

**YEAR PLAN 2018- 2019**  
**Grade VII MATHEMATICS**

The academic year is divided into **two** sessions

**Session One:** June 2018 to October 2018

**Session Two:** November 2018 to March 2019

**Continuous Assessments:** July, August, September, December, January, February

**Summative Assessment I:** October 2018

**Summative Assessment II:** March 2019

Please check the **index page** in the notebooks for Continuous Assessment marks.

**Aim:** To

- learn and enjoy the subject by developing confidence.
- develop problem solving & logical reasoning skills and to apply the same in daily life situations.

**Enduring Understanding:** To realize the relevance of mathematical concepts and their application for the smooth functioning of life.

**Objectives:** To

1. become successful learners who enjoy learning.
2. successfully apply core concepts learnt from various subjects.
3. understand texts of different subjects so as to communicate knowledge and ideas in ways specific to the subject.
4. articulate thoughts and ideas effectively using oral, written and nonverbal communication skills in a variety of forms and contexts.
5. use technology to access and provide information and to communicate with others.
6. understand cross-curricular linkages- connect learning across subject areas.
7. become confident individuals who are able to live safe, healthy and fulfilling lives.
8. become responsible citizens who make a positive contribution to society.
9. understand and apply knowledge to real life experiences.
10. develop a sense of responsibility towards others.
11. function successfully in the local and world community.
12. respect diversity (in terms of religion, gender, regions, etc. and differences of opinions and beliefs).
13. exhibit sensitivity towards environmental issues.
14. learn to manage and utilise resources judiciously.

**Projects:** 1. Project on Data Handling

2. Model – Congruency of Triangles

**Session One – June 2018 to October 2018**

<b>Duration</b>	<b>Topics</b>	<b>Specific Objectives</b>	<b>Thinking Skills/Learning Process</b>
June	Integers  Fractions (Excluding inserting fractions)  Rational Numbers	Recalls rules of integer operations. Develops speed and accuracy in solving problems. Correlates fractions and decimals. Applies the concepts learnt.  Identifies rational numbers, compares using number line, and performs simple operations on rational numbers.	Planning what to do  Sequencing  Comparing and contrasting  Finding alternative methods to solve a problem. Analysing Relationships
July	Decimal Fractions (Excluding significant figures) Lines and angles  Ratio and Proportion Unitary method [Excluding Time and Work and Ex.6(c)]	Develops ability to solve problems with more speed and accuracy. Applies the properties of parallel lines with transversal in solving the given figures. Compares ratio with Equivalent fractions. Applies proportion in unitary method.	Analysing Relationships  Posing and defining problems Making judgements based on reasoning.
August	Exponents  Algebra - Fundamental Concepts and Operations [EX:11 A,B,C,D]	Recalls Laws of exponents and applies in solving problems. Recalls fundamentals of Algebra. Does algebraic operations accurately.	Generalisation.  Looking for alternative solutions. Analysing relationships. Making judgement.

Preparing a table to classify numbers, discussion on types of numbers.  
Mind mapping types of Fractions.  
Doing problems involving BODMAS and brackets.  
Activity: Cutout paper strips of different shapes and dividing them into equal parts.(Equivalent Fractions)  
Understands similarities and difference between fractions and Rational numbers. Solving simple problems.

Review of Fractions and Decimals. Mental Maths.  
  
Activity: Drawing parallel lines and a transversal and measuring equal angles.  
  
Questions based on different situations involving ratio. Oral practice to identify proportion, solving related problem.

Simplifying Problems using Laws of Exponents.  
Solving higher order problems.  
Framing algebraic expressions in different situations, developing confidence in dealing with variables, problems using algebra in other topics.

September	Data Handling  Simple Interest  Triangles(excluding Constructions)	Organises, interprets the given data. calculates mean, median and mode of ungrouped data. Draw bar graphs. Calculates Simple Interest based on the given data.  Recalls basics of triangles.	Sequencing. Classifying. Processing Information.  Recall the concept and Formulae.  Classifying and Evaluating. Making judgement.	Analysing the given problem, organizing and solving it .Draw bar graphs.  Activity: Application of Simple Interest in daily life.  Understands the basics of triangle and properties of triangle.
<b>Summative Examination I Session Two : October 2018 – March 2019</b>				
October	Algebra - Fundamental Concepts and Operations[Ex11 E and F] Probability	Applies the laws of exponents in special products. Finds probability using data through experiments.(tossing coin, dice etc)	Recall concept and formulae  Making judgement	Expanding products, finding out the required expression using identities Conducting experiments like tossing a coin, dice etc and recording favorable and possible outcomes.
November	Percent and Percentage [Ex.8(c) only questions from 1 to 8] Pythagoras Theorem Set Concepts	Recalls more about percentage.  Applies Pythagoras Theorem in solving problems. Differentiates Set and Collection. Classifies sets as finite, infinite and empty. Applies cardinal property of sets.	Planning what to do  Processing Information  Making Deductions  Testing conclusions	Percentage as a fraction and decimal, Mental math. Solving problems based on Increase% and Decrease%. Research on Pythagoras (mathematician) and his contributions. Identification of set. Classification of different types of sets. Group Activity: Different types of sets from surroundings and daily life situations.
December	Profit ,Loss and Discount [On Ex. 9 (c) only questions from 1 to 10] Symmetry  Triangles (Constructions)	Applies Percentage in Profit and Loss Recalls BODMAS and Removal of Brackets. Recalls concept of symmetry. Draws lines of symmetry for the 2-D figures and alphabets.(capital) Constructs triangles based on the given data.	Evaluating Making Deductions Combining algebraic expressions with integral denominators. Making judgments and decisions by reasoning or evidence. Explaining thinking	Application Problems on Profit and Loss.(Group work) Simplification of algebraic expressions involving fractions. Drawing lines of symmetry for different 2-D figures and alphabets. Activity: Constructing triangles based on the given data using ruler and compasses.
January	Simple Linear Equations (Including word Problems)  Congruency : Congruent Triangles  Recognition of Solids	Solves equation of one variable. Frames equation for given real life situation and solves it. Identifies congruent figures by observing different objects. Identifies the congruency conditions and proves. Identifies 3 D shapes. Applies Euler's formula. Recognizes solid when net given.	Testing conclusions Analysing Relationships Explaining thinking Making judgments and decisions by reasoning or evidence.	Framing Equation based on the given data and solving them.(Oral and written) Solving problems using conditions of congruency. Project: Cutting and pasting paper models to concretely prove the properties of congruency. Group work: Making net of different solids. (Cube, cuboid, cone and cylinder)
February	Mensuration	Recalls the units of measurement and the basics of Mensuration	Applying Imagination Extending Ideas. Making judgments and decisions by reasoning or evidence.	Framing composite figures and finding the area and perimeter.
<b>Facilitators' names:</b> Mrs.Nirmala ,Mrs. Srividhya, Mrs. Asha Sasidhar. <b>Guest Lecture: Guest Speakers:</b> Mrs.Regina Vivek, Mrs.Bindu. <b>Textbook:</b> Middle School Mathematics– Grade VII (Selina Publications)				
<b>Resources</b>			<b>Interactive Software/Websites</b>	
<b>Textbook:Middle School Mathematics– Grade VII (Selina Publications)</b> Mathematics Today (O.P.Malhotra) ICSE Mathematics for Grade VII (Pearson Longman) Understanding ICSE Mathematics (M.L.Aggarwal)			<ul style="list-style-type: none"> <li>• Class edge</li> <li>• <a href="http://www.math-aids.com">www.math-aids.com</a></li> <li>• <a href="http://www.edhelper.com">www.edhelper.com</a></li> <li>• <a href="http://www.alphamath.in">www.alphamath.in</a></li> </ul>	

