

# INDEX TEACHING SKILLS

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# Rem SKILL OF INTRODUCING THE LESSON/SET INTRODUCTION

ne..... Himanshi..... College Roll No. 12.....  
 cept..... Set..... Duration 5 min..... Date.....  
 vious Knowledge Assumed P.T. assumed that the students know  
 something about Set.

P.T.'s Activities	Students' Activities	Device Used
The Pupil teacher asked that what is set?	A well defined group of thing is called set.	
what is an empty set?	A set which has no number is called empty set.	
what is Equal set?	Two sets are called Equal sets if they consists of equal numbers.	
What is Subset?	A set 'A' is called a subset of 'S' if each member of 'A' is an element of 'S'.	
write an example of Subset?	let $S = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$ then subset of S is	



## SKILL OF ILLUSTRATING WITH EXAMPLES

Name..... Himanshi..... College Roll No. 12.....  
 Concept..... Area of triangle..... Duration..... 5 min..... Date.....  
 Approach Used..... Skill of Illustrating with Examples.....

Content	P.T. Activities
1. How do we classify the triangle on the basis of their angle?	An angle more than $90^\circ$ is an obtuse and less than $90^\circ$ is acute and an angle of exact $90^\circ$ is right angled.
2. What is the formula of Area of Rectangle?	length $\times$ Breadth
3. What is the relation between area of a Rectangular figure ABCD and triangle ABC	Area of triangle ABC will be half of the area of Rectangle ABCD.
	
4. How can we write the formula of computation of the area of triangle ABC	$\frac{\text{Base} \times \text{Height}}{2}$



## SKILL OF PROBING QUESTIONS

Name..... Himanshi ..... College Roll No. 12 .....  
 Concept..... Types of lines ..... Duration..... 5 min ..... Date.....

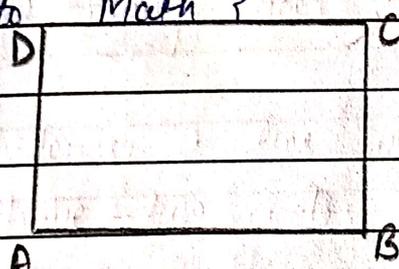
P.T.'s Activities	Student's Activities	Components
What is this Students? (Showing a Pencil)	Pencil	
How many faces it is ?	Two	
Students, a line which have two ends is called line Segment.	They note it	
Shall you tell about rail ? what be the shape of it ?	It is Straight	
You see on road two or three road intersects each other. So, the lines which intersects each other are called Intersected lines	They listen and note it.	



## SKILL OF STIMULUS VARIATION

Name..... Himanshi..... College Roll No. 12.....

Concept..... Perimetre of Rectangle..... Duration..... 5 min..... Date.....

Content	P.T. Activities	Components
<p>What is the shape of this figure according to Math?</p> 	Rectangle	
Give more examples?	Book, Duster etc.	
In fig what AB & BC represents?	Breadth & length	
What is Perimeter?	Total distance of a bound shape is called Perimeter	
What be the formula of Perimeter?	$2(L+B)$	







# MEGA LESSON PLANS

Roll No:- 12

Date :-

Sub:- Mathematics

Class :- 9<sup>th</sup>

Topic:- Mean

Time:- 30 min

## Teaching Aids

General:- chalk, duster, B.B

Specific:- charts

## General objective:-

- To create the interests of students towards mathematics.
- To develop the reasoning power of the students.
- To create the practical knowledge of math.
- To aware the students about the utility of mathematics.

## Specific objective:-

- Students will be able to understand the term mean.
- Students will be skillful in finding mean.
- Students will be able to use term mean in their day-to-day life.

## Previous knowledge Testing:-

To create interest among the students pupil teacher will ask few question to students.

### PT's Activity

1. Do you know about data?
2. PT makes a table & ask what does it show.

### Student's Activity

No Response  
No Response

# Announcement of the Topic:-

Students, today

we will study about Mean.

## Presentation:-

### P.T. Activity

### Student's Activity

Content

Mean

Data and group of numbers and to get the mean we get have to add the data and divide by the total no. of data. It is expressed by  $\bar{x}$ .

They listen and note it.

Formula

$$\text{Mean } \bar{x} = \frac{\text{Sum of data}}{\text{Total No. of data}}$$

They note it

$$\bar{x} = \frac{\sum x_i}{n}$$

Example

Find the mean of 5, 8, 7, 4, 8

They note it

$$\bar{x} = \frac{\sum x_i}{n}$$

5, 2, 3, 4

$$\bar{x} = \frac{5+2+3+4}{4} = \frac{14}{4} = 3.5$$

## Recapitulation:-

- (i) what is the formula of Mean
- (ii) what is the mean of given data

9, 7, 4, 8, 6

## Home-work:-

Find out Mean

(i) 5, 6, 13, 18, 19

(ii) 10, 55, 14, 23, 32

Lesson Plan - 2  
 Date: \_\_\_\_\_  
 Class: 7<sup>th</sup>  
 Time: 35 min

Roll No: \_\_\_\_\_

Subject: Mathematics

Topic: Area of Rectangle

Teaching Aid

Specific Check

General Check: duster, B.B

General objective:-

(i) To create the interest of students towards mathematics

(ii) To develop the reasoning power among the students.

(iii) To create practical knowledge of maths

Specific objective:-

(i) The students will understand the every kind of figures related to rectangle.

(ii) To develop the skill of finding the area of rectangle.

(iii) The students will able to use such formula in their practical life.

Previous knowledge Testing

At the students and to create the interest previous knowledge, and to check the their few question to the pupil teacher ask the students.

PT Activity  
 1. What is Rectangle?

Pupil's Activity  
 A plane shaped bound with four sides is called a rectangle

2. What is the area of Rectangle?

Announcement of the Topic:-  
 PT will announce "Area of Rectangle"

that today we will discuss about "Area of Rectangle"

Presentation:-

Content	PT's Activity	Pupil's Activity	B.B work
Definition	A plane shaped bound with four sides and not is called the rectangle	They give	
Area	On given rectangle ABCD AB = a, CD = b, then the area of a Rectangle will be:- Area = a × b a = length b = breadth		
Example	The length & breadth of a rectangular room is 9 cm & 13 cm	They note it	

Area = 12 × 9 = 108 cm

Roll No.:

Subject: Mathematics  
Topic: Area of Rectangle

Date: 7<sup>th</sup>  
Time: 35 min

Testing And

General: Check answers, B.B

Specific: charts

General objective:-

(i) To create the interest of students towards mathematics

(ii) To develop the reasoning power among the students.

(iii) To create practical knowledge of maths.

Specific objective:-

(i) The students will understand the every kind of figures related to triangles.

(ii) To develop the skill of finding the area of rectangle.

(iii) The students will able to use such formulas in their practical life.

Revison knowledge Testing

By the students and to create the interest previous knowledge, and to check their previous question to the pupil teacher ask the students.

P.T Activity

1. What is Rectangle?

Pupil's Activity  
A plane shaped bound with four sides is called Rectangle.

2. What is the Area of Rectangle?

Announcement of the Topic:-

that today we will discuss about "Area of Rectangle".

Presentation:-

Content

P.T's Activity

Pupil's Activity

B.B work

Definition

A plane shaped bound with four sides and not in called the Rectangle if.

Area

In given rectangle ABCD  
AB = a, CD = b, then

the area of a Rectangle will be:-

$AB \times CD = ab$  where  
 $a =$  length  
 $b =$  breadth

Example

The length & breadth of a Rectangular room is 9cm & 13 cm

They note if

$a = 12 \text{ cm}$   
 $b = 9 \text{ cm}$   
Area =  
 $9 \times 6$   
 $= 12 \times 9$   
 $= 108 \text{ cm}$

Roll No: Class:- 7<sup>th</sup> Time:- 35 min

Subject:- Mathematics  
Topic:- Area of Rectangle

Teaching Aids: Specific charts

General: chalk, duster, B.B

General objective:-  
(i) To create the interest of students towards mathematics

(ii) To develop the reasoning power among the students.

(iii) To create practical knowledge of maths

Specific objective:-

(i) The students will understand the every kind of figures related to triangles.

(ii) To develop the skill of finding the area of rectangle.

(iii) The students will able to use such formulas in their practical life.

Review: knowledge Testing

of the students and to check the interest previous knowledge, pupil teacher ask few question to the students.

P.T Activity

1. What is Rectangle?

Pupil's Activity  
A plane shaped bound with four sides is called Rectangle.

2. What is the area of Rectangle?

$l \times b$

Announcement of the Topic:-

that today we will discuss about "Area of Rectangle".

Presentation:-

Content

P.T's Activity

Pupil's Activity

B.B work

Definition

A plane shaped bound with four sides is called the Rectangle.

Try to listen and note it.

Area

In given rectangle ABCD  
 $AB = a$ ,  $CD = b$  then

the area of a Rectangle will be:-

$AB \times CD = ab$  unit where

$a =$  length

$b =$  breadth

Example

The length & breadth of a Rectangular room is 9 cm & 12 cm

Try to note it

$a = 12 \text{ cm}$   
 $b = 9 \text{ cm}$   
 $\text{Area} = a \times b$   
 $= 12 \times 9$   
 $= 108 \text{ cm}$

Content	P.T's Activity	Pupils Activity	B.B work
	<p>resp. find its area</p> <p>length = 12 cm.</p> <p>Breadth = 9 cm</p> <p>Area = <math>l \times b</math></p> <p>= <math>12 \times 9</math></p> <p>= <math>108 \text{ cm}^2</math></p>		

Recapitulation:-

- (i) what is Rectangle?
- (ii) what is the formula of finding the area of Rectangle.

Homework:-

- (i) if the length of a paper sheet is 12 cm & breadth is 8 cm, then what will be the area of paper sheet?
- (ii) if the area of a cover sheet is 210 m & the length of cover sheet is 20 m then find out its breadth.

Lesson Plan:- 3

Roll No :- 12

Subject :- Mathematics

Topic :- Trigonometry

Date :-

Class :- 9<sup>th</sup>

Time :- 25 min

Teaching Aids

General :- chalk, duster, B.B

Specific :- charts

General objectives:-

- (i) To create the interest of the Students towards Mathematics
- (ii) To develop the reasoning power among the Students.
- (iii) To create the practical knowledge of Students in mathematics.

Specific objectives:-

- (i) The Students will be understand with the concept of Trigonometry.
- (ii) They will be able in defining the different trigonometrical ratio / proportion.
- (iii) The students will be fully skilled in using & solving the trigonometrical problems.

Previous knowledge Testing:-

To create the interest of the Students and to check their previous knowledge, the pupil teacher will ask few question to the Students.

Content	PT's Activity	Pupil's Activity	R.B.
<p>1. Student: tell me what do you mean by triangle?</p> <p>2. Good: what is Right angled triangle.</p> <p>3. Or you know what is Pythagoras Theorem?</p>	<p>A triangle is a shape which have three sides.</p> <p>A triangle of 90° angle.</p> <p>Yes</p>	<p>P.T. will announce that today we will discuss about "Trigonometry" in detail.</p>	<p>Announcement of the Topic:-</p>
<p>Trigonometry - The method of measuring of these sides along with these angles of a triangle is called Trigonometry.</p> <p>Trigonometry the ratio of sides of a triangle is called trigonometric ratio in by ratios.</p>	<p>They pay attention &amp; note down it.</p>	<p>PT's Activity</p>	<p>Types of Trigonometric Ratios</p> <ul style="list-style-type: none"> <li>Sin θ</li> <li>cos θ</li> <li>tan θ</li> <li>cot θ</li> <li>sec θ</li> <li>csc θ</li> </ul>

**Types of Trigonometric Ratios**

- Sin θ
- cos θ
- tan θ
- cot θ
- sec θ
- csc θ

Content	PT's Activity	Pupil's Activity	R.B.
<p>Trigonometry - A trigonometric identity relates a statement of equality between two trigonometric expression &amp; usually involve trigonometric functions of angles.</p>	<p>related to Sin, cos, of an angle studied in trigonometry in Δ ABC, AB is base AC is hyp and BC is Hypotenuse.</p>	<p>They listen and note it.</p>	<p>Recapitulation:-</p> <ol style="list-style-type: none"> <li>1. Define Trigonometry</li> <li>2. How many ratio in Trigonometry?</li> <li>3. What is the value of sec θ - tan θ?</li> </ol>
<p>Homework:-</p> <p>Prove the given identities</p> <p>(i) <math>\sec^2 \theta = 1 + \tan^2 \theta</math></p> <p>(ii) <math>\sec^2 \theta = 1 + \tan^2 \theta</math></p>			

Roll No: 19

Date: 1-  
class 1 9th

Subject: Mathematics

Topic: Mean & Median

Time: 35 min

Teaching Aids

General: chalk, duster, B.B. specific: chart

General objectives:-

- (i) To create the interest among the student
- (ii) To develop the reasoning power among the student.
- (iii) To create the practical knowledge of Mathematics

Specific objectives:-

- (i) The student will be able to understand the term mean & median.
- (ii) The student will be able to find the mean & median.
- (iii) The student will be able to use their data's in their daily life.

Previous knowledge Testing:-

Among the students and to check their previous knowledge the PT will ask few question to the students

PT's Activity

1. Well student, Do you know about data's?

Pupils' Activity  
No Response

2. Teacher make a table & ask what does this show?

No Response

3. What do you mean by Mean & Median?

No Response

Announcement of the Topic:-

PT will tell the

student that today we will discuss about "Mean & Median".

Presentation:-

Content	PT's Activity	Pupils' Activity	B.B work
Mean	Data's are group of numbers & to get the mean, we add the given data's & divide by total no. of data's it is expressed by $\bar{x}$	They listen and note it.	
Formulae	$\bar{x} = \frac{\text{Total no. of data}}{\text{No. of data}}$ $= \frac{\sum x_i}{n}$	They note it.	
Example	And mean of 77, 62, 93, 44		$77, 9, 13, 15$ $\text{Mean} = \frac{77+9+13+15}{4}$ $= \frac{114}{4} = 28.5$

Content	PT's Activity	Pupils' Activity	Work
Median	On arranging the given data in ascending or descending order the exact middle no. is termed as Median.	They make m their copies	R-8
Formulae of the no. of data is odd then median will be $(n+1)/2$ the term of n is even then median is $(n/2)$ the term and $(n/2+1)$ the term.			

Recaptulation:-

- (i) What is mean?
- (ii) What do you mean by median?

Homework:-

- (i) write down the formulae of median.
- (ii) find out the mean & median of given data  
So, 12, 15, 17, 77, 67, 70, 90

Lesson Plan:- 5

Roll No:- 121

Date:-

Subject:- Mathematics

Class:- 9<sup>th</sup>

Topic:- Area of cylinder

Time:- 35 min

Teaching Aids

General:- chalk, duster, B.G

Specific:- charts

General objective:-

- (i) To create the interest of students towards mathematics
- (ii) To develop the reasoning power among student
- (iii) To create practical knowledge of mathematics

Specific objectives:-

- (i) students will be able to identify cylinder and will understand in deriving the formulae for finding out the area of cylinder
- (ii) students recognize the shape and figures of cylindrical objects.
- (iii) students draw the figures of a cylinder distinctly showing & naming its diff. part

Previous knowledge Testing:-

To create the interest of the students and to check their previous knowledge the PT ask some question to the students.



REAL LESSONS  
PLANS

REAL LESSON  
PLANS

Roll No: 12

Subj: Mathematics

Topic: Heron's formula

Date: -

Class: 9th

Time: 35 min

Teaching Aids

General: chalk, duster, B.B

Specific: Charts

General objectives:-

- (i) To create the interest of the students towards mathematics.
- (ii) To develop the reasoning power of the students.
- (iii) To create the practical knowledge of mathematics.
- (iv) To create the student with utility of mathematics.

Specific objectives:-

- (i) The students will be able in defining cylinder and will understand in deriving the formula of cylinder.
- (ii) Students will be able to recognize the shape and figure of cylindrical objects.

Previous knowledge Testing:-

To create the interest of the students & to check their previous knowledge, P.T will ask few questions.

S.No.	P.T's Activity	Student's Activity
1.	What do you mean by triangle?	A plane shape bound by 3 sides is called triangle.
2.	What is Perimeter?	Total length of side of triangle.

Announcement of the Topic:-

P.T will announce that today we will discuss about "Heron's formula".

Presentation:-

Content	P.T Activity	Pupil's Activity	B.B work
Area of Right angle triangle	P.T will ask the formula of right angled triangle.	$\frac{1}{2} \times \text{base} \times \text{height}$	
Perimeter of triangle	P.T will ask the Perimeter of triangle.	$a+b+c$	$a=6$ $b=2$ $c=4$
Half of Perimeter	$s = \frac{a+b+c}{2}$		$S = \frac{a+b+c}{2}$ $= \frac{6+2+4}{2}$ $= \frac{12}{2}$ $S = 6$
Area of Triangle	The area of triangle is $\sqrt{s(s-a)(s-b)(s-c)}$	They note it	

Recapitulation:-

1. Write the formula of the area of right angled triangle.
2. What is Perimeter?
3. What is Heron's formula?

Homework:-

If the sides of triangle are 3, 4 & 5 then find the area of triangle by Heron's formula.

Roll No. :- 12

Sub. :- Mathematics

Topic :- Method of finding square

Date :-

Class :- 9<sup>th</sup>

Time :- 35 min

Teaching Aids

General:- chalk, duster, B.B

Specific:- charts

General objectives:-

- (i) To create the interest of students towards maths.
- (ii) To develop the reasoning power of students.
- (iii) To create the practical knowledge.

Specific objectives:-

- (i) The students will understand the every method of finding square.
- (ii) They will be able to find the square of any number speedily.
- (iii) They will make use of these methods to solve their day-to-day life problems.

Previous knowledge Testing:-

To create the interest of the students & to check their previous knowledge P.T will ask few questions to the students.

S.No.	P.T Activity	Students Activity
1.	Tell me, the square of 18?	324
2.	What is sq. of 51?	2601
3.	Find the sq. of (a+b)?	$a^2 + b^2 + 2ab$

## Announcement of the Topic:-

P.T will ask the students today we will learn about different methods of finding the square.

### Presentation:-

Content	P.T Activity	Pupil's Activity	B.B Work
Method of Squaring	Will students following are the methods of squaring (1) Multiplication (2) Diagonal (3) Identity	They pay attention and write it	
Multi- plication	In this method we multiply a number two times eg $2 \times 2 = 4$	They note it	
Diagonal Method	we draw a square then divide into square, now draw the diagonal & write the number. Now multiply the columns & write value in related square if any only one number	They note it down	

$$2 \times 2 = 4$$

$$6 \times 6 = 36$$

$$8 \times 8 = 64$$

$$9 \times 9 = 81$$

Content	P.T Activity	Pupil's Activity	B.B Work
Identical Method	then write it down to diagonal. if it is two number then write first number above diagonal & second down now add these diagonal numbers & write ones place no. add remainder to next no. add find square	they note it	
Identical Method	In this method, we use the identity to find out the square of defined number		

### Recapitulation:-

1. write the formula of  $(a-b)^2$
2. Define diagonal method with example

### Homework:-

Find out the square given below

- \* 52 (MM)
- \* 59 (GM)
- \* 18 (DM)

Date: \_\_\_\_\_

class: 8<sup>th</sup>

Time: 35 min

Roll No: 12

Subj: Mathematics

Topic: Profit & Loss

Teaching Aid

General: chalk, cluster, B.B  
Specific: chart

General objective:

- (i) To create interest of the students towards math.
- (ii) To develop the reasoning power of students
- (iii) To create practical knowledge.

Specific objective:

- (i) The students will understand the term profit & loss
- (ii) They will be able to find out profit & loss of many problem.
- (iii) They will use this concept in their day-to-day life.

Previous knowledge Testing:-

How question to the students:- P.T will ask a

S.No.	Teacher activity	Students Activity
1	what is selling price?	No Response
2	what is cost price?	No Response
3	what do you mean by percentage?	No Response

Announcement of the Topic:-

that today we will learn about "Profit and loss".

P.T will announce

Content	P.T's Activity	Pupil's Activity	B.B Work
Profit	When we purchase a thing on less price & sell on more price then it is called profit.	They listen & write down in their notebook.	
Profit op.	The given formula is used to find it $\frac{\text{Net Profit}}{\text{Cost Price}} \times 100$	They note it	
loss	If we buy a thing in a big amount and sell it in less amount, then it is called loss.		
loss op.	Given formula is used to find it $\text{loss op.} = \frac{\text{Net loss}}{\text{Cost price}} \times 100$		

Profit %

$$= \frac{\text{Net Profit}}{\text{Cost Price}} \times 100$$

loss %

$$= \frac{\text{Net loss}}{\text{Cost P.}} \times 100$$

Roll No :- 18 Date :-  
Subject :- Mathematics Time :- 35 min  
Topic :- compound interest class :- 9<sup>th</sup>

Teaching Aids  
General :- chalk, Overhead, S.B Specific :- charts

General objective :-  
\* To develop the interest of students in maths  
\* To create practical knowledge  
\* To develop the reasoning power of students

Specific objective :-  
\* Students will be able to understand the term compound interest  
\* They will find interest of compound interest  
\* They will use the concept of compound interest in their life.

Previous knowledge Testing :-  
Interest and to check the previous knowledge  
PT will ask some question.

S.No	P.T Activity	Pupil's Activity
1.	What do you mean by Principle?	No Response
2	what is Rate?	No Response
3	what is the formula of simple Interest?	$P \times R \times T$ 100

Recapitulation:-

1. what is Profit?
2. what is loss?

Homework:-

If a shopkeeper purchase tea bag in 100 ₹ and sell 130 ₹, then find % of profit



Recapitulation:-

- \* What is Principle?
- \* What is Rate?
- \* What is the formula of compound interest?

Home work :-

- \* Find CI on ₹ 3000 for three years at 10% yearly rate?

Announcement of the Topic  
 Today we will discuss about Compound interest

Students	Activity	Students	Activity
B.B	work		
	They listen		
	it		
	and		
	note in		
	their		
	Notebook		

Compound Interest =  $A - P$  where  $A = P \left(1 + \frac{R}{100}\right)^n$  where R = Rate t = Time

Content  
 We find out C.I. princple

Compound Interest  
 $A = P \left(1 + \frac{R}{100}\right)^n$

where  $M \rightarrow$  Rate  
 $P \rightarrow$  Principle  
 $n \rightarrow$  Time

This is our total Amount, A. Now to find C.I. we have to subtract Principle from this Amount

$$C.I. = A - P$$

$$= P \left(1 + \frac{R}{100}\right)^n - P$$

Example  
 Find the C.I. on ₹ 2000 for three years at the rate 10% yearly

$$A = P \left(1 + \frac{R}{100}\right)^n$$

$$C.I. = P \left[ \left(1 + \frac{R}{100}\right)^n - 1 \right]$$

OK, Students

They note in their notebook

They listen it

and note in their notebook

They note in their notebook

Date:

class: IX

Time: 35 min

Roll No: 12

Sub: Mathematics

Topic: Square Root

Teaching Aid

General: chalk, duster, B.B  
Specific: chart

General objective:

- \* To create interest of students towards Maths.
- \* To develop the reasoning power of students
- \* To create the practical knowledge of Maths

Specific objective:-

- \* Students will be able to understand and the term square root
- \* They will find out the square root of any number
- \* They will use different methods of the square root of a no. in daily life.

Previous knowledge Testing:-

- interest of students and to create the previous knowledge and to check their previous knowledge P.T will ask few questions.
1. P.T Activity Student's Activity  
What is the square root of a number? Two times multiplication of a no. gives its square
2. What is the sq. of 5? 25
3. Can you find out the factors of 64? No Response

Announcement of the Topic:-

we will study about "Square root" in details today

Presentation:-

Content	P.T Activity	Student's Activity	B.B work
Square Root	P.T describes that if $n = m^2$ then $m$ is the square-root of $n$ e.g. $5^2 = 25$	Students are listening and writing down	
Factor methods	ok, students new use methods. In this method, first of all we factorise and make the plain of some numbers. Now we take a number from every point & multiply them. It is the square root of this number	Students new use in their notebook.	
	Ex $\sqrt{64}$ $\sqrt{2 \times 2 \times 2 \times 2 \times 2 \times 2}$ $= 2 \times 2 \times 2$ $= 8$		

$$\sqrt{64} = \sqrt{2 \times 2 \times 2 \times 2 \times 2 \times 2} = 2 \times 2 \times 2 = 8$$

Recapitulation:

- (i) What is square?
- (ii) Factors of 36?
- (iii) Find square root of 49?

Home-work:

Find the square root of given numbers

- 1) 81
- 2) 625
- 3) 144
- 4) 216
- 5) 441

Roll No: 13

Sub: Mathematics

Topic: Cone

Date:

class: VII<sup>th</sup>

Time: 35 min

Teaching Aids

General: chalk, duster, B.B

Specific: charts

General objectives:

- \* To create the interest of students among maths.
- \* To develop the Reasoning power of students.
- \* To create the practical knowledge of maths.

Specific objectives:

- \* Students will be able to define cone
- \* Students will be able to recalling conical shape.
- \* Students will be able to measure the volume and area of cone.

Previous knowledge Testing:-

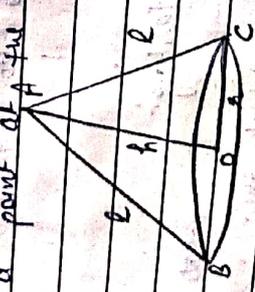
interest of students & to check their previous knowledge P.T will ask few questions

Q.No.	P.T Activity	Student's Activity
1.	P.T will show a paper to students and ask what is this?	Paper
2.	P.T will fold the paper & ask what is this shape?	Conical

3 Can you give other examples of conical shape  
 4 Do you know the formulae of area & its volume

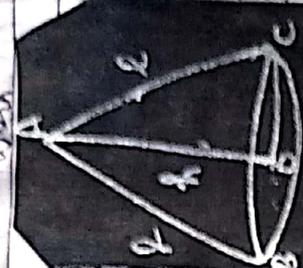
Announcement of the Topic: "Cone" today  
 we will learn about "Cone" today

Definition: PT will define a cone is a shape with a curved sides ending in a point at the top



Explanation: ABC is a cone 'O' is the centre of circular base & 'OA' is the height of the cone. AB & AC are the slant height of the cone & 'r' denotes radius of circular base

Content	PT's Activity	Students Activity	B.B work
idea of cone	Total area of the cone = Area of circular base + area of curved surface = $\pi r^2 + \pi r l$ = $\pi r (r + l)$	Students are listening and writing down in their Notebooks	
Volume of Cone	The volume of cone = $\frac{1}{3} \times \text{Area of circular base} \times \text{height}$ = $\frac{1}{3} \times \pi r^2 \times h$		
Slant height of Cone	from fig we see that AOC is a right angle triangle. According to Pythagoras theorem, $l^2 = r^2 + h^2$		
Height of Cone	from the expression of slant height, we get $h = \sqrt{l^2 - r^2}$		
Radius of Cone	from the expression of slant height, we get $r = \sqrt{l^2 - h^2}$		



$l$  = slant height  
 $h$  = height  
 $r$  = radius of circular base  
 $O$  = Centre of cone

Lesson Plan:- 12

Date: \_\_\_\_\_

Roll No:- 12

Class: VI<sup>th</sup>

Subj: Mathematics

Time: 40 min

Topic: Property of Triangle

Teaching Aids

Specific: charts

General: chalk, duster, B.B

General objectives:

- \* To develop the interest of students towards Maths
- \* To develop the reasoning power of students
- \* To create the practical knowledge of maths

Specific objective:

Students will be able to

- (i) define triangle
- (ii) To explain the property of triangle
- (iii) To justify the triangle
- (iv) To formulate the sum of triangle

Previous knowledge

PT's Activity

Testing:-

Pupil's Activity

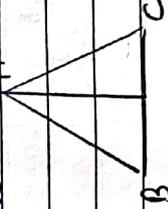
1. what is Triangle?

A triangle is a shape which has 3 sides

2. PT will ask the students

how many triangles are these?

A



Three

Recapitulation:

- (1) what is total surface area of cone?
- (2) what is the volume of a cone of radius 2cm and height 5cm?
- (3) what is the formula of slant height of a cone of radius 'r' and height 'h'?

Home work:-

- (1) Suppose a cone of radius 5 cm & volume 200 cm<sup>3</sup>. Now find its height 'h'?
- (2) A cone of radius 5 cm & slant height 9 cm, then find its surface area & volume?

3. P.T will ask the students on which properties are based triangle

Announcement of the topic: we will study about "properties of triangle"

Content	PT's Activity	Pupils' Activity	B.B Work
Property of Triangle	Property of triangles which based on sides are - Isosceles triangle Equilateral triangle Scalene Triangle	Students are listening carefully	
Isosceles Triangle	A triangle in which two sides are equal lengths	Students observe carefully	
Property	In an isosceles triangle (i) Two sides are of equal length (ii) Base angle opp to equal sides are equal		

45

Content: Equilateral Triangle

PT's Activity: A triangle in which all the sides are equal are said to be Equilateral triangle

Pupils' Activity: Students will listen carefully

Content	PT's Activity	Pupils' Activity	B.B Work
Property	In an equilateral triangle (i) All the sides are of same lengths (ii) Each angle are of same measurement		
Sum of angle	In a triangle, the sum of all angles of triangle is equal to $180^\circ$	Students listen & note down	

Recapitulation:

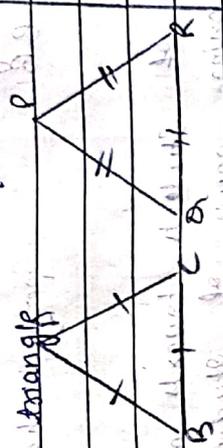
- How many types of triangle?
- What is Equilateral triangle?
- Explain Isosceles triangle?

Home work:

- Draw an Isosceles triangle of 5 cm length?
- Explain Equilateral triangle properties?

Isosceles  $\Delta$ :  
Two sides are of equal length.

Equilateral  $\Delta$ :  
All sides are equal.



Previous knowledge Testing:

P.T will show some shapes

ask the students to identify the shapes

What is the area of rectangle?



length x Breadth

Area = length x breadth

Area = l x b

What is the Perimeter of Rectangle?

Sum of all sides i.e. 2(l+b)

Announcement of the Topic:

Students today we will study about the "Area & Perimeter of Circles"

Presentation:

Content

PT's Activity

Pupil's Activity

B.B

Work

Introduction

P.T will draw a circle & explain the perimeter of the circle

In case of circle its perimeter is known as circumference

circumference of a circle bears a constant ratio with its diameter

circumference =  $\pi$  diameter

unit of circumference = metre

The amount of surface enclosed by circle is called area of circle

unit of area = m<sup>2</sup>, cm<sup>2</sup> etc.

**Circumference**  
 Constant Ratio with its diameter 2r  
 Circumference =  $\frac{2\pi r}{2r} = \pi$   
 Value of  $\pi = 3.14$

Content	PTS Activity	Pupils Activity	B.B work
Question	Find the area of circle with $r = 15 \text{ cm}$	Students are listening carefully and writing down	
soln	Area of circle = $\pi r^2$ $= \frac{22}{7} \times 15 \times 15$ $= 1065 \text{ cm}^2$		
Question	Circumference = $500 \text{ cm}$ then find radius & area of circle ie $2\pi r = 500$ $\pi = \frac{500}{2r}$	Students try their Notebook	
	$\pi = \frac{500}{2 \times 22} = 79.54 \text{ cm}$		
	Area = $\pi r^2$ $= \frac{22}{7} \times (79.54)^2$ $= 2944.815 \text{ cm}^2$		

**Recapitulation:-**

- Q. What is the formula of Area of circle?
  - Q. What is the formula of Perimeter of circle?
- Home work:**
- Q. Calculate the Radius of circle of area  $56.2 \text{ cm}$
  - Q. Explain the formula of area of circle?

Roll No.: 12 Date: \_\_\_\_\_  
 Subj: Mathematics class: VI  
 Topic: Rational Numbers Time: 40 min  
 General: chalk, duster, B.B  
 Specific: Charts

**Teaching Aid**

- General objectives:**
- \* To develop the interest of students towards mathematics
  - \* To develop the reasoning power of students
  - \* To create the practical knowledge of mathematics.

**Specific objective:**

- Students will be able to
- (i) To define Rational numbers.
  - (ii) To formulate the rational numbers.
  - (iii) To explain the addition & subtraction of rational numbers.
  - (iv) To classify the addition & subtraction of rational number.

**Previous knowledge Testing:**

S.No	PTS Activity	Pupils Activity
1.	What are natural numbers?	Numbers start from 1, 2, 3, 4, ...
2.	When we add 0 to the natural number then we get 0, 1, 2, 3, ... - what we say these numbers?	whole numbers



Lesson Plan: 15

Date: 15/11/2019  
 class: VII

Roll no: 12  
 Sub: Mathematics  
 Topic: Square & Square number

Time: 40 mins

Teaching Aids: Specific charts

General chalk, duster, B.B

General objective: Students towards maths

- \* To develop the interest of students
- \* To develop the reasoning power of students
- \* To create the practical knowledge of mathematics

Specific objective:

- (i) Students will be able to define the area of square
- (ii) To use the square number
- (iii) To naming the square number
- (iv) To identify the perfect square

Previous Knowledge Testing:

S.No.	PT's Activity	Pupil's Activity
1.	what is a square?	whose all sides are equal
2.	what is the Area of square?	$(Side)^2$
	what is the Perfect square of 181?	11

Announcement of the Topic: ok Students, today we will discuss about "Square & Square number"

Presentation:

Content	PT's Activity	Pupil's Activity	B.B
Square	Area of square = (side) <sup>2</sup> where side means length of square	Students are listening carefully and writing down in their Notebook.	Work
Square Number	A number 'n' can be expressed as n <sup>2</sup> where n is also a natural number, then n is square of number		

Area of Square = side x side  
 Side = length of square

Example	Number	Square
	1	$1 \times 1 = 1^2$
	2	$2 \times 2 = 2^2$
	3	$3 \times 3 = 3^2$
Perfect Square	The numbers 1, 4, 9, 16, ... are square number. These nos are called Perfect number	
Example	121	$11 \times 11 = 121$

### Recapitulation!

- (i) What is the and of Square
- (ii) Find the Perfect square between  
(a) 169 (b) 356 (c) 400

### Homework!

- (i) Find the Perfect square of  
(a) 30 & 40  
(b) 50 & 60

(ii) Define Square numbers & with example?