measure of type of angle • constructs angles using protractor • compares angles by observation • names pairs of angles and uses their properties
Triangle - repetition • Types of triangle by sides (equilateral, isosceles, scalene) and its angle and side properties • Types of triangle by angles (acute-angled triangle, right-angled triangle, obtuse-angled triangle) • Properties of triangle (sum of two-sides rule, sum of angles rule) • Construction of triangle by rule side-side-side • Construction of triangle by rule side-angle-side • Construction of triangle by rule angle-side-angle	**Student** • enumerates types of triangles in classification by sides, understands its side and angle properties • enumerates types of triangles in classification by angles, understands its angle properties • understands properties of triangle and “sum of two-sides rule” • understands properties of triangle and “sum of angle rule” • decides if the triangle is constructible using “sum rules” (AB=10, BC=7, AC=20→inconstuctible because AB+BC<AC) (<A=80^0, <B=60^0, <C=100^0 →inconstuctable because $80+60+100=240^0>180^0$) • constructs triangle with three given sides using rule s-s-s

	• constructs triangle with two given sides and angle between them using rule s-a-s • constructs triangle with given side and two angles belonging the side using rule a-s-a
Congruence • Definition of congruence • Congruence in daily life • Congruence of a line segment • Congruence of two angles • Congruence of triangles (rule s-a-s; a-s-a; s-s-s)	**Student** • understands term "congruence" and its using • assigns or chooses equal shapes • names examples of use of congruence in daily life (windows, papers, ..) • chooses, point out or draws equal line segments • chooses, point out or draws equal angles • chooses, point out or draws equal triangles, using rule s-a-s, s-s-s, a-s-a
Height, midline and centre of gravity of a triangle • Height of triangle, its properties and construction • Midline of triangle, its properties and construction • Centre of gravity of triangle, its properties and construction • Construction of triangle with given two sides and height • Construction of triangle with given side, angle and height • Construction of triangle with given two sides and midline • Construction of triangle with given side, angle and midline • Daily math – word problems to construction of triangle	**Student** • understands term "height of triangle", memorizes its properties • constructs height of various kinds of triangles (acute, obtuse, right angled) • understands term "midline of triangle", memorizes its properties • constructs midlines of various kinds of triangles (acute, obtuse, right angled) • understands term "centre of gravity" of triangle, memorizes its properties • constructs centre of gravity of various kinds of triangles • constructs triangle with given two sides and height • constructs triangle with given side, angle and height • constructs triangle with given two sides and midline • constructs triangle with given side, angle and midline • solves word problems to construction of triangle
Parallelogram • Definition and properties of parallelogram • Sides, heights, angles of parallelogram • Construction of parallelogram with given two sides and angle • Construction of parallelogram with given diagonal and two sides • Construction of parallelogram with given height and two sides • Construction of parallelogram with given height, angle and side • Daily math – word problems to construction of parallelogram • Perimeter of parallelogram and its formula • Area of parallelogram and its formula • Daily math – word problems to determination of perimeter and area of parallelogram	**Student** • understands term parallelogram, its properties and memorizes it • highlights sides, heights, angles of parallelogram • constructs parallelogram with given two sides and angle • constructs parallelogram with given diagonal and two sides • constructs parallelogram with given height and two sides • constructs parallelogram with given height, angle and side • solves word problems to construction of parallelogram • understands difference between perimeter and area • uses correct units for perimeter and area • converts units of perimeter and area

	• determinates perimeter and area of parallelogram, memorizes the formulas • solves words problems for determination of perimeter and area of parallelogram
Trapezium • Definition and properties of trapezium • Sides, heights, angles of trapezium • Special types of trapezium (right-angled, isosceles) • Construction of trapezium with given three sides and angle • Construction of trapezium with given diagonal and three sides • Construction of trapezium with given height and three sides • Construction of trapezium with given height, two angles and side • Daily math – word problems to construction of trapezium • Perimeter of trapezium and its formula • Area of trapezium and its formula • Daily math – word problems to determination of perimeter and area of trapezium	**Student** • understands term trapezium, its properties and memorizes it • highlights sides, heights, angles of trapezium • assigns or names special types of trapezium • constructs trapezium with given three sides and angle • constructs trapezium with given diagonal and three sides • constructs trapezium with given height and three sides • constructs trapezium with given height, two angle and side • solves word problems to construction of trapezium • understands difference between perimeter and area • uses correct units for perimeter and area • converts units of perimeter and area • determinates perimeter and area of trapezium, memorizes the formulas • solves words problems for determination of perimeter and area of trapezium
Prisms and pyramid • Prisms and its parts (edge, vertex, base, face, height) • Various kinds of prisms (with base of triangle, parallelogram, trapezium) and their net • Drawing prisms in 3D • Area of prisms and logic derivation of the formula (sum of all faces) • Units of area and their converting • Volume of prisms and logic derivation of the formula (base multiplied by height) • Units of volume and their converting • Daily math – word problems to area and volume of prisms • Definition of pyramid, its parts (edge, vertex, face, height) and properties • Net of pyramid • Area of pyramid and its formula (memorizing of logic derivation of the formula – sum of all faces) • Volume of pyramid and its formula (memorizing of logic derivation of the formula – 1/3 of base multiplied by height) • Daily math – word problems to area and volume of pyramid	**Student** • names and points out part of prisms (edge, vertex, base, face, height) • assigns names of various kinds of prisms (with base of triangle, parallelogram, trapezium) • draws net of various kinds of prisms • draws prisms in 3D • memorizes logic derivation of the formula for area of prisms (sum of all faces) • converts units of area • memorizes logic derivation of the formula for volume of prisms (base multiplied by height) • converts units of volume • solves word problems to area and volume of prisms • names and points out parts of pyramid (edge, vertex, face, height) and its properties • draws net of pyramid • memorizes logic derivation of the formula for area of pyramid (sum of all faces) • memorizes logic derivation of the formula for volume of pyramid (1/3 of base multiplied by height) • solves word problems to area and volume of pyramid

TOPIC 3 – DATA HANDLING

Graph

- Reading data from table
- Reading data form graph (dependence of two variables, for ex. temperature during one week)
- Research making
- Making a table and graph

Student

- reads data from the table with understanding
- reads data from graph with understanding
- compares and arranges data of table or bar graph
- makes individually or in the group basic research (for ex. temperature during one week)
- makes table and bar graph for data from research

TOPIC 5 – PATTERNS

Patterns

- Logic rows (using two, three, four shapes, pictures or numbers with a system of position of objects)
- Logic rows with numbers (using system of relation between numbers)
- Logic squares with a system of position (using more properties in one square)
- Logic squares with a system of relation between numbers
- Sudoku (for shapes, pictures, numbers)

Student

- fills logic rows with system of position (1 2 3 1 2 3 1 2 ….; □ ○ ● □ ○ ● □ ○….)
- fills logic rows with system of relation between numbers (2 4 6 8 10 12….. – multiples of 2 = even numbers; 3 7 11 15 19 23 27… "plus 4 system")
- fills basic logic squares with a principle of position (in each row and in each column have to be one object just one time) (replaces question mark by correct object - □)

□	Δ	○
○	□	Δ
Δ	○	?

- fills basic logic squares with a principle of relation between numbers (f.ex. adding numbers to in each row and line is result 9) (replaces question mark by correct numbers 5, 2, 3)

1	3	?
6	2	1
?	4	?

- fills Sudoku (each object has to be just one time in each row, in each column and each part) (fills objects to empty cells)

○			Δ
	□		
Δ		♥	

Solution:

□	Δ	○	♥
○	♥	□	Δ
♥	□	Δ	○
Δ	○	♥	□

5.5.2.10. Mathematics – 8th class

5.5.2.11. Mathematics – 9th class

5.5.2.12. Mathematics – 10th class

5.5.3. SCIENCE

5.5.3.1. Science – UKG class

Subject matter	Student's outputs
TOPIC 1 – BIOLOGY	
Fruits • Names of fruit (grapes, banana, apple, pear, litchi, chikoo, pomegranate, pine apple, mango, guava, papaya; naming fruit) • Question "What is it?" and answer "It is a (an)..." • Description and characteristics of kinds of fruit	**Student** • names, points out or assigns names of fruit on the picture (in English) • answers question "What is this?" (in English) using phrase "It is a (an).." • answers questions about fruit (in Ladakhi or English) (where does it grow, etc.)
Vegetable • Names of vegetable (turnip, onion, cauliflower, garlic, potato, brinjal, ginger, tomato, capsicum, carrot, radish, lady finger, chilli) • Question "What is it?" and answer "It is a (an)..." • Description and characteristics of kinds of vegetable	**Student** • names, points out or assigns names of vegetable on the picture (in English) • distinguishes fruit and vegetable • answers question "What is this?" (in English) using phrase "It is a (an).." • answers questions about vegetable (in Ladakhi or English) (where does it grow, etc.)
Flowers • Names of flowers (dahlia, jasmine, lily, lotus, mogra, pansy, tulip, rose, sun flower) • Question "What is it?" and answer "It is a (an)..." • Description and characteristics of kinds of flowers	**Student** • names, points out or assigns names of flowers on the picture (in English) • distinguishes fruit, vegetable and flowers • answers question "What is this?" (in English) using phrase "It is a (an).." • answers questions about flowers (in Ladakhi or English) (where does it grow, etc.)
Birds • Names of birds (crow, hoopoe, parrot, swan, bulbul, cock, wood packer, eagle, peacock) • Question "What is it?" and answer "It is a (an)..." • Description and characteristics of kinds of birds (which bird dances; which bird you can see in the night; which bird lives on the water)	**Student** • names, points out or assigns names of birds on the picture (in English) • answers question "What is this?" (in English) using phrase "It is a (an).." • answers questions about birds (in Ladakhi or English) (what is the colour; which bird dances; which bird you can see in the night; which bird lives on the water, etc.)
Domestic animals • Names of domestic animals (cow, camel, buffalo, dog, goat, cat, horse, ox, rabbit, donkey) • Question "What is it?" and answer "It is a (an)..." • Description and characteristics of domestic animals (what is the colour; which animal gives us milk; which animal is used for ploughing fields; which animal is a ship of the desert for riding, etc.)	**Student** • names, points out or assigns names of domestic animals on the picture (in English) • answers question "What is this?" (in English) using phrase "It is a (an).." • answers questions about domestic animals (in Ladakhi or English) (what is the colour; which animal gives us milk; which animal is used for ploughing fields; which animal is a ship of the desert for riding, etc.)
Wild animals • Names of wild animals (lion, bear, chimpanzee, zebra, monkey, elephant, deer, giraffe) • Question "What is it?" and answer "It is a (an)..." • Description and characteristics of wild animals (what is	**Student** • names, points out or assigns names of wild animals on the picture (in English) • answers question "What is this?" (in English) using phrase "It is a (an).."

the colour, which animal lives on the tree; which animal is called king of the forest; which animal eats other animals; which animal is the tallest animal, etc.)	• answers questions about wild animals (in Ladakhi or English) (what is the colour, which animal lives on the tree; which animal is called king of the forest; which animal eats other animals; which animal is the tallest animal, etc.)
Water animals • Names of water animals (fish, crocodile, sea horse, frog, seal, tortoise, octopus, whale) • Question "What is it?" and answer "It is a (an)..." • Description and characteristics of water animals (which are found in the sea; which is the larges sea animal; which can be a food for man)	**Student** • names, points out or assigns names of water animals on the picture (in English) • answers question "What is this?" (in English) using phrase "It is a (an).." • answers questions about water animals (in Ladakhi or English) (which are found in the sea; which is the larges sea animal; which can be a food for man)
Insects • Names of insects (honey bee, mosquito, fly, grass hopper, butter fly lady bird, cockroach, bed bug, lice, wasp, millipede, spider) • Question "What is it?" and answer "It is a (an)..." • Description and characteristics of insects (which insects look beautiful; which insects make honey; where do they live)	**Student** • names, points out or assigns names of insects on the picture (in English) • answers question "What is this?" (in English) using phrase "It is a (an).." • answers questions about insects (in Ladakhi or English) (which insects look beautiful; which insects make honey; where do they live)
Tree • Names of trees (neem tree, ashoka tree, gulmohar tree, apple tree, mongo tree, coconut tree, banyan tree, papaya tree) • Question "What is it?" and answer "It is a (an)..." • Description and characteristics of tree (which is the tallest tree; which tree has got flowers)	**Student** • names, points out or assigns names of tree on the picture (in English) • answers question "What is this?" (in English) using phrase "It is a (an).." • answers questions about tree (in Ladakhi or English) (which is the tallest tree; which tree has got flowers)
Seasons • Type of seasons (summer, winter, rain) • Question "What is it?" and answer "It is a (an)..." • Describing seasons (when do you feel hot; when do you wear woollen clothes; when do you use umbrella)	**Student** • names, points out or assigns seasons on the picture (in English) • answers question "What is it?" (in English) using phrase "It is a (an)..." • answers questions about seasons (when do you feel hot; when do you wear woollen clothes; when do you use umbrella)
My body • Parts of body (eye, nose, mouth, neck, head, hair, eye brow, ear, chest, hand, fingers, thumb, stomach, arm, elbow, hip, knee, foot, heel, leg) • Question "What is it?" and answer "It is a (an)..." • Description and characteristics of body and its parts (what do you do with your eyes; how many eyes do we have..etc.)	**Student** • names, points out or assigns names of body on the picture (in English) • answers question "What is this?" (in English) using phrase "It is a (an).." • answers questions about body (in Ladakhi or English) (what do you do with your eyes; how many eyes do we have..etc.)
TOPIC 2 – SOCIAL AND HISTORY	
My family • Family members (grand father, grand mother, mother, father, uncle, aunt, sister, cousin) • Question "What is it?" and answer "It is a (an)..." • Description and characteristics of family members	**Student** • names, points out or assigns family members on the picture (in English) • answers question "Who is it?" (in English) using phrase "It is a (an)..."

	• answers questions about members of his/her family (in Ladakhi or English) (what is he doing, where is he working,..etc.) • describes members of his/her family (in Ladakhi or English)
My bathroom • Bathroom and its equipment (towel, comb, mirror, tooth past, tooth brush, hair brush, tap, tumbler, soap, bucker, nail cutter, wash basin, hair oil, powder, shampoo) • Question "What is it?" and answer "It is a (an)..." • Description of bathroom and equipment inside	**Student** • names, points out or assigns bathroom and its equipment on the picture (in English) • answers question "What is it?" (in English) using phrase "It is a (an)..." • answers questions about his/her bathroom and equipment inside (in Ladakhi, English)
Households • Household and its equipment (brief case, flask, mixer, scissors, refrigerator, torch, television, telephone, tape recorder, sewing machine) • Question "What is it?" and answer "It is a (an)..." • Using of households' equipment (what are we using for sewing; what are we using for cutting the paper;..etc)	**Student** • names, points out or assigns households' equipment on the picture (in English) • answers question "What is it?" (in English) using phrase "It is a (an)..." • answers questions about his/her household and equipment inside (in Ladakhi, English)
Kitchen • Kitchen and its equipment (frying pan, spoon, pan , plate, cup, saucer, kettle, gas stove, jug, salt cellar, flask, rolling-pin, hotcase, glass, fork, tray, knife, strainer) • Question "What is it?" and answer "It is a (an)..." • Using of kitchens' equipment (what do you use in your house; what are we using for frying; what are we using for serve the tea;..etc)	**Student** • names, points out or assigns kitchens' equipment on the picture (in English) • answers question "What is it?" (in English) using phrase "It is a (an)..." • answers questions about his/her kitchen and equipment inside (in Ladakhi, English)
Food and drinks • Food and drinks (chicken, sweets, patty, cake, butter, cheese, pasty, milk, coffee, tea, sandwich, toffees, burger) • Question "What is it?" and answer "It is a (an)..." • Making food and drinks (what is made of fruit, vegetable, milk..; what is hot; what is cold..etc.)	**Student** • names, points out or assigns food and drinks on the picture (in English) • answers question "What is it?" (in English) using phrase "It is a (an)..." • answers questions about food and drinks (what is made of fruit, vegetable, milk...; what is hot; what is cold...etc.) (in Ladakhi, English)
Clothes • Name of clothes (belt, coat, frock, fie, sari, shoes, pantaloon, shalwar, socks, skirt, blouse) • Question "What is it?" and answer "It is a (an)..." • Describing clothes (what dress your mother wears; what dress do you wear; what dress your father wears; etc.)	**Student** • names, points out or assigns clothes on the picture (in English) • answers question "What is it?" (in English) using phrase "It is a (an)..." • answers questions about clothes (what dress your mother wears; what dress do you wear; what dress your father wears; etc.)
Professions • Types of professions (teacher, nurse, doctor, farmer, washerman, carpenter, cobbler, coolie) • Question "Who is it?" and answer "It is a (an)..." • Describing professions (what they do?)	**Student** • names, points out or assigns professions on the picture (in English) • answers question "Who is it?" (in English) using phrase "It is a (an)..." • answers questions about professions (what they do?)
People of India • People of India (Rajasthani, South Indian, Maharashtra,	**Student** • names, points out or assigns people of

Kashmiri, Punjabi, Uttar Pradesh) • Question "Who is it?" and answer "It is a (an)..." • Describing of people of India (what they dress?)	India on the picture (in English) • answers question "Who is it?" (in English) using phrase "It is a (an)..." • answers questions about people of India (what they look like; what they dress)
Festivals • Kinds of festivals (Holi, Eid, Diwali, Christmas, Independence day) • Question "What is it?" and answer "It is a (an)..." • Describing of festivals (who celebrates Eid; who celebrates Christmas; which festival is known as festival of lights; when is Independence day of India)	**Student** • names, points out or assigns festivals on the picture (in English) • answers question "What is it?" (in English) using phrase "It is a (an)..." • answers questions about festivals (who celebrates Eid; who celebrates Christmas; which festival is known as festival of lights; when is Independence day of India)
Buildings • Type of buildings (temple, mosque, gurudwara, church, multi storey building, school, bungalow) • Question "What is it?" and answer "It is a (an)..." • Describing of buildings (where do Hindus go for worship; where do Muslims go for prayer; who do worship in a Furudwara; where Christian go for prayer)	**Student** • names, points out or assigns buildings on the picture (in English) • answers question "What is it?" (in English) using phrase "It is a (an)..." • answers questions about buildings (where do Hindus go for worship; where do Muslims go for prayer; who do worship in a Furudwara; where Christian go for prayer)
Historical places • Type of historical places (Laxmi Narayan Mandir, Taj Mahal, Char Minar, Lotus Temple, Gateway of India, India Gate) • Question "What is it?" and answer "It is a (an)..." • Describing of historical places (in which city is Taj Mahal; in which city is India Gate situated; Mumbai is famous for)	**Student** • names, points out or assigns historical places on the picture (in English) • answers question "What is it?" (in English) using phrase "It is a (an)..." • answers questions about historical places (in which city is Taj Mahal; in which city is India Gate situated; Mumbai is famous for)
Classroom • Classroom and its equipment (black board, duster, globe, chair, desk, dust bin, notice board, almirah, table) • Question "What is it?" and answer "It is a (an)..." • Describing of classroom and its equipment (for what we use..)	**Student** • names, points out or assigns classroom's equipment on the picture (in English) • answers question "What is it?" (in English) using phrase "It is a (an)..." • answers questions about classroom and its equipment (for what we use...)
Stationary and books • Stationary and books (bag, sharpner, ink pot, colour box, gum, book, note book, sign pen, brush, pencil, pen, ruler, eraser) • Question "What is it?" and answer "It is a (an)..." • Describing of stationary and bookshop and its equipment (for what we use..)	**Student** • names, points out or assigns stationary's equipment on the picture (in English) • answers question "What is it?" (in English) using phrase "It is a (an)..." • answers questions about stationary and bookshop and its equipment (for what we use...)
Sports • Types of sports (tennis, football, cricket, basket ball, swimming, hockey, swing, skipping) • Question "What is it?" and answer "It is a (an)..." • Describing of sports (what are outdoor games; what are indoor games; for which games we need a ball..etc)	**Student** • names, points out or assigns sports on the picture (in English) • answers question "What is it?" (in English) using phrase "It is a (an)..." • answers questions about sports (what are outdoor games; what are indoor games; for which games we need a ball..etc)
Games	**Student**

• Types of games (basket ball, hockey, ball, carrom, chess, chess man, table tennis, foot ball, ball, cricket bat, ludo, dice, shuttle cock, racket) • Question "What is it?" and answer "It is a (an)..." • Describing of games (what we play with shuttle cock; which game is played on the table..etc)	• names, points out or assigns games on the picture (in English) • answers question "What is it?" (in English) using phrase "It is a (an)..." • answers questions about games (what we play with shuttle cock, which game is played on the table..etc)
Musical instruments • Types of musical instruments (dholak, flute, manjira, veena, harmonium, sitar, shehnai, tabia, violin) • Question "What is it?" and answer "It is a (an)..." • Describing and using of musical instruments (which instrument has got strings; which instrument is made of wood..etc)	**Student** • names, points out or assigns musical instruments on the picture (in English) • answers question "What is it?" (in English) using phrase "It is a (an)..." • answers questions about musical instruments (which instrument has got strings; which instrument is made of wood..etc)
Computer accessories • Computer accessories (compact disk, floppy, pendrive, monitor, CPU, key board, mouse, scanner, printer) • Question "What is it?" and answer "It is a (an)..." • Using of computer accessories (what is use for typing; what is use for printing..etc)	**Student** • names, points out or assigns computer accessories on the picture (in English) • answers question "What is it?" (in English) using phrase "It is a (an)..." • answers questions about computer accessories (what is use for typing; what is use for printing...etc)
Tools • Kinds of tools (hammer, file, hand drill, nut, nails, screw, bolt, spanner, screw driver, balance, pliers, saw..) • Question "What is it?" and answer "It is a (an)..." • Using of tools (for what do we use..etc)	**Student** • names, points out or assigns tools on the picture (in English) • answers question "What is it?" (in English) using phrase "It is a (an)..." • answers questions about tools (for what do we use...etc)
Transport • Kinds of transport (aeroplane, auto rickshaw, bus, car, truck, cycle, van, scooter, ship, yacht) • Railway station (train, tea stall, book seller, guard, ticket window, passengers, coolie; what do they do, where we can buy..) • Question "What is it?" and answer "It is a (an)..." • Using of transport (what is in the air, water..) • Description of railway station (what do they do; where we can buy..etc.	**Student** • names, points out or assigns vehicles on the picture (in English) • answers question "What is it?" (in English) using phrase "It is a (an)..." • answers questions about transport and vehicles (what is in the air, water...etc) • answers questions about railway station (what do they do; where we can buy..etc.)

5.5.3.2. Science – 1st class

Subject matter	Student's outputs
TOPIC 1 – BIOLOGY	
Plants • Parts of plants (leaf, fruit, branch, stem, roots, vegetable, stem) • Types of plants (trees, shrubs, herbs, thorny plants, climbers) • How plants grow (seeds, fruit with one seed, fruit with many seeds)	**Student** • names, points out or assigns parts of plants on the picture • describes parts of plants • names, points out or assigns types of plants • describes types of plants • answers questions about plants and how they are growing
Animals • Types of animals (wild, pets, water, birds, insects) • What do they eat (plant-eating animals, flesh-eating animals, grain-eating animals, insect-eating animals) • Where do they live (hive, nest, web, burrow, ant hill, hole, den, kennel, coop, cage, stable, shed)	**Student** • names, points out or assigns types of animals • distinguishes water, wild animals, pets, birds and insects • answers questions about feeding of animals • distinguishes plant-eating animals, flesh-eating animals, grain-eating animals, insect-eating animals and understands differences between them • assigns animals and place where they live
Our body • Growing of body (needs of air, water, food, rest, exercise, sleeping) • Our senses (eyes-see, nose-smell, ears-hear, tongue-taste, skin-feel) • Safety (crossing the road, zebra crossing, safety in bus, safety while playing, safety at school, safety while swimming) • First aid (cut, catch fire, animal bite)	**Student** • names, points out or assigns parts of human body • understands needs of air, water, food, rest, exercises and sleeping for human body • names what human body needs for surviving (needs of air, water, food, rest, exercise, sleeping) • names human senses (eyes-see, nose-smell, ears-hear, tongue-taste, skin-feel) • understands importance of self-care • understands what the first aid is and its importance • understands what to do as a first aid in a case of cutting, catching a fire, animal bite
Living and non-living things • A home (meaning and need of home, rooms of a house) • Living and non-living things	**Student** • describes needs for having a home • names or assigns names of the rooms of a house • describes use of rooms of a house • understands differences between living and non-living things • distinguishes living and non-living things
TOPIC 2 – PHYSICS	
Planets and stars • The Sun (sunlight, sun rise, sun set, day, night) • The Moon (full moon, half moon, crescent moon, going to the Moon, the stars)	**Student** • names, points out or assigns phases of the Sun • understands and describes differences in

	phases of the Sun • names, points out or assigns phases of the Moon • understands and describes differences in phases of the Moon
Air, water and weather • Air (what is air, where is air, uses of air, wind, weight of air, fire and air) • Water (what is water; where is water; uses of water) • Weather and seasons (three seasons – summer, winter and rainy seasons	**Student** • answers questions about air (what is air, where is air, uses of air, wind, weight of air, fire and air) • describes what the air is and its use • answers questions about water (what is water; where is water; uses of water) • describes what the water is and its use • names and describes kinds of weather • names and describes kinds of seasons in India

5.5.3.3. Science – 2nd class

Subject matter	Student's outputs
TOPIC 1 – BIOLOGY	
Plants • Parts of plants (roots, shoots or stem, leaves, fruits, flowers and buds, trees, shrubs, herbs, creepers, climbers) • How to keep plant healthy • Gifts form plants (vegetables – roots, leaves, flower, grains and seeds; fruits; nuts; spices; drinks; oil; medicines from plants; perfumes; cotton from plants; paper, gum, rubber from plants; wood from plants; animal food; decoration)	**Student** • names, points out or assigns parts of plants on the picture • describes parts of plants and its meaning • understands plant as a living thing, which can grow, reproduce, have diseases..etc • understands some of techniques how to keep plant healthy • names, points out or assigns products of plants and its use
Animals • Types of animals (wild, pets, water, birds, insects) • Food of animals (herbivores, carnivores, omnivores) • Shelter of animals (hive, nest, web, burrow, ant hill, hole, den, kennel, coop, cage, stable, shed) • Domestic animals (what they give to us; how are they useful for us; pets)	**Student** • names, points out or assigns types of animals • distinguishes water, wild animals, pets, birds and insects • answers questions about feeding of animals • distinguishes plant-eating animals, flesh-eating animals, grain-eating animals, insect-eating animals and understands differences between them • assigns animals and place where they live • names some of domestic animals • describes use of domestic animals
Our body • Internal body (bones, muscles, healthy muscles and bones, moving, good posture) • Health (food groups – rich in fats, rich in proteins, rich in carbohydrates, rich in vitamins and minerals, healthy eating; rules for healthy living) • Safety (traffic rules; safety – in the bus, while playing, while swimming, at home) • First aid (calling older person to help your friend)	**Student** • names, points out or assigns parts of human body • understands significance of bones, muscles for body • understands importance of good posture, making exercises and sufficiency of move • understands significance of fats, proteins, carbohydrates, vitamins and minerals in human diet • names, points out or assigns food rich for fats, proteins, carbohydrates, vitamins and minerals • names rules for healthy eating and understands their importance • names rules for healthy living and understands their importance • understands importance of self-care • names some of traffic rules and understands their importance • understands what the first aid is and its importance • describes shortly various cases of injury to inform others about the situation
Air, water and soil • Air (what is air; where is air; weight of air; fire and air;	**Student** • describes what the air is, its occurrence

dirty air and pollution; germs; wind; wind vane; using of air and wind) • Water (sources of water, underground water, clean water, forms of water) • Rock and soil (hard rocks – marble, granite, sandstone, diamond; soft rocks – graphite, coal, limestone, talc, china clay, slate; soil; minerals, various uses of minerals)	and use • understands relation of air to fire • understands what the pollution is and its danger to human body • names sources of pollution of air • describes what the wind is, its formation and use • describes what the water is, its occurrence and use • names sources of water • names sources of pollution of water, understands its danger • understands difference between hard rocks, soft rocks and minerals • names some kinds of hard rocks and its use • names some kinds of soft rocks and its use • names some kinds of minerals and its use
Things around us • Shelter (permanent house – high rise buildings, bungalow; temporary houses – huts, houseboat, caravan, igloo, tent; roof of houses – flat roof, sloping roof; material for building the house – bricks, wood, tiles, straw, slate, iron rod, cement) • Means of transport (land transport – cycle, bullock cart, rickshaw, scooter, bus, motorcycle, car, train; water transport – steamer, boat, shop; air transport – aeroplane, helicopter, rockets, air balloon)	**Student** • names permanent and temporary houses • understands difference between permanent and temporary houses • names materials for building the house • names, assigns or points out kinds of land, water and air transport
TOPIC 2 – PHYSICS	
Planets and stars • Our Earth (Earth in our solar system, blue planet, globe, equator, hemispheres, rotation of the Earth) • The Moon and sources of light (full moon, half moon, crescent moon, going to the Moon, sources of light, shadow, a shadow magic)	**Student** • understands globe as a scale model of the Earth • names, points out or assigns hemispheres, equator on the globe, map • shows rotation of the Earth on the globe • names planets and star of our solar system • names, points out or assigns phases of the Moon • understands and describes differences in phases of the Moon

5.5.3.4. Science – 3rd class

Subject matter	Student's outputs
TOPIC 1 – BIOLOGY	
Living and non-living things • Living and non-living things • General properties of living things (growing, need of food, moving, feelings and senses, breathing, reproducing)	**Student** • understands differences between living and non-living things • names, assigns or points out living and non-living things • names general properties of living things • understands meaning and importance of growing, need of food, moving, feelings and senses, breathing, reproducing for living things
Plants • What we eat of shoot (the stem, leaf, bud and flower, fruit and seed) • What we eat of the root (root, tap root)	**Student** • names, points out or assigns parts of plants on the picture • names, points out or assigns parts which we eat of shoot • names, points out or assigns parts which we eat of root • names, points out or assigns plants we eat shoot of • names, points out or assigns plants we eat root of
Animals • Feeding habits of birds (grain and seeds eating birds, warms eating birds) • Types of animals (scavengers, hunters) • Feeding habits of animals (swallowing, gnawing, chewing, tearing, lapping, sucking)	**Student** • names food of birds • names, points out or assigns types of birds eating grains and seeds or warms • distinguishes scavengers and hunters • answers questions about feeding of animals • distinguishes plant-eating animals, flesh-eating animals, grain-eating animals, insect-eating animals and understands differences between them • names feeding habits of animals and its meaning
Our body • Breathing or respiratory system (air, oxygen, nose, lungs, blood, back, carbon-di-oxygen) • Digestive system (mouth, chewing, saliva, food pipe, stomach, intestine, blood, rest anus) • Circulatory system (heart, blood, blood vessels) • Nervous system (brain, spinal cord, nerves) • Excretory system (kidneys, urine, lungs, carbon-di-oxide, skin, sweat) • Skeletal system (206 bones, support and shape of our body • Muscular system (moving power)	**Student** • names, points out or assigns parts of breathing and respiratory system • describes respiratory system in descending order • understands the role of respiratory system in our body • understands role of oxygen in breathing process • understands role of carbon-di-oxygen in respiration process • names, points out or assigns parts of digestive system • describes digestive system in descending order • understands the role of digestive system in

	our body • names, points out or assigns parts of circulatory system • shortly describes circulatory system • understands the role of circulatory system in our body • names, points out or assigns parts of nervous system • shortly describes nervous system • understands the role of nervous system in our body • names, points out or assigns parts of excretory system • shortly describes excretory system • understands the role of excretory system in our body • names, points out or assigns parts of skeletal system • shortly describes skeletal system • understands the role of skeletal system in our body • names, points out or assigns parts of muscular system • shortly describes muscular system • understands the role of muscular system in our body • distinguishes parts of respiratory, digestive, circulatory, nervous, excretory, skeletal and muscular system • understands importance of good posture, making exercises and sufficiency of move
Food • Components of food • Healthy food	**Student** • understands significance of fats, proteins, carbohydrates, vitamins and minerals in human diet • names, points out or assigns food rich for fats, proteins, carbohydrates, vitamins and minerals • names rules for healthy eating and understands their importance • names rules for healthy living and understands their importance
Water, weather and soil • Water (ice, liquid, gaseous form, water cycle) • Weather (sunny weather, windy weather, cloudy weather, rainy weather, summer season, winter season, monsoon season) • Rocks (hard and soft rocks, minerals • Soil (contain, humus, clay, sand, gravel, kinds of soil – sandy, clay, loam)	**Student** • describes what the water is • names, assigns or describes forms of water • describes water cycle • names types of weather • names seasons in India and describes them • understands difference between hard rocks, soft rocks and minerals • names some kinds of hard rocks and its use • names some kinds of soft rocks and its use • names some kinds of minerals and its use • describes what the soil contain • describes what the humus, clay, sand and gravel, how it looks like • names, assigns kinds of soil

Things around us • House (kuchcha and pucca house, big and small house; roofs – flat roof, sloping roof)	**Student** • names and describes some types of houses • names and describes some types of roofs
TOPIC 2 – PHYSICS	
Moving things • Force, work and energy (basic explication) • Measurement (measuring length, weight, volume, time, temperature)	**Student** • understands terms "force, work and energy" and differences between them • distinguishes and names examples of daily life for force, work and energy • understands terms "measure, length, weight, volume, time and temperature" and differences between them • names, assigns units of length, weight, volume, time and temperature • distinguishes elementary units of length, weight, volume, time and temperature • distinguishes and names examples of measuring length, weight, volume, time and temperature
Planets and stars • Earth and its movements (north pole, south pole, imaginary axis, rotation of the Earth around axis, revolution as rotation around the Sun) • Sun (solar system and its eight planets; sunlight • Moon (moon as a satellite, full moon day, no moon day, phases of the moon) • Stars (constellation of stars, some of constellation of stars – Leo, Great Bear, Orion, …)	**Student** • names, points out or assigns hemispheres, equator, north pole, south pole, imaginary axis on the globe or map • shows rotation of the Earth around imaginary axis on the globe • shows rotation of the Earth around the Sun • names eight planets and star of our solar system • understands the Moon as only satellite of the Earth • names, points out or assigns phases of the Moon • understands, describes or draws differences in phases of the Moon • understands what constellation of stars is • names, points out, assigns or draws some of constellations of stars

5.5.3.5. Science – 4th class

Subject matter	Student's outputs
TOPIC 1 – BIOLOGY	
Plants • Terrestrial plants (plants of the plains, plants of the hills, plants of the hot-humid regions, plants of the deserts, plants of the marshes) • Aquatic plants (fixed plants, floating plants, underwater plants, parasitic plants, insectivorous plants, grasses) • Structure of leaf (leaf stalk, main vein, side veins, leaf blade, cells, chlorophyll, stomata) • Photosynthesis	**Student** • names, points out or assigns some of terrestrial plants • distinguishes some of terrestrial plants by its occurrence • names, points out or assigns some of aquatic plants • distinguishes some of aquatic plants by its occurrence or other properties • names, points out, assigns or draws parts of a leaf • understands what the photosynthesis is • shortly describes photosynthesis
Animals • Reproduction • Animals that give birth to babies • Animals that lay eggs • Structure of bird's egg • Frogs and fishes • Reptiles • Insects	**Student** • understands what the reproduction is and its importance • names animals which give birth to babies • names animals which lay eggs • names, points out or assigns structure of a bird's egg • distinguishes animals that give birth to babies, that lay eggs, frogs, fishes, reptiles and insect • understands differences in reproduction of animals that give birth to babies, that lay eggs, frogs, fishes, reptiles and insect • shortly describes reproduction of animals that give birth to babies, that lay eggs, frogs, fishes, reptiles and insect
Adaptation in plants and animals • Adaptation in plants (adaptation in terrestrial plants; adaptation in aquatic plants) • Adaptation in animals (adaptation for environment; adaptation for food – herbivores, carnivores, omnivores, parasites; adaptation for protection – speed, size, mix with surrounding; migration)	**Student** • understands what the adaption is and its importance • describes adaptation in terrestrial and aquatic plants • names kinds of adaptation in animals and describes them shortly • distinguishes herbivores, carnivores, omnivores and parasites • understands term migration
Our body • Digestion (how food is digested, the journey of the food) • Structure of a tooth • Types of teeth (incisors, canines, pre-molars and molars; milk and permanent teeth)	**Student** • names, points out or assigns parts of digestion system • describes shortly how food is digested and its journey through human body • names, assigns, points out or draws structure of a tooth • names, assigns or points out types of teeth • understands and describes differences between milk and permanent teeth

Food • Proteins (body building, food rich to proteins) • Carbohydrates (energy giving, food rich carbohydrates) • Fats (energy giving, food rich fats) • Vitamins and minerals (protective food, food rich in vitamins and minerals) • Roughage • Microbes (viruses, bacteria, fungi, protozoa)	**Student** • understands significance of proteins in human diet as a bodybuilding element • names, points out or assigns food rich in proteins • understands significance of carbohydrates in human diet as an energy giving element • names, points out or assigns food rich in carbohydrates • understands significance of fats in human diet as an energy giving element • names, points out or assigns food rich in fats • understands significance of vitamins and minerals in human diet as a protective element • names, points out or assigns food rich in vitamins or minerals • understands significance of roughage in human diet • names, points out or assigns food rich in roughage • names kinds of microbes • names rules for healthy living and understands their importance
Natural phenomenon (solar system, weather and water) • Orbit (distance of planets of the sun) • Introducing planets (Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune) • Comets and asteroids • Wind (how wind blows, land and sea breeze) • Evaporation and condensation (clouds, fog, frost, dew drops, snow) • Polluted water (insoluble impurities, soluble impurities, disease causing germs) • Making water potable (boiling, filtering, adding chemicals, sedimentation and decantation)	**Student** • describes what the orbit is • names and describes planets of our solar system • describes comets and asteroids • describes wind blowing, land and sea breeze • describes water cycle, evaporation and condensation process • names kinds of water states • understands danger of pollution and differences between insoluble and soluble impurities • names kinds of insoluble and soluble impurities • names possibilities of making water potable and its using in daily life
Things around us • Clothes (need for clothing, how clothes are made, different clothes for different seasons, special clothes, care of clothes) • Safety (at home, on the road) • First aid – burnings, injuries	**Student** • understands needs of clothing and its fabrication • names different kinds of clothing for different kinds of season • understands importance of self-care • names some of traffic rules and understands their importance • understands what the first aid is and its importance • describes shortly various cases of injury to inform others about the situation
TOPIC 2 – PHYSICS	

Moving things • Force (kinds of forces – frictional, gravitational) • Work • Energy (forms of energy – muscular energy, heat energy, wind energy, water energy, chemical energy, atomic energy, solar energy) • Alternative sources of energy (the importance of energy in our lives; sun' s energy; bio gas; wind energy; conserving energy) • Motion (linear motion, random motion, circular motion, oscillatory motion, periodic motion)	**Student** • understands terms "force, work and energy" and differences between them • names kinds of forces and their examples in daily life • names kinds of examples for work • names kinds of energy and their examples in daily life • names using of various kinds of energy in daily life • understands and describes importance of energy in our lives • names alternative sources of energy • understands and names advantages of alternative energy • describes what the motion is • names kinds of motion and their examples in daily life
Materials • Matter and molecules • Types of matter (solid, liquid, gas, change in states of matter) • Solutions (solute, solvent, solution) • Kinds of soil and layers of soil (top soil, subsoil, rock bad) • Life in the soil • Soil erosion (by wind, by water, by man) • Soil conservation (by growing plants, by raising bunds, by construction dams, terraced farming)	**Student** • understands and describes what the matter and molecule is • names types of matter • describes change in states of matter, names examples • describes what solution is • names elements of solution (solute, solvent) and some examples of daily life (water + sugar = sweet water) • names kinds of soil, its occurrence and layers • describes life in the soil, names some examples of the life in the soil • names kinds of soil erosion • names and describes possibilities of soil conservation

5.5.3.6. Science – 5th class

Subject matter	Student's outputs
TOPIC 1 – BIOLOGY	
Plants • Reproduction in plants (reproduction through seeds, leaves, baby plant) • Germination • Dispersal of seeds (wind dispersal, water dispersal, animal dispersal, explosion) • Reproduction (through spores, by vegetative parts - roots, stems, leaves) • Cultivation of corps	**Student** • shortly describes reproduction in plants through seeds, leaves and baby plant • describes germination of a seed • understands what the dispersal is • names kinds of dispersal • names possibilities of reproduction of plants • understands what cultivation is • describes cultivation of corps
Adaptation of plants and animals • Adaptation in plants • Adaptation in animals • Breathing, moving, feeding of various kinds of animals	**Student** • names and describes kinds of adaptation in plants • names and describes kinds of adaptation in animals • compares and describes differences in breathing, moving and feeding of various kinds of animals
Useful plants and animals • Plants that affect our lives (husbandry, food producing plants, fibre producing plants, timber yielding plants, medicinal plants, ornamental plants) • Animals that affect our lives (domestication, husbandry, breeding; some other animal products	**Student** • describes husbandry • names use of plants in daily life • names and describes kinds of food producing plants and their use in daily life • names and describes kinds of fibre producing plants and their use in daily life • names and describes kinds of timber and their use in daily life • names and describes kinds of medicinal plants and their use in daily life • names and describes kinds of ornamental plants and their use in daily life • describes domestication and its meaning for human's life and society • names and describes domestic animals and their use in daily life • describes other use of animals
Our body • Skeletal system • Bones (skull; backbone or spine, ribcage, hip girdle, shoulder girdle) • Joints (hinge joints, ball and socket joints, pivot joint, gliding joints) • Muscular system (voluntary muscles, involuntary muscles, cardiac muscles) • Nervous system (central nervous system, peripheral nervous system, autonomic nervous system) • Brain (cerebrum, cerebellum, medulla) • Spinal cord • Nerves (sensory nerves, motor nerves, mixed nerves) • Reflex action	**Student** • understands the role of skeletal system in our body • names, points out or assigns bones of human body • names, points out or assigns joints of human body • names types of muscles • understands the role of muscular system in our body • names types of nervous system • names and points out parts of brain • describes spinal cord and its role for human body

• Sense organs (eyes, ears, nose, tongue, skin) • Safety and first aid (case of heat stroke, case of sprains, case of animal bites, case of nose bleed, safety at home, safety form fire)	• names kinds of nerves • shortly describes reflex action • names, points out or assigns sense organs • understands importance of self-care • shortly describes and shows first aid in a case of heat stroke, case of sprains, case of animal bites, case of nose bleed, safety at home, safety form fire
Food • Food and nutrition (proteins, carbohydrates, roughage, vitamins and minerals) • Communicable diseases (cold, measles, chickenpox, tuberculosis, whooping cough, cholera, typhoid, diarrhoea, food-poisoning, malaria, dengue, night blindness, beri-beri, scurvy of bleeding gums and swelling of joints, rickets or soft bones, goitre or swelled neck, anaemia or pale and tired look) • Vaccination	**Student** • understands significance of proteins, carbohydrates, roughage, vitamins and minerals in human diet • names, points out or assigns food rich in proteins, carbohydrates, roughage, vitamins and minerals • names kinds of communicable diseases • understands meaning and importance of vaccination
Natural phenomenon • Layers of atmosphere (troposphere, stratosphere, ionosphere, exosphere) • Composition of air • Uses of air (breathing, burning, pressure) • Properties of air (air occupies space, air weight, air pressure works in different direction, air pollution) • More about the Moon • Eclipses (solar eclipse, lunar eclipse, tides) • Satellites	**Student** • names layers of atmosphere • names composition of air • describes uses of air in daily life • describes properties of air • describes eclipses of Sun and Moon and differences between them • understands and describes what tide is and its cause • describes satellites and its meaning
TOPIC 2 – PHYSICS	
Moving things • Simple machines (lever, pulley, inclined plane, screw, wedge, wheel and axle) • Force (gravitation force, frictional force, magnetic force, electrostatic force) • Work • Energy (potential energy, kinetic energy) • Sources of energy (solar energy, water energy, wind power, oil, coal, gas) • Conservation of energy	**Student** • names and describes simple machines and their use in daily life • names kinds of forces and their examples in daily life • names, uses and converts units of force • solves words problems for force • names kinds of examples for work • names, uses and converts units of work • solves words problems for work • names kinds of energy and their examples in daily life • names, uses and converts units of energy • solves words problems for energy • names using of various kinds of energy in daily life • understands and describes importance of energy in our lives • names alternative sources of energy • understands and names advantages of alternative energy
Materials • Matter, molecules and atoms • States of matter (solids, liquids, gases, changes in states of matter – physical change, chemical change) • Solids in liquids, liquids in water, gases in water	**Student** • understands and describes what the matter, molecule and atom is • names states of matter and its changes • describes change in states of matter,

• Minerals • Rocks' division according to formation (igneous - granite, basalt, obsidian, pumice; sedimentary - sandstone, shale, limestone, conglomerate; metamorphic - marble, slate, gneiss, quartzite) • Fuels (coal, petroleum) • Conservation of natural resources • Soil erosion (how is soil formed; soil erosion; agents of soil erosion - running water, wind, flat open grounds, man, overgrazing by cattle) • Soil conservation	names examples • names kinds of minerals • names types of rocks divided according to formation • names some of igneous rocks • names some of sedimentary rocks • names some of metamorphic rocks • names fuels, its occurrence and using in daily life • names kinds of soil erosion and its agents • names and describes possibilities of soil conservation

5.5.3.7. Science – 6th class

Subject matter	Student's outputs
TOPIC 1 – BIOLOGY	
Plants • Types of plants (herbs, shrubs, trees) • Parts of a plant (root, stem, leaf, node, internode, flower, fruit) • Root system (roots) • Shoot system (stem) • Vegetative parts (root, stem, leaves) • Reproductive parts (flowers, seeds, fruits) • Functions of plant's parts • The leaf (leaf blade, lamina, petiole, leaf base, veins, midrib, venation, reticulate venation, parallel venation, chlorophyll) • Relation between leaf ventilation and type of roofs • Functions of leaves (stomata, transpiration, photosynthesis) • The flower (pedicel, sepals, petals, filaments, stamen, anthers, pollen grains, pistil, ovary, ovules, style, stigma) • Kinds of flowers (bisexual flower, unisexual flower, complete flower, incomplete flower) • Functions of flower (reproduction, source of food, honey)	**Student** • names types of plants • names and points out parts of a plant • describes and points out root system and shoot system • names and points out vegetative parts • names and points out reproductive parts • describes functions of plant's parts • names and points out parts of leaf • describes relation between leaf ventilation and type of roof • describes functions of leaves • names and points out parts of flower • names and describes kinds of flowers • names and describes functions of flower
Human body and its movements • Movement and locomotion • Types of joints (Immovable joints, slightly movable joints, freely movable joints) • Parts of joints (cartilage, synovial cavity, synovial membrane) • Kinds of joints (ball and socket joint, hinge joint, pivot joint) • Skeletal system (bones and cartilages) • Parts of skeletal system (skull, ribs, vertebral column, limbs) • Function of skeletal system (protection, shaping and forming of body, movement) • Muscular activity (muscular system) • Muscles (contraction, relaxation; voluntary, involuntary, cardiac muscle; tendons) • Skeletal system in other animals (endoskeleton, exoskeleton, jointed exoskeleton, rigid exoskeleton • Locomotion in animals ("gait of animals") (Earthworm, snail, cockroach, fish, frog, snakes, birds, mammals)	**Student** • understands and describes significance of locomotion in human's life • names and points out types of joints • names, points out and describes parts of joints • names and describes kinds of joints • describes bones and cartilages and their role in moving system • names, points out and describes parts of skeletal system • describes function of skeletal system • describes muscles and their role in moving system • understands and describes what contraction and relaxation of muscle is • names, points out and describes muscles, their kinds and differences between them • describes and compares skeletal system in other animals • describes and compares locomotion in animals
The living organisms and their surroundings • Living places of organisms • Habitat and adaptation • Types of organisms on the basis of habitat (terrestrial, aquatic; plants – hydrophytes, mesophytes, xerophytes; animals – aquatic, terrestrial, amphibious, arboreal) • Components of a habitat (living biotic component –	**Student** • names different living places of various organisms • understands and describes what adaptation is • names and describes types of plants on the basis of habitant

micro organisms, producers, herbivores, omnivores, carnivores, decomposers; non-living abiotic component – temperature, light, water, air, soil) • Adaptations in different habitats (aquatic – oceans, ponds, lakes, rivers; terrestrial – deserts, mountain regions, grasslands of forest) • Living things around us (mass, shape, space, cell, molecule) • Living and non-living things (differences) • Characteristics of living – cellular organisation, nutrition, respiration, growth, excretion, reproduction, movement, response to stimuli, life circle) • Things between living and non-living (viruses)	• names and describes types of animals on the basis of habitant • names living biotic components • names non-living abiotic components • names and describes kinds of adaptation in various habitants • understands and describes differences between living and non-living things • names and describes living things around us • names and describes characteristics of living • understands what virus is • names some of diseases caused by viruses
Food • Food elements (proteins, carbohydrates, roughage, vitamins and minerals) • Meal (breakfast, lunch, dinner) • Food variety (ingredients in food items) • Food eaten by living organisms (herbivores, carnivores, omnivores) • Plants as source of food (pulses, legumes, vegetables, spices, tea, coffee, proteins, vitamins, sugar) • Animals as sources of food (milk yielding animals, meat yielding animals, poultry animals, fish, eggs, honey) • Food habits of people (habits in India – Andhra Pradesh, Bihar, Gujarat, Pujab, Rajastan, Tamil Nadu)	**Student** • understands significance of proteins, carbohydrates, roughage, vitamins and minerals in human diet • names, points out or assigns food rich in proteins, carbohydrates, roughage, vitamins and minerals • understands significance of breakfast, lunch and dinner in human diet • names examples of herbivores, carnivores, omnivores and explain differences between them and their diet • names plants which are source of food and understands their importance in human diet • names animals as sources of food, their use and understands their importance in human diet • describes different food habits of Indian people
Components of food • Nutrients in food (carbohydrates, fats, proteins, mineral salts, vitamins, water, fibre) • Composition of some food items (tables) • Effect of cooking on nutrients • Basic food groups (milk group, pulses and meat group, bread and cereal group, fruits and vegetables group) • Diseases due to imbalance in the diet (under nutrition, over nutrition, malnutrition, obesity) • Deficiency diseases (diseases due to deficiency of carbohydrates, diseases due to deficiency of proteins, diseases due to deficiency of vitamins, diseases due to deficiency of minerals)	**Student** • understands significance of carbohydrates, fats, proteins, mineral salts, vitamins, water, fibre in human diet • understands effect of cooking on nutrients • names, points out or assigns food due to basic food groups • understands significance balance of human diet • describes under nutrition, over nutrition and malnutrition and their causes • names and describes diseases due to deficiency of carbohydrates and their causes • names and describes diseases due to deficiency of proteins their causes • names and describes diseases due to deficiency of vitamins their causes • names and describes diseases due to deficiency of minerals their causes
Fibre to fabric • Variety in fabrics • Kind of fibres (plant fibres, animal fibres) • Some plant fibres (cotton, jute)	**Student** • names various kinds of fabrics • understands differences between plant and animal fibres

• Spinning of cotton yarn • Yarn to fabric (knitting, weaving) • Uses of cotton, jute, fibre • Beginning of clothing • Development of clothing material	• names plant and animal fibres • describes spinning of cotton yarn • describes kinds of yarn to fabric • names and describes use of cotton, jute and fibre • describes development in clothing and clothing material
Water • How do we use water • Oceans as the major source of water • Transpiration (adding water vapour to air) • Forming of clouds • Precipitation or rain • Water cycle • Rainwater harvesting • Effects of floods (panic, injuries, deaths; water level; erosion; damage to crops; diseases; loss of habitats of plants and animals; physical damage to houses and industries) • Effects of drought (due to absence of rain; natural calamities)	**Student** • names variety of using of water • understands oceans as the major source of water • describes transpiration process • describes forming of clouds, precipitation and rain • describes water cycle • defines floods, their causes and effects • defines drought, their causes and effects
Air • Presence of air (wind, dust storm, atmosphere) • Composition of air (water vapour, dust and smoke, oxygen and nitrogen, carbon dioxide) • Atmosphere • Respiration by organisms (respiration under water, under soil) • Stable amount of oxygen in the air • Uses of air	**Student** • names variety presence of air in the Earth • names composition of air • defines atmosphere • describes respiration of organisms under water and under soil • understands importance of stable amount of oxygen in the air • names and describes use of air
Waste • Waste (solid waste, domestic waste) • Biodegradable and non-biodegradable wastes • Dealing with garbage (landfills, composting, vermicomposting) • Recycling of wastes (reduce, reuse, recycle; recycling of paper, plastics; benefits of waste management)	**Student** • names variety of waste • distinguishes biodegradable and non-biodegradable wastes • names and describes variety of dealing with garbage • names variety of recycling • defines recycling and understands its need, benefits and importance
TOPIC 2 – PHYSICS	
Measurement • Story of transport • Length (need to measure distance) • What is measurement • Need for measuring scale, standard scale and standard unit • Standard unit of length (International system of units, multiples of metre) • Measuring with metre scale, errors in measuring	**Student** • understands what length is and its need in daily life • names and describes different kinds of scales • understands need of international system of units • understands metre as international measure of length • names multiples of metre (mm, cm, dm, km) • converts meter and its multiples • measure with various metre scales
Motion	**Student**

• Rest and motion (rest, motion as a relative terms) • Different kinds of motion (translatory motion – rectilinear motion, curvilinear motion; circular motion or rotatory motion; Oscillatory motion; vibratory motion; periodic motion; non-periodic motion; uniform motion; non-uniform motion)	• understands and describes motion and rest and their relation • names and describes various kinds of motion • understands and describes differences between various kinds of motion
Light, shadow and reflection • Light • Sources of light (luminous bodies, non-luminous bodies) • General definition (optical medium, homogenous medium, heterogeneous medium, transparent medium, translucent medium, opaque bodies, point source of light, extended source of light, ray of light) • Pinhole camera • Shadows (what are shadows, conditions for the formation of a shadow) • Reflection of light	**Student** • understands and describes what light is • names and describes various sources of light • understands difference between luminous and non-luminous bodies • describes various kinds of mediums • describes opaque bodies • describes point and extended source of light and difference between them • defines ray of light • describes pinhole camera and their use • defines shadow • describes reflection of light and its use
Electricity and circuits • Energy (light energy, sound energy, mechanical energy, magnetic energy, heat energy) • Electric cell • Electric bulb (definition, lighting up a bull with an electric cell) • Electric circuit • Electric switch • Electric conductors and insulators (conductors and insulators, and its use)	**Student** • names various kinds of energy and their use in daily life • understands and describes what electric cell is • describes electric bulb and its use in daily life • describes lighting up a bull with an electric cell • defines electric circuit • defines electric switch • describes electric conductors and insulators and its use
Magnet • Discovery of magnet (attractive property, directive property, leading stone – lodestone) • Natural and artificial magnets (natural magnet, artificial magnet) • Magnetic and non-magnetic substances (iron, cobalt, nickel, steel, ferrite; stones, china ware, glass, wood, paper..) • Poles of magnet (north, south) • Alignment of a freely suspended magnet • Attraction and repulsion between the magnets • Magnetic compass • Precautions in using magnet	**Student** • defines magnet and its properties • describes natural and artificial magnet and differences between them • names, points out or underlines magnetic and non-magnetic substances • defines pole of magnet and their properties • describes attraction and repulsion between magnets • describes magnetic compass and its use • names use of magnet
Sorting materials into groups • Important properties of materials (appearance, soluble of insoluble, solubility of liquid substances in water, solubility of gases in water, property of objects to float or sink in water, transparency) • Meaning of grouping of materials	**Student** • describes appearance of objects and differences between them • understands differences between soluble and insoluble materials • describes solubility of liquid substances in water • describes solubility of gases in water • names various properties of materials • understands meaning of grouping of

	materials
Changes around us • Examples of a few changes taking place around us • Changes caused by heating (heating with any other change, heating with expand change, heating with burning, heating with state change) • Changes caused by pressure or force (changes caused by dissolving) • Reversible and irreversible changes • Grouping on the basis of reversible and irreversible changes	**Student** • names and describes kinds of changes taking place around us • names and describes changes caused by heating • names and describes changes caused by pressure or force • understands and describes differences between reversible and irreversible changes

5.5.3.8. Science – 7th class

Subject matter	Student's outputs
TOPIC 1 – BIOLOGY	
Plants • Nutrition in plants (nutrition, nutrients) • Modes of nutrition (autotrophic nutrition - autotrophs, photosynthetis ; heterotrophic nutrition) • Other modes of nutrition in plants (saprophytic, parasitic, symbiotic, insectivorous)	**Student** • defines nutrition and nutrients • names and describes autotrophic and heterotrophic nutrition
Animals • Nutrition in animals (ingestion; digestion – intracellular, extracellular; absorption and assimilation; egestion) • Nutrition in amoeba • Digestive system in ruminants (chewing cud; compound stomach - rumen, cud)	**Student** • describes ingestion • describes intracellular and extracellular digestion • describes absorption and assimilation • describes nutrition in amoeba • describes digestive system in ruminant and its parts
Human body • Nutrition system in humans (mouth – food canal – alimentary canal – digestive tract – anus) • Mouth (tonque, teeth, salivaty glands - amylase, ptyalin) • Food canal (oesophagus, stomach, small intestine, large intestine, rectum) • Liver and pankreas (bile juice, gall bladder, insulin; digestive juices – enzymes)	**Student** • names parts of nutrition system in humans • names parts of mouth and describes them • names parts of food canal and describes them • describes livers and its function • describes pancreas, its function and juices
Weather, climate and adaptation in animals to climate • Introduction (distance of the Earth from the Sun, the layer of carbon dioxide and water, the layer of ozone) • Climate (climate and adaptation – the polar regions, adaptations in polar bear, penguin; the tropical rainforests ; adaptation for protection form predators – camoufalge ; adaptation in hot and dry climates) • Weather	**Student** • describes effect of distance of the Earth from the Sun • describes layer of carbon dioxide • describes layer of ozone • understands and describes differences in polar, hot and dry and tropical regions • describes and names examples of adaptation in polar, tropical and hot and dry climates
Wind, storms and cyclones • Prove that moving air exerts pressure • High speed winds are accompanied by reduced pressure • Air expands on heating and contract on cooling • Hot air rises upwards and the cold air sinks down • Formation of winds due to uneven heating of the Earth (heating due to shape of Earth and its inclination ; uneven heating of land and sea) • Thunderstorm (precautions in the thunderstorm) • Hurricanes or cyclones (forming of hurricanes) • Tornadeos • Effective safety measures (steps taken by government for cyclone warning ; action on the part of people living near the coastal region; precautions for cyclone hit areas)	**Student** • describes relation between pressure and air • describes formation of wind • describes thunderstorm and names precautions in thunderstorm • describes forming of hurricanes • defines hurricanes, tornados and cyclones • names precautions for cyclone or hurricanes • names some of regions effected by cyclones and hurricanes
Soil	**Student**

• Soil formation • Soil profile • Soil particles and soil types (loamy soil, sandy soil, clayey soil) • Soil texture (humus, air, water, organismus) • Soil colour • Soil and crops • Soil erosion (prevention of soil erosion – soil conservation)	• describes soil formation and soil profile • names and describes soil particles and soil types • names and describes parts of soil texture • names various colours of soil • describes soil erosion and soil conservation as option of its prevention
Fibre and fabric • Wool (wool bearing animals, properties of wool, reering and breeding of sheep) • Processing of fleece into woolen fabrics (shearing of fleece, wool manufacturing, uses of wool) • Silk (early history of silk, life history of silk moth, silkculture, processing of silk fibre from silk cocoon, processing of silk thread from silk fibres, wild silks, uses of silks)	**Student** • names wool bearing animals and wool properties • describes reering and breeding of sheep • describes process of fleece into woollen fabrics • shortly describes early history of silk and life history of silk • describes process of silk fibre from silk cocoon and process of silk thread from silk fibres • names use of silk
Respiration in organisms • Types of respiration (aerobc respiration, anaerobic respiration) • Process of respiration (breathing or external respiration, cellular respiration or internal respiration, breathing rate per minute) • Breathing of other animals (fish, Earthworms, frogs, mammals) • Respiration system in human body (wind pipe – trachea-bronchi – alveoli – diaphragm) • Lungs in human body (inhalation, exhalation, oxygen,carbon dioxygen) • Breathing in plants (diffusion – through stomata, lenticels, general surgace of the roots; anaerobic respiration in plants)	**Student** • names types of respiration and differences between them • describes breathing of various animals and differences between them • names parts of respiration system in human body • describes lungs and its role in respiration system • describes process of inhalation and exhalation and gases used in these processes • describes breathing in plants • describes anaerobic respiration in plants
Transportation in plants and animals • Transport of materials in plants • Transport in unicellular and simple multicellular plants (diffusion) • Transport in higher plants (conduction – xylem, phloem, conduction tissues, vascular tissues) • Transport of water and minerals in higher plants (xylem) • Transport of food (phloem) • Transpiration (stomata, importance of transpiration) • Circulatory system in human body (blood vessels – arteries, veins, capillaries; heart – ventricles, auricles, valves; blood vessels – arteries, veins; blood – plasma, cells, corpuscles, red blood cells, white blood cells, platelets, hemoglobin, clotting of blood; blood circulation – plumonary artery, aorta) • Heart beat and pulse (stethoscope, heartbeat, pulse, blood preasure) • Excretion in animals • Excretion in humans (lungs, skin, large interstine, kidneys, liver) • Excretory system in humans (nephrons, urine, ureter,	**Student** • describes transport system in unicellular and simple multicellular plants • describes conduction and vacular tissues • describes transport of water and minerals in higher plants • describes transport of food in higher plants • describes process of transpiration and its importance • names parts of circulatory system in human body • names and describes blood vessels • describes heart and circulation of blood in heart • names elements of blood and their role in circular system • describes blood circulation in human body • defines terms stethoscope, heartbeat, blood pressure and pulse • measures his pulls

urinaty bladder, urethra; sweating; dialysis – filtration, dialysis; application of dialysis – artificial kidney machine, cellulosic dialysis tubing)	• describes excretion in animals • describes excretory system in humans • describes meaning of sweating • describes process of dialysis and its application
Reproduction in plants • Reproduction in living organisms • Modes of reproduction (vegetative parts, sexual reproduction, asexual reproduction) • Methods of asexual reproduction (binary fission, budding, fragmentation, spore formation, regeneration, vegetative reproduction as vegetative propagation by roots, by stems, by leaves) • Adventages of vegetative reproduction • Sexual reproduction (gametes, male gamete, famale gamete, fertilization, zygote, need of sexual reproduction) • Sexual reproduction in plants (stamens, pistil) • Stamen (anther, filament, pollen grains) • Pistil (ovary, style, stigma ; bisexual, unisexual) • Pollination (self pollination, cross pollination, wind pollination, water pollination) • Fertilization (lygore, embryo) • Formation of fruit and seed (function of fruit, seed – embryo, cotyledons, seed coat, dry fruits, fleshy fruit)	**Student** • understands and explains needs of living organisms to reproduce • names modes of reproduction • names methods of asexual reproduction and describes them • understands and describes advantages of vegetative reproduction • describes sexual reproduction and its need • names and points out reproductive part of plant • names types of pollination • describes fertilization in plants • describes formation of fruit and seed, their parts and role in reproduction in plants
Water • Variety of water (fresh water, ocean/sea water) • Forms of water in nature (surface water, underground water) • Depletion of water table (water crisis and rainfall) • Water need for agriculture • Conservation of water (some conservation steps) • Effect of water scarcity on plants	**Student** • names sources of water • distinguish fresh an ocean water • names forms of water in nature • describes water crisis • describes water need for agriculture (of plants, of animals) • names some steps of conversation of water • describes some effects of water scarcity
Forests • Trees and other plants in a forest (canopy, crown, understoreys) • Forest (important natural resource, uses of forests) • Useful plants and plant products (food, clothing, medicines, timber or wood, paper, rubber, perfumes, dyes, resins, fuel, ornamental and landscape purposees, other uses) • Interdependence amongst living organisms (food chain, scavengers and decomposers, balance in nature, dependence of animlas on plants, dependence of plants on animals, why forest have been cut) • Waste water managment • Clean water • Sewage (domestic liquid waste, sewerage system, sewage treatement, alternatives to sewerage system ; sanitation and disease)	**Student** • names kinds of plants in forest • names uses of forests • names useful plants and products made from them • names and describes examples of interdependence amongst living organisms • understands and describes importance of balance in the nature • understands and describes dependence of plants, animals and humans • understands and describes waste water management and its importance in society • names sources of fresh water • understands and describes danger of water pollution • describes sewerage system and its importance in society • names some of diseases caused by polluted water • understands importance of sanitation of water

TOPIC 2 – PHYSICS

Heat flow and temperature • Heat (what is heat energy) • Measurment of temperature (temperature, termomether, clinical thermometer and its construction) • Transmision of heat • Conduction • Good conductors of heat • Practical applicatons of good conductors • Bad conductors of heat or heat insulators • Practical applications of heat insulators • Convection (experiment to demostrate convection in liquids, experiment to demonstarate convection in gasses) • Application of convetion currents in gases (ventilation, sea breeze and land breeze) • Radiation (examples of heat radiation, proving heat radiation can travel throuhg vacuum, radiant heat or thermal radiation, absorpition of radiant heat by a body, applications of radiant heat)	**Student** • defines heat and heat energy • describes measuring of temperature, names various measuring instruments for temperature • describes transmission of heat • describes conduction of heat • names good and bad conductors of heat • describes convection in liquids and gases and their application • names examples of heat radiation • describes absorption of radiant heat by a body • names applications of radiant heat
Acids, bases and salts • Introduction of acids, bases and salts • Natural indicators (litmus – a natural dye, turmeric, china rose)	**Student** • names, underlines or chooses acids, bases and salts • explains what indicator is
Physical and chemical changes • Physical changes • Chemical changes (importance of chemical changes, examples) • Differences between physical and chemical changes • Rusting of iron (prevention of rusting – oiling and greasing, by painting, by coating with other metals, by converting iron into stainless stell) • Crystallisation	**Student** • names kinds of physical changes • names kinds of chemical changes • describes differences between physical and chemical changes • defines rusting • names various prevention of rusting of iron • defines crystallisation and names its examples
Time and motion • Measurement of time, units of time • Modern devices for measuring time (periodic motion, simple pendulum, Galileo Galilei, oscillation, time period) • Motion (characteristics of a moving body, how to describe the motion of a body) • Uniform motion (distance covered time, non-accelarated uniform motion, characterictics of uniform motion) • Non-uniform motion • Speed (units of speed, kinds of speed – uniform speed, non-uniform speed) • Distance and speed measuring (speedometer)	**Student** • names units of time and converts them • names modern devices for measuring time • names characteristics of moving body • describes uniform motion and names its characteristics • describes non-uniform motion • names units of speed and converts them • names kinds of speed • names device for measuring speed
Electric current and its effects • Electric circuits (close electic circuit, elements of electric circuit, open electric circuit) • Conductors (good conductors of electricity, bad conductors of electricity, insulators) • Electric battery (with cells in series, with cells in parallel) • Symbols of the elements of electric circuit (connecting wire, fixed resistance wire or resistor, variable resistance, rheostat or unknown variable resistance, resistance box or known variable resistance, inductor, cell, battery, plug key	**Student** • names and describes types of electric circuits • names elements of electric circuit • names and describes types of conductors • defines insulators • describes electric battery and its types • draws, points out or chooses symbols of the elements of electric circuit • describes heating effects of an electric

or single key, galvanometer, ammeter, voltmeter, D.C.generator, A.C. generator) • Heating effects of an electric current (nichrome, applications of heating effects of electric current, fluorescent tube light) • Fuse (safety device in electric circuits, overloaded electric circuit, short circuit, fuse,characteristics of a fuse, position of fuse in an electric circuit and its working – live wire, current enters, porcelan casing, pocelain grip) • Magnetic properties of a conductor carrying current (electromagnetism, oersted's experiment to show magnetic effect of current, conclusions form Oersted's experiment) • Making a magnet with the help of electric current (practical using of electromagnet) • Electric bell (electromagnet, armature, contact spring, contact crew adjustment, hammer and gong, working og electric bell)	current • defines fuse and its characteristics • understands using of various elements of electric circuit • draws or assemble electric circuit • names magnetic properties of a conductor carrying current • defines electromagnet • describes electric bell and its parts
Light • Rectilinear propagation of light • Reflection of light (reflection, mirror) • Real and virtual images (image, real image, virtual image) • Mirrors (spherical mirror, conex mirror, concave mirror) • Differences between real image an virtual image • How to distinguish between a plane mirror, a convex mirror and a concave mirror (uses of mirrors) • Image formation in lenses (lens, kinds of lenses – convex lens, concave lens, differences) • White light is composed of many colours (VIBGYOR system of dispersion of light)	**Student** • understands what reflection is • names kinds of images and differences between them • names kinds of mirrors, image in them and their use • draws, assigns or points out virtual image of a real image in spherical, convex and concave mirror • names kinds of lenses and differences between them • names colours of a light spectrum • describes dispersion of light and its examples in daily life

5.5.3.9. Science – 8th class

Subject matter	Student's outputs
TOPIC 1 – BIOLOGY	
Microorganisms • Microorganisms (bacteria, fungi, protozoa, algae, viruses) • Where they live • Friendly microorganisms (commercial use of microorganisms – medicine, vaccine, cleaning the environment • Harmful microorganisms (pathogens, communicable diseases, diseases in animals, diseases in plants) • Food preservation (chemical methods - salt, sugar, oil, vinegar; heat and cold treatments - pasteurization) • Nitrogen fixation • Nitrogen cycle	**Student** • names types of microorganisms and their occurrence • names kinds of friendly microorganisms and their use • names kinds of harmful microorganisms and diseases they cause • describes process of food preservation • names some of chemical methods and they use in daily life • describes pasteurization and its use in daily life • describes nitrogen fixation and nitrogen cycle
Coal and petroleum • Natural resources (inexhaustible natural resources, exhaustible natural resources) • Coal (story of coal, resources in J&K, coke, coal tar, coal gas) • Petroleum (formatting of petroleum, refining of petroleum) • Natural gas • Limitation of natural resources	**Student** • names inexhaustible and exhaustible natural resources and differences between them • describes formatting of coal and its use nowadays • names some of resources in J&K • defines coke, coal tar and coal gas\ • describes formatting and rafining of petroleum • defines natural gas and names its use • understands that resources in our planet are limited
Conservation of plants and animals • Deforestation and its causes • Consequences of deforestation – droughts, desertification) • Conservation of forest and wildlife • Biosphere reserve • Flora and fauna • Endemic species • Wildlife sanctuary • National park • Red data book • Migration • Recycling of paper • Reforestation	**Student** • understands danger of deforestation and names its causes and consequences • understands importance of conservation of forest and wildlife • names examples of conservation of forest and wildlife • understands and describes difference between fauna and flora • names elements of fauna and flora • defines wildlife sanctuary and national park • names meaning of wildlife sanctuary and national park • defines red data book and its meaning • describes migration and some examples of migration • understands and describes importance of recycling of paper • understands and describes importance and meaning of reforestation
Reproduction in humans • Modes of reproduction • Sexual reproduction	**Student** • names and describes modes of reproduction

• Male reproductive organs (sperms, penis, testis) • Female reproductive organs (ovary, oviduct, uterus) • Human ovum • Fertilization • Development of embryo (zygote, foetus; viviparous and oviparous animals; young ones to adults) • Asexual reproduction (buds; budding; binary fission, story of Dolly the clone)	• understands sexual reproduction as natural process of human life and society • names and points out parts of male reproductive organ and their role in reproduction system • names and points out parts of female reproductive organ and their role in reproduction system • describes human ovum , its occurrence and growth • describes fertilization and its phases • describes developing of embryo and its phases • names examples of viviparous and oviparous animals • describes growth of young ones to adults and role of parents • names kinds of asexual reproduction in nature or by artificial way
Sound and humans • Sound produced by humans • Sound needs a medium for propagation • How we hear sound through ears • Amplitude, time period and frequency of a vibration (loudness and pitch) • Audible and inaudible sounds • Noise and music • Noise pollution (measures to limit noise pollution)	**Student** • describes how sound is propagated • describes auditory system of humans and its parts • describes sound propagation and perception in human ears • defines amplitude, time period and frequency • defines audible and inaudible sounds • understands term “noise pollution” and its danger to human body
Food production and management • Agriculture • Crop plants (production, right kind of soil, selection of right seeds, sowing, raising seedlings in nursery, transplanting, manuring, irrigation, weeding, crop protection, harvesting, harvest festivals, threshing, winnowing, storage of grains) • Improvement of crops (plant breeding, soil improvement - crop rotation, mixed cropping, field fallow) • Protection (protection from pests and weeds, storage) • Dairying (feeding, heeding) • Poultry (feeding) • Shelter (protection against disease) • Fisheries • Apiculture	**Student** • understands and describes meaning and importance of agriculture and its compliance with nature • describes suitable conditions for production of crop • names harvest festivals in J&K • names options of improvement of crops • names options of protection from pests ad weeds • describes suitable conditions for storage of crop • describes suitable conditions for breeding of poultry, cattle, fish and bees • names products of breeding of poultry, cattle, fish and bees
Combustion and flame • What is combustion • How do we control fire • Types of combustion • Flame and sstructure of flame • Fuel and its efficiency (burning fuel – harmful product)	**Student** • defines combustion • names rules for control fire • understands danger of fire • names types of combustion • defines flame and its structure • understands burning of fuel as cause of pollution • names examples of using of fuel in daily life
Reaching the age of adolescence	**Student**

• Adolescence and puberty • Changes at puberty (increase in height, change in body shape, voice change, increased activity of sweat and sebaceous glands, development of sex organs, reaching mental, intellectual and emotional maturity) • Secondary sexual characters (hormones, endocrine, glands, testosterone, estrogen, pituitary gland) • Role of hormones in initiating reproductive function (target site) • Reproductive phase of life in humans (menstruation, menarche, menopause) • How is the sex of the baby determined (sex chromosomes) • Hormones other than sex hormones (thyroid gland – thyroxin, insulin, adrenalin, growth hormone) • Role of hormones in completing the life history of insects and frogs (metamorphosis, insect hormone, thyroxin, thyroid) • Reproductive health (nutritional needs of the adolescents – balanced diet, physical exercise, personal hygiene	• names and describes changes at puberty • names and describes secondary sexual characters • names and describes hormones which influent reproductive system • names and describes reproductive phases of live in humans and their characteristics • describes determination of sex in humans • names and describes hormones of thyroid gland and their function in our body • describes rules of healthy lifestyle • understands and describes danger of breaking rules of healthy lifestyle
Air and water • Air pollution • How does air get polluted • Greenhouse effect (global warming, greenhouse gases) • What can be done • Water pollution, how does water get polluted • What is potable water and how is purified • What can be done	**Student** • defines air pollution • understands and describes danger and impacts of air pollution for plants, animals and humans • names various causes of air pollution • names various solution to decrease or pretend air pollution • describes greenhouse effect, names greenhouse gasses • describes global warming and its causes • understands and describes danger and impacts of global warming and greenhouse effects on our planet • names variety of solutions to protect the Earth and prevent global warming and greenhouse effect • defines water pollution • understands and describes danger and impacts of water pollution for plants, animals and humans • names various causes of water pollution • defines potable water and its purification • names various solution to decrease or pretend water pollution
The cell • Instruments used to magnify objects (microscope) • Cell structure • Discovery of the cell • Parts of cell (cell membrane, cytoplasm, nucleus – nuclear membrane, nuclear sap or nucleoplasm, nucleolus, chromosomes; organelles – mitochondria, chloroplasts, endoplasmic reticulum, Golgi complex, lysosomes, ribosomes; cell wall; vacuoles) • Differences between animal and plant cell • Diversity in cells (cell number, cell size, cell shape, cell	**Student** • describes microscope, its parts and its use in science • uses microscope, makes slides and examines them • examines cell structure and draws it • names, points out and draws parts of cell • describes properties and roles of parts of cell • describes difference between animal and plant cell

structure)	• names various diversities in cells
TOPIC 2 – PHYSICS	
Chemical effect on electric current • Chemical effect of electric current (electrodes) • Electroplating	**Student** • describes electrodes and their use • defines electroplating and its use
Force and pressure • Force (same direction add, difference between the two forces, magnitude, force can change the state of motion, force can change shape of an object) • Contact forces (muscular force, friction) • Non-contact forces (magnetic force, electrostatic force, gravitation force) • Pressure (exerted by liquids and gases, atmospheric pressure)	**Student** • describes forces and its influence to changes • names and describes contact forces • names and describes non-contact forces • solves words problems to force • names kinds of pressure and its causes
Materials, metals and non-metals • Physical properties of metals and non-metals • Chemical properties of metals and non-metals (reaction with oxygen, reaction with water, with acids, with bases, displacement reactions) • Uses of metals and non-metals	**Student** • names and describes physical properties of metals and non-metals • names and describes chemical properties of metal and non-metal • understands difference between physical and chemical properties • names use of metals and non-metals in daily life
Light • What makes things visible • Laws of reflection • Regular and diffused reflection • Reflected light can be reflected again • Multiple images (kaleidoscope) • Sunlight white of coloured • What is inside our eyes (cornea, iris, pupil, dispersion, retina, blind spot,) • Care of eyesvisually challenged persons can read and write • Braille system	**Student** • defines laws of reflection • describes regular and diffused reflection and differences between them • names, points out and describes parts of human eye • understands danger of unsuitable conditions for reading and writing for human eye • names unsuitable conditions for reading and writing and other danger for human eye (computer, TV..) • understands each ocular disability as physical disability, no mental disability • describes what Braille system is and its use
Friction • Types of friction (static friction, limiting friction and its laws, dynamic friction, rolling friction) • Friction and physical states (friction due to liquids and gases, friction due to water, friction due to air) • Benefits of the force on friction (disadvantages of friction, friction as a necessary evil • Ways of reducing friction (lubricants, soap solutions, fine powders, polishing, streamlining, converting sliding friction into lolling friction)	**Student** • defines friction • names examples of occurrence of friction in daily life • names and describes types of friction • describes relation between friction and various kinds of physical states\ • describes relation between force and friction, its disadvantages or advantages in daily life • names solution to reduce friction
Stars and the solar system • Heavenly bodies or celestial bodies • Universe • Astronomy • Night sky (stars, why are not stares visible during day	**Student** • names some of heavenly bodies and celestial bodies • defines Universe and some of its properties and elements

time, how do the stars emit light) • The Sun (measure of sun as compared to Earth) • Units of measuring in universe (distance of stars form the Earth, light year, light minute • Alpha centauri (nearest star) • Appearing of stars (like point object, move form east to west, Pole star and its location) • Constellation • The moon and it phases • Planets (Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune, Pluto) • The Earth (size, formation of day and night, change of season) • Comets, meteors, meteorites)	• defines Astronomy and its use and meaning • defines stars and describes its visibility form the Earth • names measures used for measuring in Universe • defines light year and light minute • defines constellation and names some of them • names and describes phases of Moon • names planets of our solar system and some of their properties • describes the Earth, its size, formation of a day and night and change of seasons and its causes • defines comets, meteors and meteorites
Some natural phenomenon • Lighting • Charging by rubbing • Types of charges and their interaction • Transfer of charge • The story of lighting • Lighting safety (finding a safe place, inside the house, lighting conductors) • Earthquake (what is Earthquake, what are the causes, protection	**Student** • names kinds of lighting • defines rubbing • describes charging by rubbing • defines charge • names types of charges and their interaction • describes transfer of charge • understands possible danger of lighting, names some of accident which can be caused by lighting) • defines Earthquake and its causes • names life-saving rules during Earthquake

5.5.3.10. Science – 9th class

Subject matter	Student's outputs
TOPIC 1 – BIOLOGY	
The fundamental unit of life • Living organisms and their composition • Cell (composition, structure, plasma membrane or cell membrane, cell wall, nucleus, cytoplasm, cell organelles, endoplasmic reticulum, Golgi apparatus, lysosomes, mitochondria, plastids, vacuoles)	**Student** • defines living organism • names composition of living organisms • names parts of cell • describes structure of cell • describes parts of cell and their function in cell
Tissues • Tissues in plants and animals • Plant tissues (meristematic tissue, permanent tissue, simple permanent tissue, complex permanent tissue) • Animal tissues (epithelial tissue, connective tissue, muscular tissue, nervous tissue)	**Student** • understands and describes differences in plant and animal tissues • names types of plant tissues and describes them • names types of animal tissues and describes them
Diversity in living organisms • Basis of classification • Classification and evolution • The hierarchy of classification groups (monera, protista, funghi, plantae, animalia)	**Student** • names basis of classification in diversity of living organisms • defines evolution and describes it • names groups in classification by hierarchy • understands interconnection of particular groups in hierarchy
Plantae • Thallophyta • Bryophyta • Pteridophyta • Gymnosperms • Angiosperms	**Student** • describes family Thallophyta and enumerates some of representatives of this family • describes family Bryophyta and enumerates some of representatives of this family • describes family Pteridophyta and enumerates some of representatives of this family • describes family Gymnosperms and enumerates some of representatives of this family • describes family Anigiosperms and enumerates some of representatives of this family • names families of plantae • chooses, points out or assigns plants to their family
Animalia • Porifera • Coelenterata • Platyhelminthes • Nematoda • Annelida • Arthropoda • Mollusca • Echinodermata • Protochordata	**Student** • describes family Porifera and enumerates some of representatives of this family • describes family Coelenterata and enumerates some of representatives of this family • describes family Platyhelminthes and enumerates some of representatives of this family • describes family Nematoda and enumerates

• Vertebrata (pisces, amphibia, reptilia, aves, mammalia)	some of representatives of this family • describes family Annelida and enumerates some of representatives of this family • describes family Arthropoda and enumerates some of representatives of this family • describes family Mollusca and enumerates some of representatives of this family • describes family Echinodermata and enumerates some of representatives of this family • describes family Protochordata and enumerates some of representatives of this family • describes family Verbrata and enumerates some of representatives of this family • names families of animalia • chooses, points out or assigns animals to their family
Health and diseases • Health and its failure (the significance of health, personal and community issues both matter for health, distinctions between healthy and disease-free) • Disease and its causes (what does disease look like, acute and chronic diseases, chronic diseases and poor health, causes of diseases, infectious and non-infectious causes) • Infectious diseases (infectious agents, means of spread, organ-specific and tissue specific manifestations, principles of treatment, principles of prevention)	**Student** • defines heath and describes its significance for person, for community • defines disease • defines acute and chronic diseases and difference between them • names some of causes of diseases, distinguish infectious and non-infectious causes • describes means of spread of disease • names some of organ-specific and tissue specific manifestations • names some of principles of treatment • names principles of prevention and understands importance of prevention
Natural resources • Air (the role of the atmosphere in climate control, the movement of air, winds, rain, air pollution) • Water (water pollution, mineral riches in the soil) • Biogeochemical cycles (water-cycle, nitrogen-cycle, carbon-cycle, greenhouse effect, oxygen-cycle) • Ozone layer	**Student** • describes role of the atmosphere in climate control • defines wind and names its types • defines air pollution • understands and describes danger and impacts of air pollution for plants, animals and humans • names various causes of air pollution • names various solution to decrease or pretend air pollution • defines water pollution • understands and describes danger and impacts of water pollution for plants, animals and humans • names various causes of water pollution • names various solution to decrease or pretend water pollution • names kinds of minerals in the soil • describes water-cycle and its meaning for our planet • describes nitrogen-cycle and its meaning for our planet

	• describes carbon-cycle and its meaning for our planet • describes greenhouse effect, its causes and its meaning for our planet • describes oxygen-cycle and its meaning for our planet • defines ozone layer and danger of ozone hole
Improvement in food resources • Improvement in crop yields • Crop variety improvement • Crop production management (nutrient management - manure, fertilizers; irrigation, cropping patterns, crop protection management, storage management) • Animal husbandry (cattle farming, poultry farming, egg and broiler production, fish production, marine fisheries, inland fisheries, bee keeping)	**Student** • understands importance of improvement of crop yields and names its variety • describes nutrient, protection management and storage management and their significance in crop production • describes kinds of husbandry and their significance in food production
TOPIC 2 – PHYSICS	
Motion • Describing motion (motion along a straight line, uniform motion and nonuniform motion) • Measuring the rate of motion (speed with direction) • Rate of change of velocity • Graphical representation of motion (distance-time graphs, velocity-time graphs) • Equations of motion by graphical method (equation for velocity time relation, equation for position time relation, equation for position velocity relation) • Uniform circular motion	**Student** • defines motion • names and describes types of motion • names units of motion and describes its measuring • defines rate of change of velocity • reads and draws graphs • names equations for motion • solves word problems to motion • defines uniform circular motion and solves word problem for
Force and laws of motion • Balanced and unbalance forces • First law of motion • Inertia and mass • Second law of motion (mathematical formulation of second law of motion) • Third law of motion	**Student** • defines balanced and unbalanced forces and describes differences between them • names examples of balanced and unbalanced forces • defines first law of motion and its formula • solves word problems to first law of motion • defines inertia of a body • defines mass of a body • defines second law of motion and its formula • solves word problems to second law of motion • defines third law of motion and its formula • solves word problems to third law of motion
Work, energy and power • Work (not much 'work' in spite of working hard, scientific conception of work) • Energy (forms of energy, kinetic energy, potential energy, potential energy of an object at a height, are various energy forms interconvertible, law of conservation of energy) • Rate of doing work (commercial unit of energy)	**Student** • defines work and its formula • solves words problem for work • defines energy and it forms • defines law of conservation of energy • solves word problems to energy • names commercial unit of energy
Gravitation	**Student**

• Gravitation (universal law of gravitation, importance of the universal law of gravitation) • Free fall (to calculate the value of G, motion of objects under the influence of gravitational force of the Earth) • Mass • Weight (weight of an object on the moon)	• defines gravitation and its formula • describes meaning and importance of the universal law of gravitation) • defines free fall • describes motion of objects under the influence of gravitational force of Earth • solves word problems to gravitation and free fall • defines mass • defines weight • describes differences in weight in the Earth, on the Moon and its causes
Flotation • Thrust and pressure (pressure in fluids, buoyancy, why objects float or sink when placed on the surface of water) • Archimedes' principle • Relative density	**Student** • defines thrust and pressure and its occurrence • describes pressure in fluids • defines buoyancy • describes floating and sinking of objects in the water • defines Archimedes principle and its formula • solves word problems to Archimedes principle • defines relative density
Sound • Production of sound • Propagation of sound (sound needs a medium to travel, sound waves are longitudinal waves, characteristics of a sound wave) • Reflection of sound (echo, reverberation, uses of multiple reflection of sound) • Range of hearing • Application of ultrasound (sonar) • Structure of human ear	**Student** • describes production of sound, names various object which produce sound • describes medium and sound waves • describes reflection of sound and it use • names values of range of hearing • understands difference between ranges for humans and some kinds of animals • defines ultrasound and names its applications • describes structure of human ear and principle of propagation of sound in human ear • names various danger for human ear and its consequences
TOPIC 3 – CHEMISTRY	
Matter in our surroundings • Physical nature of matter (matter is made up of particles, how small are these particles of matter) • Characteristics of particles of matter (particles of matter have space between them, particles of matter are continuously moving, particles of matter attract each other) • State of matter (the solid state, the liquid state, the gaseous state, can matter change its state, effect of change of temperature, effect of change of pressure) • Evaporation (factors affecting evaporation, how does evaporation cause cooling)	**Student** • defines matter and its particles • names and describes characteristics of particles of matter • names and describes states of matter • names and describes changes of matter and its causes • defines evaporation • names examples of evaporation in daily life • names factors affecting evaporation
Mixtures, solutions and substances • Mixture • Types of mixtures	**Student** • defines mixture • names types of mixture and occurrence and use of mixture in daily life

• Solution (concentration of a solution, suspension, colloidal solution) • Separating the components of a mixture (obtaining of coloured component (dye) from blue/black ink, separation of cream from milk, separation of a mixture of two immiscible liquids, separation of a mixture of salt and ammonium chloride, is the dye in black in a single colour, separation of a mixture of two miscible liquids, obtaining of different gases from air, obtaining of copper sulphate from impure sample, physical and chemical changes) • Types of pure substances (elements, compounds)	• defines solution and its concentration • describes suspension • defines colloidal solution • describes various kinds of separating and obtaining components of a mixture • names types of pure substances
Atoms and molecules • Physical nature of matter (matter is made up of particles, size of particles of matter) • Laws of chemical combination (law of conservation of mass, law of constant proportions) • Atom (modern day symbols of atoms of different elements, atomic mass, how do atoms exist) • Molecule (molecules of elements, molecules of compounds, ion) • Writing chemical formulae (formulae of simple compounds) • Molecular mass and mole concept (molecular mass, formula unit mass)	**Student** • describes relation between matter and particles • names and describes laws of chemical combination • defines atom, its mass and elements • defines molecule • writes chemical formulae of simple compounds • defines molecular mass and mole concept • names unit of molecular mass • solves word problems to molecular mass
Structure of atom • Charged particles in matter • The structure of an atom (Thomson's model of an atom, Rutherford's model of an atom, Bohr's model of atom) • Distributions of electrons in different orbits (shells) • Valency • Atomic number and mass number (atomic number, mass number) • Isotopes (isobars)	**Student** • draws and describes structure of atom and it parts • describes distributions of electrons in different orbits • defines valency • defines atomic number and atomic mass and • defines isotopes and its use

5.5.3.11. Science – 10th class

Subject matter	Student's outputs
TOPIC 1 – BIOLOGY	
Life processes • Life processes (nutrition, autotrophic nutrition, heterotrophic nutrition, how do organisms obtain their nutrition, nutrition in human beings) • Respiration • Transportation (transportation in human beings, transportation in plants) • Excretion (excretion in human beings, excretion in plants)	**Student** • defines autotrophic and heterotrophic nutrition and difference between them • describes variety of obtaining of nutrition in various organisms • describes nutrition in humans, names rules of healthy nutrition for human body • describes process of respiration and its importance for living organisms • describes process of transportation in organisms and its importance for living organisms • describes process of excretion and its role in living organisms
Control and coordination • Animals – nervous system (reflex actions, human brain, protection of tissues, nervous tissues and cause of action) • Coordination in plants (immediate response to stimulus, movement due to growth) • Hormones in animals	**Student** • defines and describes reflex action • names parts of human brain • describes function of nervous tissues and their protection • describes action in nervous tissues and its cause • explains coordination in plants and immediate response to stimulus • names some kinds of hormones in animals and their role in animal body
Reproduction in organisms • Heredity (importance of variation) • Modes of reproduction used by single organisms (fission, fragmentation, regeneration, budding, vegetative propagation, spore formation) • Sexual reproduction (importance and role of sexual reproduction, sexual reproduction in flowering plants, reproduction in human beings, male reproductive system, female reproductive system, non-fertilised egg, reproductive health)	**Student** • understands role of heredity and variation in nature • names and explains modes of reproduction used by single organism • understands importance and need of sexual reproduction in nature • describes sexual reproduction in plants • describes sexual reproduction in human beings • names and describes parts of male and female reproductive system • comprehends importance of healthy reproductive organs and danger of sexual diseases • names some of sexual diseases, its causes and prevention
Genetics and heredity • Accumulation of variation during reproduction • Heredity (inherited traits, rules for the inheritance of traits – Mendel's contributions, expression of traits, sex determination) • Evolution (illustration, acquired and inherited traits) • Speciation • Evolution and classification (tracing evolutionary	**Student** • understands importance of variation in reproduction, names some of examples • describes rules of heredity and kinds of inherited traits • defines sex determination in nature • describes difference in acquired and inherited traits

relationships, fossils, evolution by stages, evolution should not be equated with progress)	• describes evolution and names some of examples • understands difference between evolution and progress
Our environment • Waste and environment • Eco-system (components of eco-system, food chains and webs) • Human activities and environment (ozone layer and its depletion, managing the garbage)	**Student** • understands danger of waste for our environment and need for recyclation • enumerates components of eco-system • describes food chains and web • defines ozone layer and danger of ozone hole
Management of natural resources • Managing of our resources • Forests and wild life (sustainable management) • Water for all (dams, water harvesting, water harvesting designs for rain-fed areas in J&K state) • Coal and petroleum • An overview of natural resource management	**Student** • understands importance of correct managing of our resources • describes elements of sustainable management • describes water harvesting and understands need of correct managing of water resources • names rain-fed areas in J&K • describes use and resources of coal and petroleum
TOPIC 2 – PHYSICS	
Light reflection and refraction • Reflection of light • Spherical mirrors (image formation by spherical mirrors, representation of images formed by spherical mirrors using ray diagrams, sign convention for reflection by spherical mirror, mirror formula and magnification) • Refraction of light (refraction through a rectangular glass slab, refractive index, refraction by spherical lenses, image formation by lenses, image formation in lenses using ray diagrams, sign convention for spherical lenses, lens formula and magnification)	**Student** • describes reflection of light • describes and draws image formed by spherical mirrors • describes mirror formula and magnification • describes refraction of light through rectangular glass, spherical lenses • describes and draws image formed by lenses • defines lens formula and magnification
The human eye and the colourful world • Human eye (power of accommodation) • Defects of vision and their correction • Refraction of light through a prism • Dispersion of white light by glass prism • Atmospheric refraction	**Student** • describes human eye and names its parts • defines accommodation of eye • names defects of vision and solutions for their correction • describes refraction of light through a prism • describes dispersion of white light by glass prism • describes atmospheric refraction
Electricity • Electric current and circuit • Electric potential and potential difference • Circuit diagram • Ohm's law • Factors on which the resistance of a conductor depends • Resistance of a system of resistors (resistors in series, resistors in parallel) • Heating effect of electric current (practical applications of heating effect of electric current) • Electric power	**Student** • defines electric current and circuit • defines electric potential and potential difference • defines Ohm's law and its formula • solves word problems to Ohm's law • enumerates factors on which the resistance of a conductor depends • defines resistor • describes and draws resistors in series • describes and draws resistors in parallel • describes heating effect of electric current

	and its practical applications • defines electric power and its use and need in daily life
Magnetic effects of current • Magnetic field and field lines • Magnetic field due to a current-carrying conductor (magnetic field due to a current through a straight conductor, right hand thumb rule, magnetic field due to a current through a circular loop, magnetic field due to current in solenoid) • Force on a current-carrying conductor in a magnetic field • Electric motor • Electromagnetic induction • Electric generator • Domestic electric circuits	**Student** • defines magnetic field and its lines • describes magnetic field due to a current-carrying conductor • understands and uses right hand thumb rule • describes magnetic field due to circular loop and current in solenoid • solves word problems to magnetic field • describes relation between force and current-carrying conductor in a magnetic field • describes electric motor and its parts • defines electromagnetic induction • describes electric generator and its parts • describes domestic electric circuits and their parts
Sources of energy • Good source of energy • Conventional sources of energy (fossil fuels, thermal power plant, hydro power plants, improvements in the technology for using conventional sources of energy Bio-Mass) • Alternative or non-conventional sources of energy (solar energy, energy from the sea, geothermal energy, nuclear energy, environmental consequences) • How long will an energy source last us	**Student** • defines good source of energy • defines fossil fuels • describes thermal and hydro power plants • names conventional sources of energy • names and describes alternative and non-conventional sources of energy • describes environmental consequences of conventional and alternative sources of energy
TOPIC 3 – CHEMISTRY	
Chemical reactions • Chemical equations (writing a chemical equation, balanced chemical equations) • Types of chemical reactions (combination reaction, decomposition reaction, oxidation and reduction) • Effects of oxidation reactions in everyday life (corrosion, rancidity)	**Student** • understands principle of chemical equations • writes chemical equation • describes combination reaction and its examples • describes decomposition reaction and its examples • defines oxidation and reduction • distinguishes oxidation and reduction • names examples of oxidation and reduction • enumerates effects of oxidation in daily life • describes corrosion • describes rancidity
Periodical classification of elements • Early attempts at the classification of elements (Dobereiner's triads, Newlands' law of octaves) • Mendeleev's periodic table (achievements of Mendeleev's periodic table, limitations of Mendeleev's classification) • Modern periodic table (position of elements in the modern periodic table, trends in the modern periodic table)	**Student** • describes early attempts at the classification of elements of Dobereiner and Newlands • describes base of Mendeleev's periodic table and its limitations • is familiar with modern periodic table
Carbon and its compounds • Bonding in carbon – the covalent bond	**Student** • defines covalent bond

• Versatile nature of carbon (saturated and unsaturated carbon compounds, chains, branches and rings, homologous series, nomenclature of carbon compounds) • Chemical properties of carbon compounds (combustion, oxidation, addition reaction, substitution reaction) • Some important carbon compounds (ethanol and ethanoic acid, properties of ethanol, properties of ethanoic acid) • Soaps and detergents	• defines saturated and unsaturated carbon compounds and differences between them • defines and writes various kinds of carbon compounds in chain, branch and ring form • uses correctly nomenclature of carbon compounds • names and describes chemical properties of carbon compounds • names properties and use of ethanol and ethanoic acid • describes chemical composition of soaps and detergents, their chemical effect and use in daily life
Metals and non-metals • Physical properties (metals, non-metals) • Chemical properties of metals (burning of metals in the air, reaction of metals with water, reaction of metals with acids, reaction of metals with solutions of other salts, reactivity series) • Reaction of metals and non-metals (properties of ionic compounds) • Occurrence of metals (extraction of metals, enrichment of ores, extracting metals low in the activity series, extracting metals in the middle of the activity series, extracting metals towards the top of the activity series, refining of metals) • Corrosion (prevention of corrosion)	**Student** • names physical properties of metals and non-metals • describes some of chemical properties of metals and their reaction with water, air, faire, salts • describes properties of ionic compounds • names various kinds of extraction of metals • describes refining of metals and its use • defines corrosion and names possibilities of its prevention
Acids, bases and salts • Understanding the chemical properties of acids and bases (acids and bases in the laboratory, reaction of acids and bases with metals, reaction of metal carbonates and metal hydrogen carbonates with acids, reaction of acids and bases with each other, reaction of metallic oxides with acids, reaction of a non metallic oxide with base) • Common properties of acids and all bases (acid or a base in a water solution) • Strength of acid or base solutions (importance of ph in everyday life) • More about salts (family of salts, ph of salts, chemicals from common salt, are the crystals or salts really dry)	**Student** • describes some of chemical properties of acids and bases and their reaction with metals, metal carbonates, metal hydrogen carbonates, metallic oxides and with each other • describes behaviour of acid and base in a water solution • defines ph and its values due to base or acid • names use and importance of ph in daily life • describes properties and some kinds of salts • writes chemical equations for various reactions of acids and basis

5.5.4. SOCIAL

5.5.4.1. Social – 1st class

Subject matter	Student's outputs
TOPIC 1 – GEOGRAPHY	
Domestic animals • Names of domestic animals (cow, camel, buffalo, dog, goat, cat, horse, ox, rabbit, donkey) • Question "What is it?" and answer "It is a (an)..." • Description and characteristics of domestic animals (what is the colour; which animal gives us milk; which animal is used for ploughing fields; which animal is a ship of the desert for riding, etc.)	**Student** • names, points out or assigns names of domestic animals on the picture (in English) • answers question "What is this?" (in English) using phrase "It is a (an).." • answers questions about domestic animals (in Ladakhi or English) (what is the colour; which animal gives us milk; which animal is used for ploughing fields; which animal is a ship of the desert for riding, etc.)
Air and water • Importance of air and water for human life • Dirty and clear water • Dirty and clear air	**Student** • describes importance of air and water for human beings • distinguishes dirty and clear water and names some of causes of pollution of water • distinguishes dirty and clear air and names some of causes of pollution of air
TOPIC 2 – HISTORY	
The life of Early Man • Early man • Old stone age	**Student** • shortly describes old stone age • describes appearance of Early Man and his way of living
TOPIC 3 – CIVICS	
My family • Family members (grand father, grand mother, mother, father, uncle, aunt, sister, cousin) • Question "What is it?" and answer "It is a (an)..." • Description and characteristics of family members • Sharing work (good children) • Family fun (play, games, fun)	**Student** • names, points out or assigns family members on the picture (in English) • answers question "Who is it?" (in English) using phrase "It is a (an)..." • answers questions about members of his/her family (in Ladakhi or English) (what is he doing, where is he working,..etc.) • describes members of his/her family (in Ladakhi or English) • names good habits of children to help parents • names examples of bad behaviour of child • names kinds of family games, names his preferred games and leisure time activities at his home
Our food • Breakfast, diner, lunch • Vegetarians • Good eating habits	**Student** • comprehends significance of breakfast, lunch and dinner in human diet • understands difference between vegetarians and non-vegetarians • names good eating habits and understands

	their importance for human health
My house • Types of houses (kuchcha house, pucca house, hut, flat, bungalow, houseboat, caravan, igloo) • Rooms in house • Question "What is it?" and answer "It is a (an)..." • Description of house and equipment inside	**Student** • names, points out or assigns types of houses on the picture (in English) • enumerates rooms in the house (in English) • answers question "What is it?" (in English) using phrase "It is a (an)..." • names rooms his house and describes them and their equipment (in English) • answers questions about his house and equipment inside (in Ladakhi, English)
Clothes • Name of clothes (belt, coat, frock, fie, sari, shoes, pantaloon, shalwar, socks, skirt, blouse) • Question "What is it?" and answer "It is a (an)..." • Describing clothes (what dress does your mother wear; what dress do you wear; what dress does your father wear; etc.) • Special clothes (occupations)	**Student** • names, points out or assigns clothes on the picture (in English) • answers question "What is it?" (in English) using phrase "It is a (an)..." • answers questions about clothes (what dress does your mother wear; what dress do you wear; what dress does your father wear; etc.) • names kinds of special clothes for various occupation
Professions • Types of professions (teacher, nurse, doctor, farmer, washerman, carpenter, cobbler, coolie) • Question "Who is it?" and answer "It is a (an)..." • Describing professions (what they do?) • Who helps us?	**Student** • names, points out or assigns professions on the picture (in English) • answers question "Who is it?" (in English) using phrase "It is a (an)..." • answers questions about professions (what they do?)
Festivals • Religious festivals (Diwali, Dussehra, Durga Puja, Id, Gurupurab, Christmas) • National festivals (Republic Day, Independence Day, Gandhi Jaynti) • Question "What is it?" and answer "It is a (an)..." • Describing of festivals (who celebrates Eid; who celebrates Christmas; which festival is known as festival of lights; when is Independence day of India)	**Student** • names, points out or assigns religion festivals on the picture (in English) • names, points out or assigns national festivals on the picture (in English) • answers question "What is it?" (in English) using phrase "It is a (an)..." • answers questions about festivals (who celebrates Eid; who celebrates Christmas; which festival is known as festival of lights; when is Independence day of India)
Buildings • Type of buildings (temple, mosque, gurudwara, church, multi storey building, school, bungalow) • Question "What is it?" and answer "It is a (an)..." • Describing of buildings (where do Hindus go for worship; where do Muslims go for prayer; who do worship in a Furudwara; where Christian go for prayer)	**Student** • names, points out or assigns buildings on the picture (in English) • answers question "What is it?" (in English) using phrase "It is a (an)..." • answers questions about buildings (where do Hindus go for worship; where do Muslims go for prayer; who do worship in a Furudwara; where Christian go for prayer)
Great people • Mother Teresa • Brave Bharat	**Student** • depicts story of Mother Teresa and her contribution to over world society • describes story of brave Bharat
My school • School and its rooms and parts (staffroom, library,	**Student** • enumerates rooms in his school

canteen, playground, music, dance, school clinic, activity room) • Classroom and its equipment (black board, duster, globe, chair, desk, dust bin, notice board, almirah, table) • Describing of classroom and its equipment (for what we use..)	• names members of the school • describes environment of the school, what he likes, what he doesn't like • names, points out or assigns classroom's equipment on the picture (in English) • answers questions about classroom and school (for what we use, what do you like,...)
Good manners, health and safety • Good manners • Staying healthy (exercises, good food, hygiene) • Safety (rules while walking, rules while crossing the road, rules while travelling in a bus, safety rules at home)	**Student** • names good manners and their significance in human life • names his good manners • understands importance of hygiene and danger of diseases • understands importance and significance of exercises and good nutrition for human body • distinguishes good and bad nutrition • names safety rules in his daily life and understands their importance

5.5.4.2. Social – 2nd class

Subject matter	Student's outputs
TOPIC 1 – GEOGRAPHY	
Services • Types of services (school, market, bank, hospital, post office, police station, fire station) • Services available in my village	**Student** • names types of services • assigns profession and service (school – teacher, hospital – doctor,.. etc.) • names services available in Mulbekh
Travelling • Kinds of transport (aeroplane, auto rickshaw, bus, car, truck, cycle, van, scooter, ship, yacht, animals) • Using of transport (what is in the air, water..) • Ways of recreation (outdoor recreation, indoor recreation, other forms of recreation)	**Student** • names, points out or assigns vehicles on the picture (in English) • answers questions about transport and vehicles (what is in the air, water...etc) • names ways of recreation
The Earth • Land surface (plains, plateau, hills and mountains, valley, desert, island) • Water surface (spring, waterfall, sea, ocean)	**Student** • names kinds of land surfaces and shows them on the picture • names kinds of water surfaces and shows them on the picture
Water • Importance of water for human life • Dirty and clear water	**Student** • describes importance of water for human beings • distinguishes sources of dirty and clear water and names some of causes of pollution of water
Seasons and time • Seasons (summer season, rainy season, winter season, spring season, autumn season) • Seasons in Ladakh • Time (times of the day, day, night, hours, minutes and seconds, week, month and year)	**Student** • names kinds of seasons and describes them shortly • describes seasons in Ladakh and typical activities during them • names units of time and their relation • names days in the week • names month in the year
Directions • Directions on the road (left, right, up, down, straight, around, along) • Directions on the map (north, south, east, west, north-east, north-west, south-east, south-west)	**Student** • names directions on the road • distinguishes left and right side • describes a way • names direction on the map • distinguishes north and south, east and west • doesn't interchange term down and south, up and north...etc.
TOPIC 2 – HISTORY	
Story of wheel • Early wheels • Vehicles on wheels	**Student** • describes story of early wheels • names vehicles on wheel
TOPIC 3 – CIVICS	
My family • Different types of families (small family, large family,	**Student** • names and describes different types of

joint family, Ajay's family) • Sharing in a family (fun together, care of each other)	families • describes his family and its members • names good habits of children to help parents • names examples of bad behaviour of child • names kinds of family games, names his preferred games and leisure time activities at his home • understands importance of good family relationship
Our food • Different types of food (energy-giving food, body-building food, protective food) • Sources of food (food from plants, food from animals) • Meals in a day (breakfast, lunch, dinner) • Good food habits	**Student** • names or distinguishes different types of food due to energy, body-building or protection of our body • distinguishes healthy and non-healthy food • names sources of food • understands significance of breakfast, lunch and dinner in human diet • names good eating habits and understands their importance for human health
My house • Types of houses (kuchcha house, pucca house, hut, flat, bungalow, houseboat, caravan, igloo)	**Student** • names, points out or assigns types of houses on the picture (in English) • answers questions about his house and equipment inside (in Ladakhi, English)
Clothes • Different types of clothes (clothes for summer, clothes for winter, clothes for rainy season, other clothes, special clothes) • Clothes care	**Student** • names various types of clothes and its use in daily life • understands importance of suitable clothes care to extend its service life
Festivals • Religious festivals (Diwali, Dussehra, Durga Puja, Id, Gurupurab, Christmas) • National festivals (Republic Day, Independence Day, Gandhi Jaynti) • Festivals in our village • Describing of festivals (who celebrates Eid; who celebrates Christmas; which festival is known as festival of lights; when is Independence day of India)	**Student** • names, points out or assigns religion festivals on the picture (in English) • names, points out or assigns national festivals on the picture (in English) • names festivals in Mulbekh and surroundings • answers questions about festivals (who celebrates Eid; who celebrates Christmas; which festival is known as festival of lights; when is Independence day of India)
Buildings • Type of buildings (temple, mosque, gurudwara, church, multi storey building, school, bungalow) • Describing of buildings (where do Hindus go for worship; where do Muslims go for prayer; who do worship in a Furudwara; where Christian go for prayer)	**Student** • names, points out or assigns buildings on the picture (in English) • answers questions about buildings (where do Hindus go for worship; where do Muslims go for prayer; who do worship in a Furudwara; where Christian go for prayer)
Great people • Mahatma Gandhi • Rabindranath Tagore • Sarojini Naidu • Brave Aruni	**Student** • depicts story of Mahatma Gandhi and his contribution to over world society • describes story of Rabindranath Tagore and Sarojini Naidu • retells story of Brave Aruni

Safety	**Student**
• Safety on road (traffic lights, traffic rules)	• names safety rules on the road • understands danger on the road • describes rules for traffic lights

5.5.4.3. Social – 3rd class

Subject matter	Student's outputs
TOPIC 1 – GEOGRAPHY	
The Earth • The wonderful Earth (eight planets revolving around the sun, shape of earth, north pole, south pole, Ferdinand Magellan, earth's surface, earth's atmosphere, earth as seen from the space, Neil Armstrong) • Earth's form (globe, map, oceans and continents) • Air and water (dirty air, clean air, dirty water, clean water)	**Student** • enumerates eight planets of our solar system • describes shape of the Earth and its poles • describes Earth's surface, atmosphere • names oceans and continents and points them out on the map and globe • explains differences between dirty and clean air and water, and causes of their pollution • appreciates potable water
India • Our beautiful country (India's neighbours, physical features of India, the Himalaya region, the Northern Plains, the Peninsular Plateau, the Coastal Plains, the Islands) • The states of India (central government, state government, Indian states with its capitals, rivers, crops, industries, dresses, languages, National Capital Territory (NCT) Delhi) • Local administration (gram Panchayat, municipal committee) • Travelling (land transport, road transport, rail transport, air transport, water transport) • Means of communication (communication in earlier days, modern means of communication, postal communication, telecommunication, telephone, FAX, mass communication, newspapers and magazines, radio and television, satellite, internet) • Festivals of India (kinds of festivals, national festivals – independence day, republic day, Gandhi Jayanti; religious festivals –Dussehra, Durga Puja, Diwali, Gurupurab, Id-ul-Fitr, Christmas; harvest festivals – Holi, Baisakhi, Onam; Pongal)	**Student** • enumerates Indian's neighbours • describes physical features of India and some of specifics of Himalaya region, Northern Plains, Peninsular Plateau, Coastal Plains, Islands and points them out on the map • names some of characteristics of states of India and central government • enumerates kinds of transport • explains needs of communication and its variety nowadays • enumerates some of festivals in India and their religious or political origin and meaning
The way we live • Our food (food grains, pulses, fruits and vegetables, spices, dairy products, transport) • Indian dresses (seasons, traditional clothes, dresses for women, dresses for men, headgears, dresses for occasions, special dresses (uniforms) • Our occupations (agriculture, cattle rearing, poultry farming, forestry, fishing, mining, textile industry, sugar industry, beverage industry, oil industry, dairy industry, other occupations, our helpers – postman, doctor, teacher, policeman)	**Student** • describes typical food of Ladakh • describes various kinds of food in India and its regions • describes typical Ladakhi dress and its meaning • describes various kinds of dress in regions of India • names various kinds of occupation, its responsibilities and its contribution to society
Metropolitan cities of India • Mulbekh (location and climate, places of interest, tradition of my native town) • Leh (location and climate, places of interest, tradition of Ladakh) • Delhi (location and climate, places of interest, places of	**Student** • describes his native village and places he likes • names various traditions in his native village • describes location, climate and interesting and historical places in Leh

worship, places for children, transport) • Mumbai (location and climate, industries, places of interest, places of worship, food, festivals, transport) • Chennai (location and climate, industries, places of interest, places of worship, food, festivals, transport) • Kolkata (location and climate, industries, places of interest, places of worship, food, festivals, sports, transport)	• names and describes various traditions of Ladakhi culture • describes Delhi, its politics position in India, location, climate and places of interest • describes Mumbai, its location, climate and places of interest and other specifics of this town • describes Chennai, its location, climate and places of interest and other specifics of this town • describes Kolkata, its location, climate and places of interest and other specifics of this town
TOPIC 2 – HISTORY	
Story of Man • Life of the Early Man (old stone age, discovering fire) • Invention of the wheel (farming, invention of wheel)	**Student** • defines old stone age and its characteristics • depicts discovering of fire and its significance for humans • describes invention of the wheel and its benefit for humans

5.5.4.4. Social – 4th class

Subject matter	Student's outputs
TOPIC 1 – GEOGRAPHY	
India • Our India (location and size, neighbouring countries, physical features of India, political division, states and their capitals, union territories and their capitals) • The northern mountains (the Karakoram Range, the Himalayan Range, the Himadri Range, the Shivalik Range, importance of the Himalayas, life in northern mountains, Jammu and Kashmir, Himachal Pradesh, Uttarakhand, Sikkim, Arunachal Pradesh, Meghalaya, Nagaland, Mizoram, Manipur) • The northern plains (the Satluj Basin, the Brahmaputra Basin, the Ganga Basin, Ganga River, Ganga action plan, Punjab, Haryana, Delhi, Uttar Pradesh, Bihar, Jharkhand, West Bengal, Assam, Tripura) • The Indian desert (location and size, climate, water and vegetation, lifeline of the desert, environmental aspect, life in desert, Rajastahan) • The southern Plateau (location, Malwa Plateau, Chota Nagpur Plateau, Deccan Plateau, Western Ghats, Eastern Ghats, rivers in Deccan Plateau, minerals, crops, life in Central Plateau, Madhya Pradesh, Chhattisgarh, life in Southern Plateau, Maharashtra, Karnatka, Tamil Nadu, Andhra Pradesh, Orissa) • Coastal plains and islands (western Coastal Plains, the Gujarat Coast, the Konkan Coast, the Malabar Coast, Eastern Coastal Plains, the Northern Circars, the Coromandel Coast, the islands, life in western coastal	**Student** • describes main characteristics of India • names northern mountains and their specifics • understands Himalayas as unique mountains in the Earth, describes ways of living in Himalayas • describes some of differences in living in various regions of India • names Indian deserts and its vegetative specifics • names states of southern plateau and some of specifics of living there • names and describes some of coastal plains and islands and specifics of living there • describes climate of India and seasons in there

plains, Gujarat, Maharashtra, Daman and Diu, Dadra and Nagar Haveli, Goa, Karnatka, Kerala, Lakshadweep Islands, life in Eastern Coastal Plains, West Bengal, Orissa, Andhra Pradesh, Tamil Nadu. Puducherry, Andaman and Nicobar Islands) • The climate of India (distance from equator; height above the sea level; distance form the sea, desert, mountain; seasons - summer, rainy, winter)	
Natural resources in India • Our soil (formation of soil, different types of soil - alluvial, black, red, laterite, mountain, desert; soil erosion, soil conservation) • Forests and wildlife (Indian forests, evergreen forests, deciduous forests, coniferous forests, thorny forests, tidal forests, conservation of forests, wildlife) • Water resources (sources of water, canals, wells and tubewells, tank, dams and multipurpose projects, hydroelectricity, pollution) • Mineral wealth (kinds of minerals, minerals in India, copper, iron, manganese, aluminium, mica, gold, coal, petroleum, natural gas, preserving mineral resources) • Agriculture and livestock (food crops, kharif crops, rabi crops, cash crops, livestock, dairy farming, poultry farming, pisciculture, other uses) • Human resources (human resources in other countries, human resources in India, education, eradicate poverty) • Our industries (agriculture and industry, different types of industries, cottage industry, small scale industries, large scale industries, industries in India, cotton textile industry, sugar industry, paper industry, aeronautic industry, automobile industry, iron and steel industry, cement industry, other industries)	**Student** • names types of soil and their occurrence in India • describes characteristics and living conditions of desert, high mountains • enumerates types of forests and typical fauna and flora living in them • names kinds of water resources in India and way of water management • describes water management in Ladakh and tradition of Ladakhi canal system • names and describes agriculture in India and ways of cultivation of soil • describes farming and crops in Ladakh, names typical domestic animals and field plants • describes inhabitants of India • describes inhabitants of Ladakh, their way of life and traditions • names levels of education system in India • understands good education as a mean to became full-developed personality in spiritual and knowledge aspect • describes problems of poverty, its causes and consequences • names some of solutions to eradicate poverty in India • names various kinds of industry in India, its location and products
Transport and communication in India • Our transport system (road transport, roadways, national highways, state highways, district roads, border roads, railways, waterways, shipping, airways, importance of airways) • Means of communication(earlier means of communication, modern means of communication, post office, telephone and fax, mass media, print media, electronic media, computers)	**Student** • enumerates various kinds of transport in India, their advantages and disadvantages • describes transport system in Ladakh and its particularities • depicts need, significance and history of communication • names types of communication devices
Heritage of India • Our rich cultures (religions, Hinduism, Islam, Christianity, Sikhism, Buddhism, Jainism, languages, dresses, dresses for women, dresses for men, dances, folk dances, classical dances, music, folk music, classical music, instrumental music, painting, architecture, Hindu architecture, Mughal architecture, British architecture, modern architecture, festivals, national festivals, religious festivals, harvest festivals) • Great Indian (social reformers, Sant Kabir, Ramabai Ranade, Sir Syed Ahmad Khan, scientists, C.V. Raman,	**Student** • names various religions in India and describes their characteristics • describes region of Ladakh, its t culture, traditions, dresses, tradition music and religions • describes various regions of India, their culture, traditions, dresses, tradition music and religions • enumerates famous architecture monuments of India

Jagdish Chandra Bose, Dr. Home Jehangir Bhabha, others, kings and emperors, Emperor Ashoka, King Krishnadevaraya, Emperor Akbar)	• names various kinds of festivals in India • names some of famous Indian and their benefit to Indian society
TOPIC 2 – CIVICS	
Government of India • Our government (organs of the government, central government, the president of India, parliament, supreme court, state government, the governor of the state, state legislature, high court, district courts, union territories) • Our constitution (the preamble, our goals, democracy, socialism, secularism, fundamental rights, fundamental duties, directive principles) • Our national symbols (national flag, national anthem, national emblem)	**Student** • shortly describes government system in India • names parts of government system in India and their role • shortly describes goals of Indian constitution • names national symbols of India • names traditional symbols of Ladakh and their meaning

5.5.4.5. Social – 5th class

Subject matter	Student's outputs
TOPIC 1 – GEOGRAPHY	
Our Earth • The globe (oceans, continents, poles, latitudes, longitudes, earth grid, standard time, international date line) • The map (advantages of a map over a globe, shortcomings of a globe, political maps, physical maps, directions, scale, signs and symbols, colours)	**Student** • points out oceans, continents, poles, latitudes, longitudes, earth grid, standard time, international date line on globe and map • describes properties of oceans, continents, mountains, lakes,... from globe and map • compares properties of globe and map, describes advantages and disadvantages of map of a globe • names types of maps and describes their characteristics
Climatic regions of the world • Weather and climate (weather, climate, distance from equator, altitude, distance from the sea, direction of winds, humidity, climatic zones, the torrid or tropical zones, the frigid zones, the temperate zones, measuring climate, thermometer, barometer, rain-gauge, global warming and the greenhouse effect) • Equatorial region and Zaire (Zaire (Congo), land and location, climate, vegetation, food and crops, wildlife, mineral resources, water resources, people, Bantu tribe, pygmies, transport) • Polar regions and Greenland (Greenland, location, land surface, climate, vegetation, wildlife, people, igloos, occupations, modern lifestyle, transport) • Desert region and Saudi Arabia (Saudi Arabia, location, land surface, climate, vegetation wildlife, people, farmers, nomads, city dwellers, dresses, religion, trade and industry, transport) • Grassland and prairies (prairies, location, climate, vegetation, wildlife, people, industries)	**Student** • names and describes various types of climatic zones and differences between them • defines global warming and greenhouse effect and their effect to environment • describes characteristics of Equatorial region, its climate, vegetation, wildlife, culture and mineral and water resources • names some of states of Equatorial region • describes landscape of Equatorial region from the map • shows on the map and names mountains, rivers, lowlands, states, towns, etc. of Equatorial region • describes characteristics of Polar region, its climate, vegetation, wildlife, culture and mineral and water resources • names some of states of Polar region • describes landscape of Polar region from the map • shows on the map and names mountains, rivers, lowlands, states, towns, etc. of Polar region. • describes characteristics of Desert region, its climate, vegetation, wildlife, culture and mineral and water resources • names some of states of Desert region • describes landscape of Desert region from the map • shows on the map and names mountains, rivers, lowlands, states, towns, etc. of Desert region • describes characteristics of Grassland region, its climate, vegetation, wildlife, culture and mineral and water resources • names some of states of Grassland region • describes landscape of Grassland region from the map • shows on the map and names mountains,

	rivers, lowlands, states, towns, etc. of Grassland region
Transport and communication • Conquering distances (transport in early times, transport in modern times, land transport, roadways, railways, water transport, inland waterways, sea routes, air transport) • Keeping in touch (posts office, telegraph and teleprinter, telephone, FAX, internet, mass media, newspaper and magazine, radio, television, cinema, advertisements, artificial satellites, weather satellites, geographical satellites, communication satellites, other satellites)	**Student** • enumerates kinds of transport • compares use of vehicles in present and past • names advantages and disadvantages of transport • enumerates kinds of communication devices and its use in past and present • compares using of communication devices in history and nowadays • names advantages and disadvantages of communication technologies
TOPIC 2 – CIVICS	
Progressive world • World of growing knowledge (numbers, writing, paper, printing, Braille script) • Living longer and healthier (clinical thermometer, microscope, stethoscope, x-ray machine, MRI scanner, modern medicine, antibiotics, chloroform, sterilization of surgical instruments, surgery, prevention of diseases, vaccination, pasteurization, basic health care • The machine age (stone tools, metal tools, steam engine, industrial revolution, mass production, sources of energy, coal, mineral oil, electricity, alternative sources of energy, hydroelectricity, wind energy, nuclear energy, solar energy, bio gas) • Immortal lives (Socrates, Abraham Lincoln, Karl Marx, Mahatma Gandhi, Mother Teresa, Martin Luther King Jr.)	**Student** • shortly describes history of writing and its contribution to developing world • names various types of script in the world • understands importance of writing and involving of paper for human society • enumerates various medical devices and machines and their use • understands importance of development in medicine • compares various kinds of tools involved in history and their contribution to society • names advantages and disadvantages of developing world • names some of great people of world society and shortly describes their lives and contribution to global society
Living in peace • Birth of the United Nations (World War I, World War II, the United Nations, main objectives of the UN, universal declaration of human rights, membership of UN) • Working of the UN (main organs of the UN, the General Assembly, the Security Council, the International Court of Justice, the Secretariat, Secretary General, the Economic and Social Council (ECOSOC), the Trusteeship Council, agencies linked to UN, WHO (World Health Organization), UNICEF (United Nations Children's Fund), UNESCO (United Nations Educational Scientific and Cultural Organization), FAO (Food and Agricultural Organization), ILO (International Labour Organization, Achievements of the UN) • India and the UN (India and UN, NAM (Non-aligned Movement)	**Student** • describes history of United Nations and their main objectives • defines declaration of human rights • enumerates organs of UN and their role in UN and global world • describes relation of UN and India
Living in peace • The struggle for freedom (arrival of European traders, British control, the battle of Plassey, expansion of British power, discontent among Indians, Indian farmers and traders, Indian rulers, the revolt of 1857, failure of the revolt, result of the revolt) • Independence struggle (social reformers, Indian National Congress (INC), the partition of Bengal, Swadeshi	**Student** • describes historical impact of Europeans' expansion in India • describes forming of Indian independence and reforms in Indian political system during WWI and WWII • names great Indians of this decade, who affected forming of Indians' independence

movement, rise of the revolutionaries, reforms introduced by the British Government, World War I) • India wins freedom (Gandhiji leads the nation, the Jallianwala Bagh Massacre, non-cooperative movement, Chauri-Chaura incident, the new leaders, Bardoli and Simon commission, demand for Purna Swaraj, civil disobedience movement, the Government of India Act 1935, the World War II, Quit India Movement, Indian National Army or Azad Hind Fauj, Independent India)	

5.5.4.6. Social – 6th class

Subject matter	Student's outputs
TOPIC 1 – GEOGRAPHY	
Our Earth • Earth in the solar system • The globe (the model of the earth, latitudes and longitudes, motions of the earth, rotation and revolution) • The map (advantages of a map over a globe, essential components of maps distance, directions and symbols reading from maps) • Major relief features of the earth	**Student** • comprehends unique place of the Earth in the solar system, which provides ideal condition for all forms of life, including human beings • points out latitudes and longitudes on the globe, map • understands and shows two motions of the earth and their effect • describes properties of oceans, continents, mountains, lakes,... from globe and map • compares properties of globe and map, describes advantages and disadvantages of map of a globe • names types of maps and describes their characteristics • reads and compares distances on the map • describes directions and reads symbols on the map • understands major landforms of the earth
Four realms of the Earth • Four realms of the earth (lithosphere, hydrosphere; atmosphere and biosphere) • Continents and oceans	**Student** • names kinds of realms of the earth and describes them • understands interrelationship of the realms of the earth • enumerates continents and oceans (in increasing or decreasing form) • shows continents and oceans on the map
India in the world • Physiographic divisions of India (mountains, plateau and plains) • climate (natural vegetation and wildlife)	**Student** • comprehends broad physiographic divisions of India • describes the influence of land, climate, vegetation and wildlife on human life • appreciates the need for conserving natural vegetation and wildlife
TOPIC 2 – CIVICS	
Diversity • Diversity as a fact of being human • Diversity as a different way of doing the same thing (prayer) • Need for diversity (different skills and interests) • Prejudice and discrimination • Inequality and discrimination • Recognition of multiple identities in oneself • Constitution and respect for diversity	**Student** • understands and appreciates various forms of diversity in their everyday environments • develops a sensitivity towards pluralism and interdependence • understands how prejudice can lead to discrimination • understands the difference between diversity and inequality • recognises that there are multiple identities within ourselves that we use in different contexts and that these can come into conflict

	with each other • understands that the Constitution compels us to respect diversity
Government • Need for government • Decision-making participation • Quest for universal adult franchise (suffragette movement, anti-apartheid struggle, various forms of government, absence of collective sanction) • Key elements that influence the functioning of democratic government • Participation and accountability • Resolution of conflict • Concerns for equality and justice	**Student** • gains a sense of why government is required • describes roles of government in society • recognises the need for universal adult franchise • describes suffragette movement, its advantages and disadvantages • appreciates need to make decision with collective sanction • understands key elements that influence the functioning of democracy
Local government • Panchayati Raj (description of panchayat including electoral process, decision making, implementation of decisions, role of a gram sabha, women and the panchayat) • Urban Local Government (municipal corporation elections, decision making structure, provision of water and the work of the municipal corporation, citizens protests to get their grievances addressed) • Rural Administration: (focus on a land dispute and show the role of local police and patwari, focus on land records and role of patwari, focus on the new inheritance law)	**Student** • understands local level of government functioning • understands the workings of the panchayati raj and appreciate its importance • gains a sense of who performs what role within the local administration • understands how the various levels of administration at the local level are interconnected • understands the intricacies involved in the local administration's provision of water
Making and living • Panchayati Raj (description of panchayat including electoral process, decision making, implementation of decisions, role of a gram sabha, women and the panchayat) • Rural livelihoods (various types of livelihoods prevalent in village, different types of farmers: middle farmer, landless labourers and large farmers) • Urban livelihoods (difference between primary, secondary and tertiary occupations, descriptions of various types of livelihoods including vegetable vendor, domestic servant, garment worker and bank employee, differences between self-employed, regular employment and wage employment, the interlink between rural and urban lives through a discussion of migration)	**Student** • understands local level of government functioning • understands conditions that underline and impact life strategies of various groups of people • comprehends that these conditions and opportunities for making a living are not equally available to all • compares various types of livelihoods, enumerate their advantages and disadvantages
TOPIC 3 – HISTORY	
Introduction to history • Time frame under study • Geographical framework • Sources	**Student** • familiarizes with the major developments to be studied • develops and understands significance of geographical terms used during the time frame • illustrates sources used to reconstruct history
The earliest societies • Hunting and gathering as a way of life, its implications • Introduction to stone tools and their use • Case study – The Deccan	**Student** • appreciates skills and knowledge of hunter and gatherers • identifies stone artefact as archaeological evidence, describes making deductions from

	them • shrotly describes history of the Deccan
The first farmers and herders • Implications of farming and herding • Archaeological evidence (for crops, animals, houses, tools, pottery, burials, etc.) • Case study – The northwest and northeast	**Student** • describes diversity of early domestication • identifies material culture generated by people in relatively stable statements • understands strategies for analyzing archaeological finds • shrotly describes history of the northwest and northeast
The first cities • Settlement pattern of the Harappan civilization • Unique architectural features • Craft production • Meaning of urbanism • Case study – The northwest	**Student** • appreciates distinctive life in cities • identifies archaeological evidence of urban centres • describes meaning and need of urbanism • understands archaeological reconstruct processes such as craft production
Different ways of life • The Vedas and what they tell us • Contemporary chalcolithic settlement • Case study – The northwest and the Deccan	**Student** • comprehends that different developments were taking place in different parts of the subcontinent simultaneously • describes contemporary chalcolithic settlement • introduces simple strategies of textual analysis • describes history of the northwest and the Deccan
The first farmers and herders • Janapadas to Majanapadas • case study – Bihar, Magadha and the Vajjii confederacy	**Student** • introduces concept of the state and its varieties • understands use of textual sources in this context • shortly describes history of Bihar, Magadha and Vajjii confederacy
New ideas • Upanisads • Jainism • Buddhism	**Student** • outlines the basic tenets of these systems of thought • enumerates great people of these thoughts and describes stories of their lives • connects in which these systems developed and flourished • introduces excerpts from sources relating to these traditions
The first empire • Expansion of the empire • Ashoka • Administration	**Student** • introduces concept of empire • shows how inscriptions are used as sources
Life in towns and villages • Second urbanization • Agricultural intensification • Case study – Tsami Nadu	**Student** • demonstrates the variety of early urban centres – coastal towns, capitals, religious centres • describes agricultural intensification • describes use of archaeological material including coins, sculpture as well as textual sources to reconstruct social and economic histories

	• describes history of Tsami Nadu
Contacts with distant lands • The Sangam texts and long distance exchange, suggested regions (Tamil region, extending to south east Asia and the west) • Conquerors from distant lands (north western and western India) • Spread of Buddhism (north India to Central Asia)	**Student** • introduces idea of different contexts of contact between distant lands and the motivating forces including conquest • examines implications of journeys within subcontinent • illustrates use of textual and visual material for reconstructing the histories of such contacts • describes spread of Buddhism
Political developments • Gupta empire and Harsavardhana • Pallavas and Calukyas	**Student** • introduces idea of strategies of expansion and their logic difference • explains development of different administrative systems
Culture and science • Literature (Puranas, the epics, Sanskrit and Tamil works) • Architecture (early monasteries and temples, sculpture, painting (Ajanta))	**Student** • develops a sense of appreciation of textual and visual traditions of the period • describes some of historically significant literature works • understands literature as a part of historical and cultural heritage • names some of famous monasteries, temples, sculptures and paints from Ladakh • names some of famous architectural monuments of India • understands architecture as a part of historical and cultural heritage

5.5.4.7. Social – 7th class

Subject matter	Student's outputs
TOPIC 1 – GEOGRAPHY	
Environment • Environment in its totality (natural and human environment) • Natural environment (land, interior of the earth, rocks and minerals) • Earth movements and major land forms	**Student** • understands environment in its totality including various components both natural and human • explains components of natural environments • appreciates interdependence of these components and their importance in our life • appreciates and develops sensitivity towards environments • names and describes Earth movements and major land forms
Air • Composition of air • Structure of the atmosphere • Elements of weather and climate (temperature, pressure, moisture and wind)	**Student** • enumerates composition of air • describes structure of atmosphere • understands about atmosphere and its elements • names kinds and elements of weather and its difference in various climate
Water • Fresh and saline • Distribution of major water bodies • Ocean waters and their circulation	**Student** • describes differences between fresh and saline water and enumerates their resources and occurrence in the world • understands distribution of water on the earth • names oceans of the Earth • describes circulation of ocean water
Nature and man • Natural vegetation and wildlife • Human environment (settlement, transport and communication) • Human environment interaction (life in desert regions – Sahara and Ladakh; life in tropical and sub-tropical regions – Amazon and Ganga-Brahmaputra; life in temperate regions – prairies and Veldt)	**Student** • finds out nature of diverse flora and fauna • explains relationship between natural environment and human habitation • appreciates need of transport and communication for development of the community • familiarizes with new developments making today's world global society • understands complex inter relationship of human and natural environment • compares life in one's own surrounding with life of other environmental settings • appreciates cultural differences existing in the world which is an outcome of interaction between human beings and their environment
TOPIC 2 – CIVICS	
Democracy • Diversity as a fact of being human • Democracy	**Student** • understands and appreciates various forms of diversity in their everyday environments

• Historical (what were some of the key junctures and transformations in the emergence of democracy in modern societies) • Key features (different systems of power that exist in the world today, significant elements that continue to make democracy popular in the contemporary world – formal equality + decision making mechanisms + accommodation of differences + enhancing human dignity) • Institutional representation of democracy (universal adult franchise, elections, political parties, coalition governments)	• develops an understands the Rule of Law and our involvement with the law • understands the Constitution as the primary source of all laws • develops ability to distinguish between different system of power • understands importance of the idea of equality and dignity in Democracy • develops links between the values/ideas of Democracy and the institutional forms and processes associated with it • understands Democracy as Representative Government • understands vision and values of the Constitution • enumerates different systems of power in the nowadays world • names institution representation of democracy and describes them shortly
State government • Main functionaries, broad outline of the role of the Chief Minister and the Council of Ministers • Functioning of state government through example (land reform/ irrigation/ education/ water/ health discuss) • The nature of the role played by the government (regarding resources and services) • Factors involved in distribution of resources and services. • Access of localities and communities to resources and services	**Student** • understands local and state level of government functioning and differences between them • enumerates members of state government of India • describes functioning of state government through examples of reforms, irrigation, education, water and health • characterizes role of government • gains a sense of the nature of decision-making within State Government • understands domain of power and authority exercised by the stage government over people's lives • gains a critical sense of the politics underlying the provision of services or the distribution of resources
Understanding media • Media and democracy • Media's role (in providing information, in providing forum for discussion/debate, creating public opinion, media ethics and accountability) • Relationship between government and information • Advertising (commercial advertising and consumerism, social advertising)	**Student** • understands role of the media in facilitating interaction between the government and the citizens • gains a sense that government is accountable to its citizens • understands link between information and power • gains critical sense of impact of media on people's lives and choices • appreciates the significance of people's movements in gaining this right
Unpacking gender • Social aspects • Values that determine roles expected from boys and girls in (family, community, schools, public spaces) • Understanding inequality (role of gender in creating unequal and hierarchical relations in society) • Economic aspects (gender division of labour within family, value placed on women's work within and outside	**Student** • understands gender and its aspects in society • comprehends equivalence in genders • learns to interrogate gender constructions in different social and economic context • is able to link everyday practices with the creation of inequality and question it.

the home, the invisibilization of women's labour)	
Markets around us • Retail markets and our everyday needs • Role and impact of wholesale markets (link to retail markets) • People's access to markets and its factors (availability, convenience, credit, quality, price, income cycle) • Role of an observable wholesale market (grain, fruit or vegetable, understanding the chain of activities, the role of intermediaries and its impact on farmer-producers)	**Student** • understands markets and their relation to everyday life • understands markets and their function to link scattered producers and consumers • gains sense of inequity in market operations
TOPIC 3 – HISTORY	
Where, when and how • Terms (used to describe the subcontinent and its regions with a map) • An outlining of the time frame and major developments • A brief discussion on sources	**Student** • familiarizes with the changing names of the land • discusses broad historical trends • gives examples of the kinds of sources that historians use for studying this period (buildings, chronicles, paintings, coins, inscriptions, documents, music, literature)
New kings and kingdoms • Outline of political developments (700-1200) • Case study of the Cholas, including agrarian expansion in Tamil region	**Student** • traces the patterns of political developments and military conquests – Gurjara Pratiharas, Rashtrakutas, Palas, Chahamanas and Ghhaznavids • develops an understanding of the connections between political and economic processes through the exploration of one specific example • illustrates how inscriptions are used to reconstruct history • describes agrarian expansion in Tamil region and its consequences
The Sultans of Delhi • Overview • Significance of the court, nobility and land control • Case study of the Tughlaqs	**Student** • outlines development of political institutions and relationships amongst rulers • understands strategies of military control and resource mobilization • illustrates how travellers' accounts, court chronicles and historic buildings are used to write history • describes significance of court and names its members • describes significance and position of nobility • describes process of land control and its meaning • describes history of Tughlaqs
The creation of an empire • Outline of growth of the Mughal Empire • Relations with other rulers, administration and the court • Agrarian relations • Case study of Akbar	**Student** • traces political history of the 16th and 17th centuries • understands impact of an imperial administration at local and regional levels • describes agrarian relations • illustrates how Akbarnama and the Ain-i-Akbari are used to reconstruct history

Architecture as power – Forts and sacred places • Varieties of monumental architecture in different parts of the country • Case study of Shah Jahan's patronage of architecture	**Student** • describes range of materials, skills and styles to build: waterworks, places of worship palaces and havelis, forts, gardens • understands engineering and construction skills, artisanal organization and resources required for building works • illustrates how contemporary documents, inscriptions and the actual buildings can be used to reconstruct the history • names famous architectural monuments of India and its historical significance • describes issue of Shah Jahan's patronage of architecture
Towns, traders and craftsmen • Varieties of urban centres (court towns, pilgrimage centres, ports and trading towns) • Case studies of Hampi, Masulipatam and Surat	**Student** • traces the origins and histories of towns, many of which survive today • demonstrates the differences between founded towns and those that grow as a result of trade • illustrates how travellers' accounts, contemporary maps and official documents are used to reconstruct history • describes story of Hampi, Masulipatam and Surat and their significance in history
Social change – Mobile and settled communities • Discussion on tribes, nomads and itinerant groups • Changes in the caste structure • Case study of Kabir	**Student** • conveys idea of long-term social change and movements of people in the subcontinent • understands political developments in specific regions • names various tribes of India and compares their culture and way of living • describes changes in the caste structure • Illustrates how anthropological studies, inscriptions and chronicles are used to write history • describes story of Kabir and its significance in Indian history
The flowering of regional cultures • Overview of the regional languages, literatures, paintings music • Case study of Bengal	**Student** • enumerates various languages, literature, painting and music used in various regions of India • indicates major religious ideas and practices that began during this period • understands how Kabir challenged formal religions • illustrates how traditions preserved in texts and oral traditions are used to reconstruct history • describes history of Bengal
New political formations in the 18th century • Overview of the independent and autonomous states in the subcontinent • Case study – Marathas	**Student** • delineates developments related to the Sikhs, Rajputs, Marathas, later Mughals, Nawabs of Awadh and Bengal and Nizam of Hyderbad • understands and describes how the

	Marathas expanded their area of control • illustrates how travellers' accounts and state archives can be used to reconstruct history

5.5.4.8. Social – 8th class

Subject matter	Student's outputs
TOPIC 1 – GEOGRAPHY	
Subject matter •	**Student** •
TOPIC 2 – CIVICS	
Subject matter •	**Student** •
TOPIC 3 – HISTORY	
India and the modern world • Renaissance • Rise of capitalism and the industrial revolution • American and French revolution, nationalism, imperialism • New movements	**Student** • depicts characteristics and main elements of Renaissance • describes culture of Renaissance (architecture, fashion, music, art, way of life) • comprehends connections between rise of capitalism and industrial revolution processes • understands and describes American and French revolution • illustrates how revolutions are used to reconstruct history • defines nationalism • enumerates new movements in politics and ways of living • discusses new trends
India in 18th century • Disintegration of the Mughal Empire (Later Mughals) • Rise of independent states • Other Indian states • Expansion and decline of the Maratha power • Some features of society and politics	**Student** • describes disintegration of the Mughal and its causes • delineates developments related to the independent states • names Indian states and independent states around India of 18th century and describes relation between them • understands and describes how the Marathas expanded their area of control • comprehends and describes causes of decline of Maratha power • depicts Indian society of 18th century • discusses features of society and politics of 18th century
The rise and growth of British rule in India • European trading companies in India • Rise of British power • British conquest of Bengal • Extension of British influence (1765-1785) • Policy of non-intervention (1785-1797) • British expansion from 1798 to 1809 • British expansion from 1809 to 1848 • Causes of British success	**Student** • describes difference between Indian and European cultures of 18th and 19th century • comprehends trading developments and expansion of European trading companies in India • understands causes of rise of British power • describes policy of non-intervention, its causes and consequences • describes British expansion in 1798-1809

	and in 1809-1848 and differences between them • illustrates how British extension are used to reconstruct history of India • names causes and consequences of British success
Administrative structure, policies and impact of British rule (1765 – 1857) • Misrule by company's officials • British economic policies and their impact • Social legislation • Beginning of modern education	**Student** • defines misrule • describes causes and consequences of misrule by company's officials • characterizes British economic policies in 1765-1857 and their impact to Indian society • names some of rules of social legislation in 1765-1857 and their advantages and disadvantages for Indian society • understands need of education and right for education equally for all people • describes education system of 18^{th}/19^{th} century • comprehends difference between good and bad education system • understands power of education and education system, names advantages and disadvantages of this power
Revolts against British rule • Early revolts • Revolt of 1857 • Displacement of the old ruling sections • Ruination of peasants and artisans • Fear of loss of religion and caste • Grievances of the India soldiers • Main centres of the revolt • Suppression of the revolt • Character of the revolt	**Student** • introduces early revolts and their causes • comprehends power of revolt and understands causes of success or failure of revolt • describes revolt of 1857 and enumerates its main features • enumerates consequences of revolt in 1857 • describes strategy of suppression of revolt in 1857
British policies and administration in India after 1858 • Act of 1858 and Queen's proclamation • Control over the Indian government from Britain • Government of India • Local government • Financial administration • Civil services • British policy towards Indian Princes • British policy of 'divide and rule'	**Student** • introduces Act of 1858 and Queen's proclamation • describes features of control over the Indian government from Britain • shortly describes history of Bihar, Magadha and Vajjii confederacy • introduces function and role of Indian government over India in 19^{th} century • compares differences between local and state government of 19^{th} century • describes financial administration and civil services in 19^{th} century • comprehends influence of British policy on Indian policy and Princes • describes position of India whiten Britain • describes British policy of ´divide and rule´
Change in economic life (1858 – 1947) • Heavy burden on cultivation • Impoverishment of the peasantry • Famines in India • Development of irrigation facilities	**Student** • describes change of social and economic situation caused by heavy burden on cultivation and impoverishment of the peasantry

• Development of transport • Modern industries in India • Drain of India's wealth • Economic condition of the people	• comprehends consequences of impoverishment of the peasantry • names causes of famines in India 19th/20th century • illustrates development of irritation facilities and transport and their influence to development of society • understands significance of development of irrigation facilities and transport for Indian society • explains main economic, social, political and cultural changes, which led to modernisation of society • illustrates development of industry in India and its consequences for society and nature • illustrates position of various classes of Indian society, describes their economic condition, living options and way of living
Religious and social reform movements and cultural awakening • Rammohun Roy and Brahmo Samaj • Derozio and young Bengal • Ishwar Chandra Vidyasagar • Reform movements in western India • Reform movements in southern India • Ramakrishna mission and Vivekananda • Muslim reform movements • Syed Ahmad Khan and Aligarh movement • Reform movements among Parsis and Sikhs • Progress of social reforms • Education • Cultural awakening • Growth of press • Growth of science	**Student** • describes change of social and economic situation of Indian society caused by arrival of new ethnic groups • illustrates conflicts in Indian society, their causes and consequences • comprehends need of revolution as an impulse to change conditions of society • explains reform movements in western and southern India and compares their development • describes main features of Muslim religion • describes Muslim reform movements • describes main features of Sikhs and Parsis religion • explains reform movements among Parsis and Sikhs • describes significance of religious and social reforms to Indian society • illustrates progress of social reforms and education system and their effect to Indian society • names examples of cultural awakening of Indian society • understands significance of culture in society
Rise of Indian nationalism • Armed revolts after 1857 • Rise of national consciousness • Emergence of Gandhiji • Antagonism of the India people to British rule • Political and administrative unification • Economic changes • Impact of modern education • Discontent against British rule • Formation of political associations • Formation of the Indian National Congress • British attitude towards the Congress	**Student** • describes change of national awarness in Indian society and its growth • illustrates conflicts in Indian society caused by national consciousness • describes revolts after 1857, their causes and consequences • understands huge significance of Gandhi, his philosophy, teaching and politics efforts to Indian society • explain effects of teaching of Gandhi and his politics on Indian society • describes political and administrative unification and economic changes in India of

	$19^{th}/20^{th}$ century • understands significance of modern education to awarness of society • illustrates progress Indian society of $19^{th}/20^{th}$ century • describes process of formation of political associations • explains formation of Indian National Congress and British attitude towards it
Struggle for Swaraj • Extremists and moderates • Influence of world events • Partition of Bengal, Swadeshi and Boycott movements • Congress and the goal of Swaraj • Morley-Minto reforms and revolutionaries • Formation of Muslim League • Nationalst movement during the World War I • British policy after World War I • Jallianwala Bagh Massacre • Khilafat and non-cooperation movement	**Student** • illustrates position of India in the world politics and effects of world events to India • explains revolts and movements in Bengal, Swadeshi and Boycott and their causes and consequences • describes revolts and movements during WWI and influence of WWI to Indian politics and society • compares situation in Europe and India after WWI • illustrates influence of Britain and British policy to India • describes Jallianwala Bagh massacre and its causes • explains Khilafat and non-cooperation movement
Nationalist movement (1923 – 1939) • Swaraj Party and constructive programme • Movement of Peasants and Workers • Spread of socialist ideas and revolutionary movement • Emergence of new leaders • Simon Commission • Demand for complete independence • Civil disobedience movement • Movements in princely states • Communal parties and their role • Movement of the depressed classes • Indian Nationalist Movement and the world • ACT of 1935 and the Nationalist Movement	**Student** • introduces Swaraj Party and its constructive programme • illustrates movement of Peasants and Workers and its causes • comprehends reasons of spread of socialist ideas and its success within peasants' and workers' society • understands need of improving and balancing of life standards within Indian society • describes movements and revolts aimed on national and independent India • introduces Act of 1935 and its significance to Indian policy and society • illustrates position of India within the world
Achievement of independence • Second World War and the Nationalist Movement • Quit India Movement • Azad Hind Fauj • Nationalist upsurge after the war • India as independent nation • Immediate tasks	**Student** • illustrates situation in Europe before WWII • explains main causes of beginning of WWII • comprehends power and danger of nationalism, compares "healthy and malicious" nationalism • illustrates power of Hitler in Germany and explain term "pure Aryan race" • demonstrates abuse of industry and technologies on examples of WWII • illustrates anti-semitism and racism and understands their unacceptability of human rights' view • describes position of India in WWII, compares situation in India and Europe during

	WWII • illustrates last steps of India to be an independent nation

5.5.4.9. Social – 9th class

Subject matter	Student's outputs
TOPIC 1 – GEOGRAPHY	
Subject matter •	**Student** •
TOPIC 2 – CIVICS	
Subject matter •	**Student** •
TOPIC 3 – HISTORY	
Prehistory • Archaeology and prehistory • Life begins on earth • Evolution of man • Palaeolithic age • Neolithic age	**Student** • comprehends importance and necessity of historical knowledge, enumerates concrete examples • defines archaeology and its goals • enumerates sources of information about history and institutes where these resources are collected • describes evolution of man • describes and compares life in the Earth in Palaeolithic age and Neolithic age • characterizes the life of hunters and gatherers, their material and spiritual culture • illustrates crucial importance of agriculture, animal husbandry and processing of metals for human society
Bronze and civilization • Harappan Culture • Mesopotamian civilizations • Egyptian civilization • Chinese civilization	**Student** • understands connection between natural conditions and the emergence of the first great civilizations • defines bronze age • describes development of Harappan culture • describes development of Mesopotamian civilisation and its uniqueness • describes development of Egypt civilisation, its uniqueness and names great pharaoh • describes development of Chinese civilisation, its uniqueness and names great emperors • enumerates and compares contribution of ancient civilisations in bronze age to global development • names the most important types of monuments that have become part of world cultural heritage • compares various forms of government and the position of social groups in different states
Early iron age civilization • Ancient Indian civilization • Civilization of ancient China	**Student** • defines iron age and differences in lifestyle in bronze and iron age

• Iranian civilization • Greek civilization • Roman civilization • Judaism and Christianity	• describes development of Indian civilization in iron age • describes development of China civilization and its uniqueness and names great emperors • describes development of Iranian civilisation • describes development of Greek civilisation, its uniqueness and names great emperors • describes development of Roman civilisation, its uniqueness and names great emperors • explains idol of antique culture and principle of antique democracy • demonstrates contribution of antique civilization to Europe and global world • enumerates and compares contribution of ancient civilisations in iron age to global development in culture, policy, agriculture or technologies • names great people of iron age and their significance in history of global world • names the most important types of monuments that have become part of world cultural heritage • compares various forms of government and the position of social groups in different states • characterizes role of faith in life of medieval man • defines Judaism and Christianity and their relation • explains spread of Judaism and Christianity in the world
Early American and African civilizations • Early American civilizations • Early African cultures and civilizations	**Student** • describes development of early American civilizations and defines their way of living • describes development of early African civilizations and defines their way of living • names specific of early American and African civilizations
The medieval world • Medieval Europe • Feudal system in Europe • Trade and commerce in medieval Europe • Church in medieval Europe • Arab civilization • Middle ages in India • China in medieval times	**Student** • lains different pace of modernization and deepening of inequality in the development of individual parts of Europe • on selected examples demonstrates basic political currents • characterizes formation of Indian civilization in middle age • explains substantial economic, social, political and cultural changes that lead to modernization of society • characterizes the efforts of important social groups and state requirements formulated in selected European revolutions • understands position of Christianity in middle age Europe • describes Arab civilization and its position in middle age

	• describes China civilization in middle age and its position in the world
Beginning of modern age • Art, literature and science • Protestant reformation • Exploration, discovery and trade • Rise and growth of nation states • Struggle against absolutism • English revolution	**Student** • describes development of art, literature and science in global world • defines protestant reformation • characterizes rivalry between superpowers and significance of colonies • explains substantial economic, social, political and cultural changes that lead to modernization of society • characterizes the efforts of important social groups and state requirements formulated in selected European revolutions • describes the course of overseas discoveries, their causes and consequences • explains the rediscovery of ancient ideal of human • specifies the examples absolutism, constitutional monarchy, parliamentary system • recognizes signs of cultural styles • provides examples of significant cultural heritage
The industrial revolution • The age of machines begins • Spread of the industrial revolution • Consequences of industrialization	**Student** • explains substantial economic, social, political and cultural changes that lead to modernization of society • defines industrial revolution • names consequences of industrial revolution • names advantages and disadvantages of industry and technologies • comprehends possibility of abuse of technologies

5.5.4.10. Social – 10th class

Subject matter	Student's outputs
TOPIC 1 – GEOGRAPHY	
Land and soil resources • Types of resources • Resources development • Resources planning • Conservation of resources • Land resources • Soil (formation, types, erosion, land utilisation)	**Student** • differentiates major soil types and their resources • describes resources development and planning • assesses the relevance, use and protection of soil • understands causes of land loss in the world • compares the importance of soil factors on soil formation • describes process of soil erosion • enumerates types of land utilisation
Forest and water resources • Types of forests • Conservation and protection of forest • Wildlife (protection and conservation of wildlife) • Water resources (sources of water, use of water resources, multipurpose river valley projects, distribution of irrigated areas, growing need for water) • Conservation and management of water resources	**Student** • names types of forests and their occurrence • understands need of conservation and protection of forest and wildlife • appreciates the need for conserving natural vegetation and wildlife • names kinds of sources of water, distinguish freshwater and saltwater sources • defines potable water • describes irrigation, its need and importance for humans • understands need of protection of water resources and danger of pollution • comprehends need of water management
Agriculture • Land under agriculture • Main features of Indian agriculture • Types of farming • Major crops (cereals, pulses and oilseeds, fibre crops, beverage crops, cash crops) • Animal husbandry (fisheries) • Technological and institutional reforms • Food security • Globalisation and its impact on Indian agriculture	**Student** • comprehends broad physiographic divisions of India • names regions suitable for agriculture • enumerates kinds of crops • describes agriculture of India using map • explains the influence of land, climate, vegetation and wildlife on agriculture • enumerates kinds of husbandry in India • describes process of globalisation and its influence to Indian agriculture
Mineral and energy resources • Types of minerals • Distribution of minerals • Conservation of minerals • Energy resources • Conventional and non-conventional sources of energy	**Student** • names types of minerals • enumerates important minerals and explains their use • comprehends difference in price of minerals and describes causes of this difference • understands non-renewability of mineral sources • names types of energy resources • distinguishes between conventional and non-conventional sources of energy • understands principle of sustainable development

Manufacturing industries • Classification of industries • Agro-based industries • Mineral based industries • Transport equipment industries • Electronic industry • Measures to control environment degradation	**Student** • enumerates kinds of industries and regions or towns of their occurrence in India • distinguishes between mineral, agro, transport and electronic based industries, names main centres of those industries in India • understands need to protect the environment and danger of pollution • names kinds of measuring to control environment degradation • names impact of environment degradation
Transport communication and trade • Classification of industries • Transport • Communication • International trade	**Student** • understands need and meaning of transport for society • enumerates kinds of transport • comprehends need and meaning of communication technologies for society • names kinds of communication devices • understands significance of international trade over the world • understands significance of transport and communication technologies to international trade • names advantages and disadvantages of international trade
TOPIC 2 – CIVICS	
Subject matter •	**Student** •
TOPIC 3 – HISTORY	
Prehistory •	**Student** •

5.5.5. HINDI

5.5.6. BHOTI

6. EVALUATION

6.1. Teachers' evaluation of students

6.1.1. RULES OF EVALUATION

6.1.2. METHODS OF EVALUATION

6.1.3. BEHAVIOUR (?)

6.2. Autoevaluation of the school