**BUDHA DAL PUBLIC SCHOOL, SAMANA**

**LESSON PLAN**

**CLASS - VII**

**SUBJECT - MATHEMATICS**

**SYLLABUS - TERM - I**

**Name of Teacher: Ms. Gurpreet Kaur**

***SYLLABUS OF PERIODIC TEST - 1***

Ch - 1 Integers

Ch - 4 Simple Equations

***TERM - I***

Lesson - 1 - Integers

Lesson - 3 - Data Handling

Lesson - 5 - Lines and Angles

Lesson - 6 - The triangle and its properties

Lesson - 7 - Congruence of Triangles

Lesson - 13 - Exponents and Power

Tables - 2 to 20

 Lab Manual Activities According to the Syllabus

**Topic - Integers**

|  |  |
| --- | --- |
| **General Aids** | A well equipped classroom, pointer, zoom app, Green board, chalk, dister etc. |
| **General Aims** | * To develop scientific attitude among students.
* To make the students familiar with the use of maths in daily life.
* To develop reasoning and thinking power of students.
 |
| **Expected Behavioral Outcomes** | * After doing this chapter students will be able to understand the concept of Integers.
* Students will be able to know about different types of 'Integers' i.e. positive and negative Integers.
* Students will be able to learn about multiplication and division of integers.
 |
| **P.K. Testing** | * What are natural numbers?
* What are whole numbers?
* Name the positive and negative numbers on a number line.
* What we call these positive and negative numbers?
 |
| **Unscitisfactory Respones** | After getting unsatisfactory response. TEachers will announce the topic and explain about Positive and Negative integers. |
| **Content** | * Introduction of Integers
* Properties of addition of Integers
* Properties of subtraction of Integers
* Multiplication of Integers
* Division of Integers
 |
| **Activity with Art Integration** | Activity is based on Addition and Subtraction of Integers**Rule**(+) ( - ) = - Subtract ( - ) ( - ) = + Add(+) ( + ) = + Add (- ) ( + ) = - SubtractAfter discussing this activity some other activities whose links are mentioned below also discussed with students.* https://youtu.be / RiCtHpJg06Q
* https://youtu.be / EDXD5q BxqZW
 |
| **Home Work** | Ex 1.1 to 1.4, all the questions will be discussed in the class similar questions will be given as home work. |
| **Subject Enrichment** | Class tests will be conducted from this chapter. Periodic Test - I be conducted from this chapter. |

**Topic - Simple Equations**

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| **General Aids** | A well equipped classroom, chalk, zoom app, Duster, Green board |
| **General Aims** | * To develop reasoning and thinking power of students.
* To create the interest among the students.
* To make them familiar with the use of maths in their daily life.
* To develop the scientific attitude among the students.
 |
| **Expected Behavioral Outcomes** | * Students will be able to use the concept in their daily life.
* Students will be able to know about the 'variables and constants' in an equation.
* Students will be able to learn about finding the solutions of an equation and to check whether the given value is a solution of an equation or not.
* Students will be able to understand the Application of SIMPLE Equation to Practical Situations
 |
| **P.K. Testing** | * Identify the variables and constants : x + 3 = 5
* Write in equation form:- A number is subtracted from 5 gives 10
* Write in statement form:- P + 4 = 5
* Put x = 2 in equation x + 4
* If x = 2 in equation 3x + 6 = 12 check whether x = 2 is a solution of equation.
 |
| **Content** | * Introduction of Simple Equations.
* Setting of an equation.
* Solving an equation.
* From solution to equation.
* Application of simple equations to practical situation.
 |
| **Activity with Art Integration** | * Activity is based on equations After discussing this activity some other activities whose links are mentioned below also discussed with students.
* https://youtu.be / UNTMtJGb15E
* https://youtu.be / LD90NNVKF80
 |
| **Home Work** | Home work will be given from the chapter 4 from the book."Mathematics Text Book for Class 7th |
| **Subject Enrichment** | Periodic Test will be conducted from this chapter. |

**Topic - Lines and Angles**

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| **General Aids** | A well equipped classroom, pointer, zoom app, duster, chalk, board etc. |
| **General Aims** | * To make the students familiar with these of maths in daily life.
* To develop the creative power among the students.
* To create the interest of the students in Geometry.
* To develop the skill of observation and drawing.
 |
| **Expected Behavioral Outcomes** | * To provide knowledge to the students about 'lines and angles'
* Students will be able to learn about representing and naming of an angle.
* Students will be able to know about various 'types of angles' and their properties.
* Students will be able to understand about supplementary and complementary angles and the various properties of angles.
* Students will be able to understand the concept of transversal lines and angle made by it.
 |
| **P.K. Testing** | * Which line is line line segment.
* Which angle is obtuse, right, acute, straight angle?
* What is complementary angle?
 |
| **Unsatisfactory Response** | * After getting Unsatisfactory response, teacher will explain the concept
 |
| **Content** | * Introduction
* Types of Angles
* Related Angles - Complementary Angles, Supplementary Angles, Adjacent Angles
* Linear Pair
* Intersecting Lines
* Transversal Line
 |
| **Activity with Art Integration** | * Students will perform the activity to verify that if two lines intersect at a point, then each pair of vertically opposite angles are equal by paper cutting and pasting. By this activity students will be able to learn that.
* https://youtu.be / MSGGVrAXXKM
* https://youtu.be / CORWBK6WonK
 |
| **Home Work** | Ex 5.1 to 5.2 all the sums will be discussed and done in the class some questions similar to NCERT questions will be given as home work from R.S. Aggarwal |
| **Subject Enrichment** | Class Test will be conducted from this chapter. |

**Topic - The Triangle and its Properties**

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| **General Aids** | A well equipped classroom, pointer, duster, chalk, green board, zoom app, etc. |
| **General Aims** | * To develop the skill of observation and drawing.
* To develop the interest of students.
* To make them familiar with the concept.
 |
| **Expected Behavioral Outcomes** | * After doing this chapter students will be able to use the concept of 'Triangle and its various properties' in their daily life.
* Students will be able to understand the classification of Triangles on the basis of sides and angles.
* Students will eb able to know about the Medians and altitude of a triangle.
* Students will be able to understand the concept of Exterior and Interior angle property, Angle sum property of a triangle.
* Students will be able to use the concept 'Pythagoras' in their daily life.
 |
| **P.K. Testing** | * Name the angles of a given triangle?
* Name the vertices if a triangle?
* What is an isosceles triangle?
* Can you find IIIrd angle in a triangle.
 |
| **Unsatisfactory Response** | * After getting unsatisfactory response. Teacher will explain about the properties of $∆$.
 |
| **Content** | * Introduction
* Classification of triangle
* Medians and Altitude of triangle
* Exterior and interior angles of a $∆$
* Angle sum property of triangle
* Sum of the lengths of two sides of $∆$
* Right - angled $∆$ and Pythagoras theorem
 |
| **Activity with Art Integration** | * Activity based on angle property of triangle will be done in the class as the sum of 3les of triangle is 1800.
* After discussing this activity some other activities whose links are mentioned below also discussed with students.
* https://youtu.be / VB 3-4HWMow8
* https://youtu.be / 3hliblToxLY
 |
| **Home Work** | Ex 6.1 to 6.5, all the sums will be discussed and done in the class. Some similar questions will be given as home work for the clarity of the concept. |
| **Subject Enrichment** | Class tests will be conducted for the clarity of the concept. |

**Topic - Congruence of Triangles**

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| **General Aids** | A well equipped classroom, pointer, duster, chalk, green board, zoom app, etc. |
| **General Aims** | * To understand the concept of Geometry.
* To develop the interest of students in Maths.
* To make them familiar with the use of Maths in their daily life.
* To develop the skill of observation and Drawing.
 |
| **Expected Behavioral Outcomes** | Students will be able to understand the concept of 'Congruence of Triangle'* Students will be able to learn about different congruence conditions like SSS congruence, SAS, ASA congruence etc.
* Students will be able to learn about how to make congruence by comparing the two triangles.
 |
| **P.K. Testing** | * Two line segments are congruent if both have same length.
* IF AB = 4.5 cm, find CD. IS it congruent or not
* Find ∟DEF? Is ∟DEF = ∟ABC
* If two angles have equal measure then these angles are \_\_\_\_\_\_\_\_.
 |
| **Unsatisfactory Response** | * Teacher will announce the topic 'congruence of Triangles'
 |
| **Content** | * Congruence of line segments
* Line segments
* Plane figure
* Angles and triangles
* Side - Side - Side Congruence
* Side - Angle - Side Congruence
* Angle - Side - Angle Congruence
* Right - Hand - Side Congruence
 |
| **Activity with Art Integration** | * Students will perform the activity to establish congruency of triangles by making paper models and superposing.
* Students will check the triangles by overlapping over lapping them and Note down the equal sides and angles.
* After discussing this activity some other activities whose links are mentioned below also discussed with students.
* https://youtu.be / E990rYAVGM8
* hrrps://youtu.be / U7SDnAnnFU8
 |
| **Home Work** | Ex 7.1 and 7.2, all the questions will be discussed and done in the class. Some similar questions will be given as homework from extra book. |
| **Subject Enrichment** | Class tests will be conducted from this chapter. |

**Topic - Data Handling**

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| **General Aids** | A well equipped classroom, pointer, duster, chalk, green board, zoom app, etc. |
| **General Aims** | * To develop the reasoning and thinking power of the students.
* To make the students familiar with the use of maths in daily life.
* To develop the creative power of the students.
 |
| **Expected Behavioral Outcomes** | * Students will be able to find the Arithmetic means, Range of various given data.
* Students will learn how to the mode, median of large data.
* Students will be able to learn about the use of Bar Bar Graphs with a different purpose.
* Students will be able to understand the concept of chance and probability.
 |
| **P.K. Testing** | * Find the mean of first five natural numbers.
* The marks obtained (out of 100) in Maths are 8s, 76, 90, 75

Q1. Highest and lowest marks obtained by the students?Q2. Find the mean of the marks?Q3. Find the Range? |
| **Unsatisfactory Response** |  |
| **Content** | * Introduction:- Mean, Range, Mode, Median
* Bar Graphs
* Double Bar Graphs
* Chance and Probability
 |
| **Activity with Art Integration** | * Students will make a table of their own marks of term - I and term - II in their previous class.
* They will find the percentage of marks obtained in different subjects.
* Then they will make double graphs by using different colour strips for term - I and II
* Through this students will be able to know the use of concept in their daily life
* After discussing this activity. Some other activities whose links are mentioned below also discussed with students.
* https://youtu.be / SLt-TaUsoctA
* https://youtu.be / NE6puddamJY
 |
| **Home Work** | Ex 3.1 to 3.4 all the questions will be discussed in the class. Some questions will be given as homework for the clarity of the concept. |
| **Subject Enrichment** | Class Tests will be discussed and conducted for the clarity of concept. |

**Topic - Exponents and Powers**

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| --- | --- |
| **General Aids** | A well equipped classroom, pointer, duster, chalk, green board, Technical tools lime zoom app, links from youtube and Diksha etc. |
| **General Aims** | * To develop the interest among students.
* To make them familiar with the use of maths in their daily life.
* To develop reasoning and thinking power of the students.
 |
| **Expected Behavioral Outcomes** | * After doing this chapter, students will be able to know about the concept.
* Students will be able to learn about various laws of exponents
* Students will be understand about multiplying and dividing the powers with the same exponents.
* They will be able to express large numbers in the standard form.
 |
| **P.K. Testing** | 1. What is the power in 53?2. Find the values of 22?3. Which is odd power in 25, 24?4. Which is even power in 32, 35? |
| **Unsatisfactory Response** |  |
| **Content** | * Exponent - laws of Exponents
* Decimal, number system
* Expressing large no. in standard form.
* Miscellaneous examples using laws.
 |
| **Activity with Art Integration** | * Students will perform the activity to study the relation between the no. of times a paper is folded and no. of square / rectangles formed. After performing the activity they will be able to learn about the exponential form of the number.
* No. of folds No. of sheets in the pile

 1 2 21 = 2 2 4 22 = 4 \_\_ \_ \_ 23 = 8After discussing this activity some other activities whose links are mentioned below also discussed with students.https://youtu.be / HqOTQ4pzZWIhttps://youtu.be / itF0RCPFD\_U |
| **Home Work** | Ex 13.1 to 13.4 all the questions will be discussed in the class. Some similar questions will be given as homework. |
| **Subject Enrichment** | Class tests will be conducted for the clarity of the concept. |