

ATTENDANCE CHART

School Aggarwain Sr. Sec. School, Tasham (Bhironi)

Class : 8th Subject : Mathematics

Name & Roll	1/2	4/2	5	6	7	8	9	10	12	13	14	15	16	18	19	20	21	22	23	24
Aarti (1)	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
Tannu (2)	P	Ab	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
Monika (3)	P	P	P	P	P	P	P	P	P	P	P	Ab	P	P	P	P	P	P	Ab	P
Simran (4)	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
Diksha (5)	P	P	Ab	P	P	P	P	P	Ab	P	P	P	P	P	P	P	P	P	P	P
Shikha (6)	P	P	P	P	P	P	P	P	P	P	P	P	Ab	P	P	P	P	P	P	P
Monika (7)	P	P	P	P	P	P	P	P	P	P	P	P	P	P	Ab	P	Ab	P	P	P
Preeti (8)	P	P	Ab	P	P	P	P	P	P	P	P	P	P	P	P	Ab	P	Ab	P	P
Hitesh (9)	P	P	P	P	P	P	Ab	P	P	P	P	P	P	P	P	P	P	P	P	P
Piyush (10)	P	Ab	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
Uttam (11)	P	P	P	P	P	P	P	P	P	Ab	P	P	P	P	P	P	P	P	P	P
Sahil (12)	P	P	P	P	P	Ab	P	P	P	P	P	P	P	P	P	P	P	P	P	P
Sunya (13)	P	P	P	P	P	P	P	P	Ab	P	P	P	P	P	P	P	P	P	P	P
Jagdish (14)	P	P	P	P	P	P	P	P	Ab	P	P	P	P	P	P	P	P	P	P	P
Vaish (15)	P	P	P	Ab	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
Naveen (16)	P	Ab	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	Ab	P	P
Urvash (17)	P	P	P	P	P	P	P	P	P	P	Ab	P	P	P	P	P	P	P	P	P
Rajat (18)	P	P	P	P	P	P	Ab	P	P	P	P	P	P	P	P	P	P	P	Ab	P
Shubham (19)	P	P	Ab	P	P	P	P	P	P	P	Ab	P	P	P	P	P	P	P	P	P
Shikha (20)	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P

Pals

Name of the School Agg. So. Sec. School, Tashem (Bhiwani)

Class : 8th

TIME-TABLE

DAY	I	II	III	IV	V	VI	VII	VIII
MON	Hindi	Eng. Lth.	Maths	Science	Computer	2d.	Games	Skt.
TUE	"	"	"	"	"	"	"	"
WED	"	"	"	"	"	"	Lib.	"
THU	"	"	"	"	"	"	"	"
FRI	"	"	"	"	"	"	Games	"
SAT	"	"	"	"	"	"	"	"

Signature

INDEX

S.No.	Date	Lesson No.	Topic	Pages	Sig. of the Supervisor	
<u>1) MICRO TEACHING LESSONS</u>						
1.	07/10	1.	i) Area of right angled triangle			
2.	10/10	2.	ii) Trigonometry.			
3.	11/10	3.	iii) Types of Quadrilateral			
4.	14/10	4.	iv) Surface area of cuboid.			
5.	18/10	5.	v) Circles.			
<u>2) MEGA LESSONS / →</u>						
1.	10/11	1.	i) Quadratic Equations			
2.	13/11	2.	ii) Identification of Quadratic Equation.			
3.	15/11	3.	iii) Arithmetic Progressions.			
4.	17/11	4.	iv) Co-ordinate Geometry			
5.	20/11	5.	v) Trigonometric ratios of some specific angles.			
<u>3) Discussion Lesson / →</u>						
1.	24/04/12	1.	• Perimeter and Area.			
<u>4) School-Teaching Practice Lessons</u>						
1.	01/12	1.	i) Surface Area.			
2.	02/12	2.	ii) Angles.			
3.	04/12	3.	iii) Types of triangles.			



**MICRO TEACHING
LESSONS**

LESSON No. 1.....

Date..... 07/10/17.....

Duration of the period.....

Pupil Teacher's Name.....

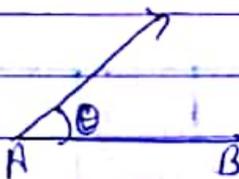
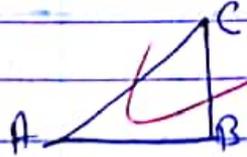
Pupil Teacher's Roll No 223.....

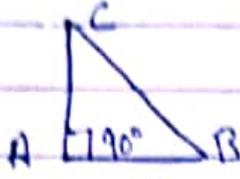
Class..... 6th.....

Average Age of the pupils.....

Subject..... Maths.....

Topic Area of right angled triangle.

Pupil-Teacher's activity	Student's activity	Components.
<p>Making a simple line on black-board, Pupil-teacher asks, "What is this?"</p>	<p>simple line</p>	<p>Use of Pre-knowledge.</p>
<p></p> <p>When two simple lines meet at a point. What is this fig. known as?</p>	<p>angle.</p>	<p>Verbal behaviour.</p>
<p></p> <p>What is made? Good! (Showing a cardboard)</p>	<p>Triangle</p>	<p>Use of appropriate device.</p>
<p></p> <p>What do we call it? Very good!</p>		
<p>How many types of As</p>		

<p>P.T. activity</p> <p>are there on basis of sides?</p> <p>What type of $\triangle ABC$ is?</p>  <p>Very good!</p> <p>In $\triangle ABC$, what do we call sides BC, AB & AC?</p> <p>What is the area of $\triangle ABC$?</p>	<p>Student's act.</p> <p>Three types.</p> <p>Right angled triangle.</p> <p>AB = Base</p> <p>AC = Perpendicular</p> <p>CB = Hypotenuse.</p> <p>No response.</p>	<p>Components.</p> <p>Verbal behaviour.</p> <p>Verbal behaviour.</p>
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★ Observation cum Rating Scale →

COMPONENTS	Rating				
	(W)	(A)	(G)	(VG)	(EX)
1. Use of pre-knowledge	0	1	2	3	4
2. Use of appropriate device	0	1	2	3	4
3. Maintenance of continuity	0	1	2	3	4
Verbal or non-verbal behaviour	0	1	2	3	4

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LESSON No. 2.....

Date..... 10/10/12

Duration of the period.....

Pupil Teacher's Name

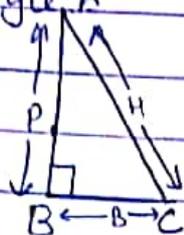
Pupil Teacher's Roll No.223.....

Class..... 7th

Average Age of the pupils.....

Subject..... Maths

Topic..... Trigonometry

Pupil-teacher's activity	Student's activity	Components
<p>P.T. makes a triangle A</p> 		
<p>→ What type of Δ is this?</p>	<p>Right angled Δ.</p>	<p>Use of pre-knowledge.</p>
<p>→ Why do we call it a right angled triangle? Very good!</p>	<p>Because, its one ang. is of 90°</p>	<p>Basic Question.</p>
<p>→ What is the value of $\sin \theta$.</p>	<p>P/H</p>	<p>Verbal behaviour.</p>
<p>→ What does $\angle ABC$ represent?</p>	<p>$\angle ACB = \theta$</p>	
<p>→ What is the value of $\cos \theta$, $\tan \theta$?</p>	<p>$\frac{B}{H}$, $\frac{P}{B}$</p>	<p>Change In voice.</p>
<p>→ How can we find the value of $\operatorname{cosec} \theta$ and $\sec \theta$?</p>	<p>$\frac{H}{P}$, $\frac{H}{B}$</p>	
<p>→ What is the value of $\cot \theta$? Good!</p>	<p>$\frac{B}{P}$</p>	<p>Verbal behaviour.</p>

Observation cum Rating Scale:-

Components	Rating				
	(w)	(A)	(h)	(vh)	(EX)
• Relevant Questions	0	1	2	3	4
• Consciousness	0	1	2	3	4
• Precise and concis questions	0	1	2	3	4
• Clarity	0	1	2	3	4
• Proper voice of teacher	0	1	2	3	4

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LESSON No. 3:.....

Date..... 12/10/19.....

Duration of the period.....

Pupil Teacher's Name

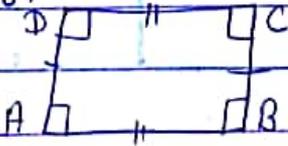
Pupil Teacher's Roll No 223.....

Class..... 7th.....

Average Age of the pupils.....

Subject..... Maths.....

Topic: Types of quadrilaterals.....

Pupil- teacher's activity	Student's activity	Components
Pupil- teacher defines the quadrilateral.	st. listen carefully.	.
St., tell me some types of quadrilateral. Yes, very good!	square, rectangle, llgm, etc.	Verbal behaviour
What do you know about rectangle?	No response.	.
The p.t. tells that a rectangle is a quadrilateral in which pairs of opposite sides are equal and each angle is of 90°.	st. write and draw the fig. in their note-books.	.
		
→ What do know about a llgm? (Pausing) Good!	Whose opp. sides are paralld and eq. and opp any. are also equal.	Pause.
→ What is the difference b/w a rectangle and a llgm. A rec. can be llgm but llgm not.	No response.	
	st. listen carefully.	Non-verb. beh.

Observation cum Rating Scale:-

COMPONENTS	RATING				
	(W)	(A)	(G)	(Vh)	(Ex)
• Movements	0	1	2	3	4
• Change in voice	0	1	2	3	4
• Gesture	0	1	2	3	4
• Focussing	0	1	2	3	4
• Change in interaction style	0	1	2	3	4
• Pause	0	1	2	3	4
• Physical involvement of students	0	1	2	3	4

Table

LESSON No. 4.

Date..... 14/10/17.....

Duration of the period.....

Pupil Teacher's Name

Pupil Teacher's Roll No. 223

Class..... 8th

Average Age of the pupils.....

Subject..... Maths

Topic Surface area of cuboid.

Pupil-teacher's activity

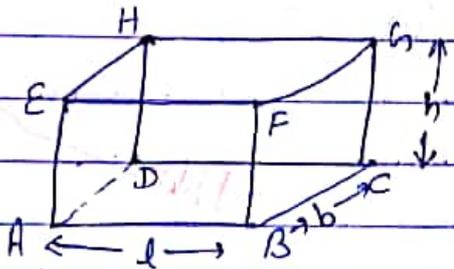
student's activity

Components

Pupil-teacher defining fig. having three dimension (length breadth and height) is known as a solid.

st. listen carefully

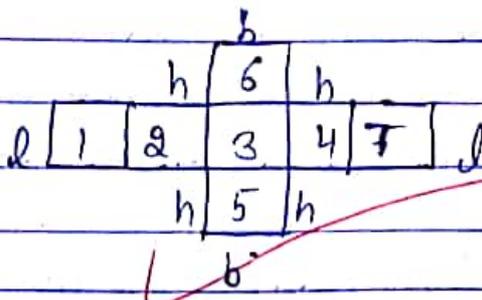
Cuboid showing cardboard having its ~~rectangular~~ faces like chalk-board.



students understanding alternatively and write down in their notebooks.

Use of appropriate device.

$AB = l, BC = b, CG = h.$



st. will understand and write in their notebooks.

Verbal behaviour.

Area of rec. 1, 3, 5 = $l \times b.$

Area of rec. 2, 4 = $l \times b$

Area of rec. 5, 6 = $b \times h$

Surface area of cuboid =

Sum of area of all rec = $2(lb + bh + hl)$

Observation Cum Rating Scale :-

COMPONENTS	RATING				
	(W)	(A)	(h)	(Vh)	(Ex)
• Formulating relevant example	0	1	2	3	4
• Formulating simple example	0	1	2	3	4
• Using appropriate media example	0	1	2	3	4
• Proper voice of the teacher.	0	1	2	3	4

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LESSON No. ...5.....

Date..... 18/10/17.....

Duration of the period.....

Pupil Teacher's Name

Pupil Teacher's Roll No. 223

Class..... 8th

Average Age of the pupils.....

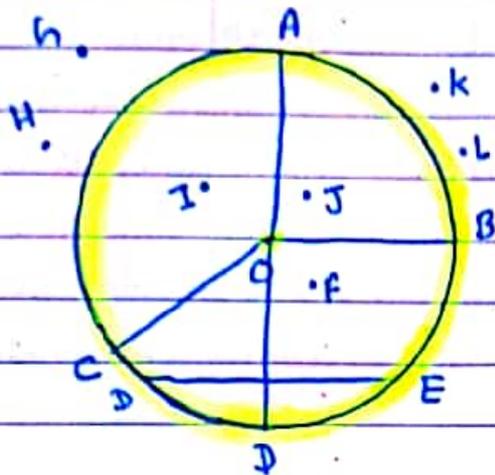
Subject..... maths

Topic..... Circle.....

Pupil-teacher's activity

Student's activity

Component.



St. looking at the fig.

Students, what is this?
Good!

Circle.

Verbal behaviour.

→ What is its centre?
Very good!

'O'.

→ What is the radius?
(correct)

\overline{OB} , \overline{OC} , \overline{OA} and many more.

Verbal behaviour.

→ What is the diameter?
Good!

\overline{AB} and many more.

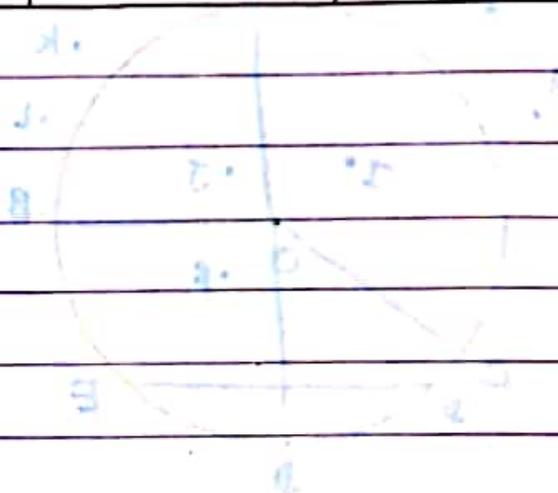
→ What is the chord?
Correct answer.

\overline{DE} and so on....

What are exterior points name them.

G, H, K, L,

Pupil-teacher's activity Write interior points names. Ok, very good!	St. activity I, J, F.	Components. Verbal behaviour.
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LESSON No.

Date.....

Duration of the period.....

Pupil Teacher's Name

Pupil Teacher's Roll No.

Class.....

Average Age of the pupils.....

Subject.....

Topic.....

Observation cum rating Scale :-

COMPONENTS	RATING				
	(W)	(A)	(G)	(VH)	(EX)
• Use of praise words	0	1	2	3	4
• Use of statement accepting pupil feeling	0	1	2	3	4
• Repeating pupil response	0	1	2	3	4
• Writing pupil response on board.	0	1	2	3	4
• Use of action	0	1	2	3	4

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**SIMULATED
TEACHING LESSONS**

LESSON No. 1:.....

Date..... 10/11/17.....

Duration of the period.....

Pupil Teacher's Name

Pupil Teacher's Roll No. 223.....

Class..... 6th.....

Average Age of the pupils.....

Subject... Mathematics.....

Topic... Quadratic Equation.....

★ Teaching Aids →

Chalk, duster, pointer, writing board, marker, chart etc.

★ Instructional objectives →

• Knowledge obj. →

St. will be able to define quadratic eq. and roots of a quad. eq.

• Understanding obj. →

St will be able to understand the sum of roots and multiplication of roots of a quadratic eq. are compared or calculated.

• Application obj. →

St. will be able to use this knowledge of quad. eq. to their own.

★ Pre-knowledge testing →

In order to check pre-knowledge the pupil-teacher will ask some questions →

i) Define polynomial.

ii) What are constants and variables?

iii) What is a quadratic equation?

★ Announcement of the topic →

Dear students, today we are going to learn about "Quadratic equation."

★ PRESENTATION₃

Subject matter	Pupil-teacher's activity	Student's activity	Black-Board activity
<u>Quadratic Equation</u>	The equation of the form $ax^2+bx+c=0$ is a standard form of a quadratic eq. here $a \neq 0$ a, b, c are real numbers.	St. will listen carefully.	<u>Quadratic Eq.</u> The eq. of the form $ax^2+bx+c=0$ is a quad. eq.
<u>Roots of a quadratic Equation</u>	A quadratic equation has two roots. For ex., If we have, $ax^2+bx+c=0$ then, $x = \frac{-b \pm \sqrt{b^2-4ac}}{2a}$ we consider, $\alpha = \frac{-b + \sqrt{b^2-4ac}}{2a}$ $\beta = \frac{-b - \sqrt{b^2-4ac}}{2a}$	students listen carefully and write down in their note-books	<u>Its roots are :-</u> $x = \frac{-b \pm \sqrt{b^2-4ac}}{2a}$ <u>Eq.</u> If we have an eq. x^2+4x+6 then, $x = \frac{-b \pm \sqrt{b^2-4ac}}{2a}$
<u>sum of roots</u>	$\alpha + \beta = \frac{-b}{a}$	Students understand carefully.	$= \frac{-4 \pm \sqrt{16-4(6)}}{2}$ $= \frac{-4 \pm \sqrt{16-24}}{2}$
<u>Product of roots</u>	$\alpha\beta = \frac{c}{a}$		$= \frac{-4 \pm \sqrt{8i}}{2}$

LESSON No.

Date.....

Duration of the period.....

Pupil Teacher's Name.....

Pupil Teacher's Roll No.....

Class.....

Average Age of the pupils.....

Subject.....

Topic.....

Subject matter	Pupil teacher's activity	Student's activity	Black-Board Activity
Discriminant	It describes the nature of the roots without calculating complete values. $D = b^2 - 4ac$	St. listen carefully.	
Let, $D = 0$	If $D = 0$, then the roots will be equal and real.		
If D is positive	If $D > 0$, then the roots will be diff. and real.	St. will listen carefully.	
If D is negative.	If $D < 0$, then roots will be equal diff. and imaginary.		
	Ex: $x^2 + 4x + 4 = 0$ Then $D = (16) - 4(4)(1)$ $= 16 - 16$ $= 0$	St. gives response.	
Then, what types of roots will we have?			
If D is a complete square.	If D is a complete square, then roots of eq. will be rational numbers.	St. will note-down in their notebook.	<p>If we have an equation as:- $x^2 + 4x + 4$ Then, $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ $= \frac{-4 \pm \sqrt{16 - 4(4)(1)}}{2(1)}$ $= \frac{-4 \pm \sqrt{16 - 16}}{2}$ $= \frac{-4 \pm \sqrt{0}}{2}$</p>

★ Recapitulation

In order to get feedback, the pupil teacher recapitulates as:-
Students, today we have studied about

→ Quadratic equation

→ Roots of quad. eq. $ax^2 + bx + c = 0$
are $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

→ Δ is discriminant $\rightarrow b^2 - 4ac$

★ Home work:-

Que. 1) Find the nature of the equation:-
 $x^2 - 4x + 2 = 0$

Que. 2. Find discrimination of the equation:-
 $2x^2 + 4x + 6$

Pahar
10/11/17

LESSON No. 2:.....

Date..... 13/11/19.....

Duration of the period.....

Pupil Teacher's Name.....

Pupil Teacher's Roll No. 223.....

Class..... 7th.....

Average Age of the pupils.....

Subject..... Mathematics.....

Topic..... Identification of Quadratic Eq.

★ Teaching Aids →

Chalk, duster, pointer, writing board, marker, chart etc.

★ Instructional Objectives →

• Knowledge Obj. →

- Students will be able to define various identities.
- St. will be able to know about properties related to quad. Eq.

★ Understanding Objectives →

- St. will be able to understand difference b/w various identities.
- St. will be able to recall the identities of quad. eq. and their factors.

★ Application Objectives →

- St. will be able to apply various identities of quad. Eq.
- St. will be able to use these identities in their daily life.

★ Pre-knowledge testing →

In order to check the previous knowledge, the pupil-teacher will ask the following questions →

- i) What do you know about quadratic equation.
- ii) What are the roots of quadratic equation.
- iii) How can we find out the roots of a quadratic equation.
- iv) Give some examples of quadratic equation.

★ Announcement of the topic → Dear St., today we will study about "Identification of Quadratic Equation".

* PRESENTATION *

Subject Matter	Pupil-Teacher's Activity	Student's Activity	Writing - Board Activity
$(a+b)^2 = a^2 + b^2 + 2ab$	Proof, $(a+b)^2 = (a+b)(a+b)$ $\Rightarrow axa + axb + bxa + bxb$ $\Rightarrow a^2 + ab + ab + b^2$ $\Rightarrow a^2 + 2ab + b^2$	St. will understand and	$(a+b)^2 = a^2 + b^2 + 2ab$
$(a-b)^2 = a^2 + b^2 - 2ab$	Proof, $(a-b)^2 = (a-b)(a-b)$ $\Rightarrow axa + (-b)(a) + a(-b) + (-b)(-b)$ $\Rightarrow a^2 - ab - ab + b^2$ $\Rightarrow a^2 - 2ab + b^2$	write-down in their note-books.	$\rightarrow (a-b)^2 = a^2 + b^2 - 2ab$
Example,	Solution of $(3x+4y)^2 =$ $(3x)^2 + (4y)^2 + 2 \times 3x \times 4y$ $9x^2 + 16y^2 + 24xy$	St. will	
$(a+b)^2 + (a-b)^2 = 2(a^2 + b^2)$	Proof, Using both pre-activities $(a+b)^2 + (a-b)^2 =$ $(a^2 + b^2 + 2ab) + (a^2 + b^2 - 2ab)$ $\Rightarrow 2a^2 + 2b^2 +$ $\Rightarrow 2(a^2 + b^2)$	St. will look carefully and understand	Eg. \rightarrow Solve $(3x-4y)^2$ using identity $(a-b)^2 = a^2 + b^2 - 2ab$ we have, $(3x-4y)^2 = (3x)^2 + (4y)^2 - 2(3x)(4y)$ $= 9x^2 + 16y^2 - 24xy$
$(a+b)^2 - (a-b)^2 = 4ab$	Proof, Using both pre-activities $(a+b)^2 - (a-b)^2 =$ $(a^2 + b^2 + 2ab) - (a^2 + b^2 - 2ab)$ $a^2 + b^2 + 2ab - a^2 - b^2 + 2ab$ $\Rightarrow 2ab + 2ab$ $\Rightarrow 4ab$	St. use pre-act. and solve many examples given to them.	

LESSON No.

Date.....

Duration of the period.....

Pupil Teacher's Name.....

Pupil Teacher's Roll No.

Class.....

Average Age of the pupils.....

Subject.....

Topic.....

Subject matter	Pupil-teacher's activity	Student's activity	Writing-Board Activity
$a^2 - b^2 = (a+b)(a-b)$	<p>Proof,</p> <p>By using pre-activity,</p> $(a+b)(a-b)$ $= a \times a + a(-b) + b \times a + b(-b)$ $= a^2 - ab + ab - b^2$ $= a^2 - b^2$	<p>Student look carefully and note-</p>	<p>$(a^2 - b^2) = (a+b)(a-b)$</p> <p>Proof:</p> $(a+b)(a-b)$ $= a \times a + a(-b) + b \times a + b(-b)$ $= a^2 - ab + ab - b^2$ $= a^2 - b^2$
<p>Some other Identities</p>	<p>$x^2 - (a+b)x + ab$</p> <p>$\Rightarrow (x-a)(x-b)$</p> <ul style="list-style-type: none"> $(a+b+c)^2$ $= a^2 + b^2 + c^2 + 2(ab+bc+ac)$ $(a+b)^2 - 2ab$ $= a^2 + b^2$ $x^2 + (a+b)x + ab$ $= (x+a)(x+b)$ $a^2 - b^2$ $= (a-b)^2 + 2ab$ $(a^2 + b^2 + c^2) - ab - bc - ac$ $= \frac{1}{2} [(a-b)^2 + (b-c)^2 + (c-a)^2]$ 	<p>note- down in their note-books.</p> <p>Students understand carefully</p>	

★ Recapitulation

In order to get feedback, the pupil-teacher will recapitulate as -

Dear students today we have learnt various algebraic identities :-

- $(a+b)^2 = a^2 + b^2 + 2ab$
- $(a-b)^2 = a^2 + b^2 - 2ab$
- $a^2 - b^2 = (a+b)(a-b)$
- $(a+b)^2 + (a-b)^2 = 2(a^2 + b^2)$
- $(a+b)^2 - (a-b)^2 = 4ab$
-

★ Home Work,

i) solve $\rightarrow (2x+3y)^2$
 $\rightarrow (4x-7y)^2$
 $\rightarrow 4x^2 - 20y^2$

ii) solve :-

$$(4p-2q)^2 - (4p-2q)^2$$

~~Pabu~~
13/11/17

LESSON No. 7:.....

Date..... 15/11/19.....

Duration of the period.....

Pupil Teacher's Name.....

Pupil Teacher's Roll No. 223.....

Class.....

Average Age of the pupils.....

Subject..... **Mathematics**.....

Topic..... **Arithmetic Progressions**

★ Teaching Aids →

Chalk, duster, writing board, pointer, marker, chart etc.

★ Instructional Objectives →

• Knowledge Obj. →

→ St. will be able to know about arithmetic progression.

• Understanding Obj. →

→ St. will be able to understand how to calculate the sum of an arithmetic progression.

• Application Obj. →

→ St. will be able to use this knowledge of AP in their day to day life.

★ Pre-knowledge testing →

In order to check pre-knowledge the pupil-teacher will ask following questions.

- i) What are natural numbers?
- ii) What do you know about even no.?
- iii) What do you know about odd numbers?

★ Announcement of the topic →

Dear students, today we will study about "Arithmetic Progressions".

PRESENTATION →

Subject matter	Pupil-teacher's activity	Student's activity	Writing-Board activity
<u>Arithmetic Progression</u>	It is a list of numbers in which each term is obtained by adding a fixed number to the preceding term, except the first term. eg. → 100, 70, 40, 10 ---	student listen Carefully	
<u>Term</u>	Each number in the list is called a 'Term'.	student look at	An AP is a list of numbers in which each term is obtained by adding a fixed number to the preceding term, except the first term.
<u>Common difference</u>	The fixed number is called common difference of an A.P. It is the difference between two consecutive terms and must be same	the board Carefully and try to understand	
	$a_2 - a_1 = a_3 - a_2 = a_4 - a_3$ $\Rightarrow a_n - a_{n-1} = d$ $d = 70 - 100$ $= -30.$		
<u>General term to find an AP</u>	The first term is a and the next terms are calculated by adding ' d '. General term is - $a, a+d, a+2d, \dots$ eg. → If we have $a=2, d=3$ Then what will be the AP.	It gives answer → $2, 2+3,$ $2+3 \times 2,$ $2+3 \times 3$ $= 2, 5, 8, 11$ --- ---	The fixed no. or difference between two consecutive term of an AP is the common difference.

LESSON No.

Date.....

Duration of the period.....

Pupil Teacher's Name.....

Pupil Teacher's Roll No.....

Class.....

Average Age of the pupils.....

Subject.....

Topic.....

Subject matter	Pupil-teacher's activity	Student's activity	Writing-Board activity
<u>nth term of an AP</u>	<p>nth term of an AP can be calculated as -</p> $a_n = a + (n-1)d$ <p>⇒ If we do find 10th term of an AP say, 2, 7, 12 ... - then</p> $a + (10-1)d$ $2 + 9(5)$ $2 + 45 \Rightarrow a_{10} = 47$ 	<p>Student will understand carefully</p>	<div style="border: 2px solid orange; padding: 10px; text-align: center;"> <p>The nth term of an AP is calculated as :-</p> $a_n = a + (n-1)d$ </div>
<u>Sum of first n terms of an AP</u>	<p>The 10th term is → 47.</p> <p>→ sum of first n-terms of an A.P. is given by →</p> $S_n = \frac{n}{2} [2a + (n-1)d]$ $S_n = \frac{n}{2} (a + a_n)$	<p>It will note down in their note-books</p>	
<u>Example</u>	<p>Find the sum of 22 terms of an AP, then we can calculate as →</p> $S = \frac{22}{2} [2 \times 8 + (22-1)(-5)]$ <p style="text-align: center;">[a = 8, D = -5]</p> $= 11 (16 - 105)$ $= -979$	<p>Students will think about the question</p>	

★ Recapitulation

Dear students, today we have studied about what an AP is, what are the terms and common diff. of an AP.

We also learnt that how to calculate n th term of common-difference in an AP.

★ Home-work

i) Find 12th term of the AP →
4, 7, 10, 13 - - - - ?

ii) Find the sum of first 15 terms of an AP →

33, 35, 37 - - - - -

Pahar

Date..... 17/11/17.....

LESSON No. 4.....

Pupil Teacher's Name.....

Duration of the period.....

Class.....

Pupil Teacher's Roll No. 223.....

Subject... Mathematics.....

Average Age of the pupils.....

Topic... Trigonometric Ratios of some specific angles.

★ Teaching Aids

Chalk, dust, writing-board, pointer, marker, chart etc.

★ Instructional Objectives →

→ Knowledge Obj. →

St will be able to define various trigonometric ratios at some specific angles in a rt. angled triangle.

→ Understanding Obj. →

St will be able to understand how to calculate trigonometric ratios at angles.

→ Application Obj. →

St will be able to use this knowledge in their day to day life.

★ Pre-knowledge testing →

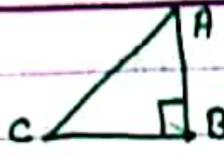
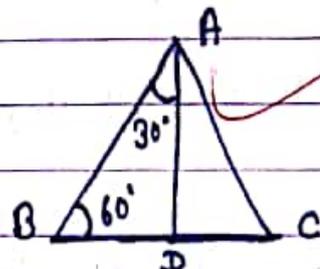
In order to check pre knowledge the pupil teacher will ask following questions →

1) If we have rt. ang. $\triangle ABC$, then find all the trigonometric ratios.

2) What are the values of the trig. ratios at diff. level.

★ Announcement of the topic → Dear st, today we will study about "Trigonometric ratios at some specific angle."

★ PRESENTATION

Subject Matter	Pupil-teacher's activity	Student's activity	Writing-Board activity
Trigonometric ratios of 45°	 <p>In rt. angled $\triangle ABC$ on angle is of 45°, then other is also of 45° $\angle A = \angle C = 45^\circ$ Let, $BC = AB = a$ $AC^2 = BA^2 + BC^2$ $AC = \sqrt{a^2 + a^2}$ $AC = \sqrt{2a^2} \Rightarrow a = a\sqrt{2}$ $\therefore \sin 45^\circ = BC/AC$ $= a/a\sqrt{2} = 1/\sqrt{2}$ $\cos 45^\circ = AB/AC$ $= 1/\sqrt{2}$ $\tan 45^\circ = \frac{BC}{AB} = \frac{a}{a} = 1$ $\operatorname{cosec} 45^\circ = \sqrt{2}$ $\sec 45^\circ = \sqrt{2}$ $\cot 45^\circ = 1$</p>	<p>Students calculate</p> <p>$\sec 30^\circ = \frac{2}{\sqrt{3}}$</p> <p>$\cot 30^\circ = \sqrt{3}$</p> <p>$\cos 60^\circ = \frac{1}{2}$</p> <p>$\tan 60^\circ = \frac{2}{\sqrt{3}}$</p> <p>$\operatorname{cosec} 60^\circ = \frac{2}{\sqrt{3}}$</p> <p>$\sec 60^\circ = 2$</p> <p>$\cot 60^\circ = \frac{1}{\sqrt{3}}$</p>	<p>$\cos 45^\circ = 1/\sqrt{2}$</p> <p>$\tan 45^\circ = 1$</p> <p>$\operatorname{cosec} 45^\circ = \sqrt{2}$</p> <p>$\sec 45^\circ = \sqrt{2}$</p> <p>$\cot 45^\circ = 1$</p>
Trigonometric ratios of 30° and 60°	 <p>Consider an equilateral $\triangle ABC$. $\therefore \angle A = \angle B = \angle C = 60^\circ$ Draw $AD \perp BC$</p>	<p>Students will listen carefully.</p>	

LESSON No.

Date.....

Duration of the period.....

Pupil-Teacher's Name.....

Pupil-Teacher's Roll No.....

Class.....

Average Age of the pupils.....

Subject

Topic

Subject
matter

Pupil-teacher's activity

Student's
activity

Writing-Board
activity

$$\triangle ABD \cong \triangle ACD$$

$$\angle BAD = 30^\circ, \angle ABD = 60^\circ,$$

$$\text{Let, } AB = 2a, \quad BD = \frac{1}{2} BC = a$$

$$AD^2 = AB^2 - BD^2 \\ = 3a^2$$

$$AD = a\sqrt{3}$$

$$\sin 30^\circ = \frac{BD}{AB} = \frac{a}{2a} = \frac{1}{2}$$

$$\cos 30^\circ = \frac{AD}{AB} = \frac{a\sqrt{3}}{2a} = \frac{\sqrt{3}}{2}$$

$$\tan 30^\circ = \frac{BD}{AD} = \frac{a}{a\sqrt{3}} = \frac{1}{\sqrt{3}}$$

$$\operatorname{cosec} 30^\circ = 2$$

$$\sin 60^\circ = \frac{AD}{AB} = \frac{a\sqrt{3}}{2a} = \frac{\sqrt{3}}{2}$$

$$\sin 0^\circ = 0$$

$$\cos 0^\circ = 1$$

$$\tan 0^\circ = \frac{\sin 0^\circ}{\cos 0^\circ} = \frac{0}{1} = 0$$

$$\operatorname{cosec} 0^\circ = \frac{1}{0} = \infty$$

$$\sec 0^\circ = \frac{1}{1} = 1$$

$$\cos 0^\circ = \frac{1}{1} = 1$$

$$\sin 90^\circ = 1$$

$$\cos 90^\circ = 0, \quad \tan 90^\circ = \frac{1}{0} = \infty$$

$$\operatorname{cosec} 90^\circ = 1, \quad \sec 90^\circ = \infty, \quad \cot 90^\circ = 0$$

Trigonometric
ratios of
 0° and 90°

students
understand
very
well
as they
know
about
the
trigono-
metric
ratios.

$\sin 60^\circ =$
 $\frac{AD}{AB} = \frac{a\sqrt{3}}{2a} = \frac{\sqrt{3}}{2}$

Similarly,
 $\cos 30^\circ, \sec 30^\circ,$
 $\cot 30^\circ, \operatorname{cosec} 30^\circ,$
 $\cos 60^\circ, \sec 60^\circ,$
 $\cot 60^\circ$ can be
calculated

Students
will note-
down in
their note-
books.

★ Recapitulation,

In order to get feedback the pupil teacher recapitulated

Dear Sir, today we have studied about:-

- How can we find trigonometric ratios of angles at 0° , 30° , 45° , 60° , 90° .

★ Home-work,

- Solve →

$$\frac{\cos^2 45^\circ + \sin^2 30^\circ}{\cot^2 60^\circ + \tan^2 30^\circ}$$

$$\cot^2 60^\circ + \tan^2 30^\circ$$

- What are the value of :-

$$\sin 30^\circ, \cos 90^\circ, \tan 45^\circ, \sec 60^\circ.$$

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LESSON No. 5

Date 20/11/17

Duration of the period

Pupil Teacher's Name

Pupil Teacher's Roll No. 223

Class

Average Age of the pupils

Subject Mathematics

Topic Co-ordinate Geometry

★ Teaching Aids

Chalk, duster, pointer, writing-board, marker, chart etc.

★ Instructional Objectives

• Knowledge Obj. →

St. will be able to know about distance formula; mid-pt formula

• Understanding Obj. →

St. will be able to understand how we can find the distance b/w two given points.

• Application Obj. →

St. will be able to use this knowledge of co-ordinate geometry in their day to day life.

★ Pre-knowledge testing

In order to check pre-knowledge, the pupil-teacher will ask following questions →

- i) What are the uses of co-ordinate axis.
- ii) What is abscissa?
- iii) What is ordinate?
- iv) How to calculate area of distance when given various points.

★ Announcement of the topic →

After getting response, pupil-teacher will announce topic as -
Dear students, today we are going to learn about,
"Co-ordinate Geometry."

PRESENTATION

Subject matter

Pupil-teacher's activity

Student's activity

Writing-Board activity

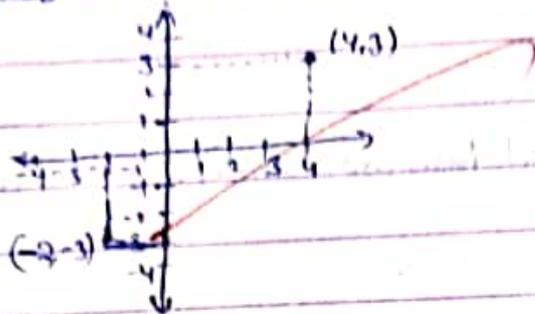
Distance Formula

If we have given two pts P and Q such that P(x₁, y₁) and Q(x₂, y₂) then distance b/w P and Q is

$$PQ = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

St. understand carefully

Teacher asks to student



$$\begin{aligned} PQ &= \sqrt{(4-(-2))^2 + (3-(-1))^2} \\ &= \sqrt{36 + 16} \\ &= \sqrt{52} \\ &= 2\sqrt{13} \end{aligned}$$

Then, what is the value of PQ?

→ It is used to find out the co-ordinate of the point which divide the line seg. joining by two points in same ratio.

If P(x, y) is a pt. which divides line segment made by A(x₁, y₁) and B(x₂, y₂) in ratio m₁:m₂

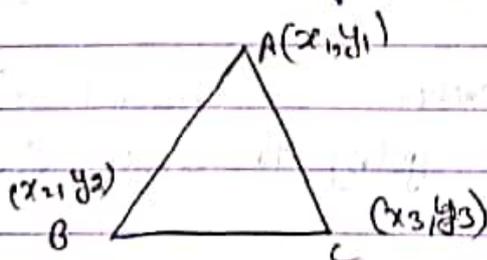
then, the co-ord. →

$$\left[\frac{m_1 x_2 + m_2 x_1}{m_1 + m_2}, \frac{m_1 y_2 + m_2 y_1}{m_1 + m_2} \right]$$

It is called sec. formula.

Students understand and write down in their note-books.

Area of Δ by three given points.



Distance Formula
 If we have two points (x₁, y₁) and (x₂, y₂) then, the distance b/w P, Q is given by:-
 $PQ = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$

LESSON No.

Date.....

Duration of the period.....

Pupil Teacher's Name.....

Pupil Teacher's Roll No.....

Class.....

Average Age of the pupils.....

Subject.....

Topic.....

Subject matter	Pupil-teacher's activity	Student's activity	Writing-Board activity
<p><u>Example</u></p>	<p>Area of $\triangle ABC = \frac{1}{2} [x_1(y_2 - y_3) + x_2(y_3 - y_1) + x_3(y_1 - y_2)]$</p> <p>If the vertices of a \triangle are $(1, -1)$, $(-4, 6)$ and $(-3, -5)$ then what will be the area of $\triangle ABC$?</p>	<p>Students look carefully and try to understand.</p>	<p>Area of a triangle connected by vertices</p>
	<p>Area of $\triangle ABC = \frac{1}{2} [1(6+5) + (-4)(-5+1) + (-3)(-1-6)]$</p> <p>$\Rightarrow \frac{1}{2} [19 + 16 + 21]$</p> <p>$\Rightarrow \frac{1}{2} \times 48 = 24$ square units</p> <p>Similarly, we can find out area of any \triangle whose three vertices are given.</p>	<p>Students try to solve and understand the problem given.</p>	<p>Eg, If vert. are $P(-1, 1)$, $Q(-3, -5)$, $R(-4, 6)$</p> <p>Then area of $\triangle PQR = \frac{1}{2} [1(6+5) + (-4)(-5-1) + (-3)(1-6)]$</p> <p>$\Rightarrow \frac{1}{2} [11 + 16 + 21]$</p> <p>$\Rightarrow \frac{1}{2} \times 48$</p> <p>$\Rightarrow 24$ sq. unit</p> <p>24 sq. unit is the ar. of $\triangle PQR$.</p>

★ Recapitulation,

→ Dear students, today we have learnt about distance formula and section formula and area of a Δ whose vertices are given.

★ Home-work,

- Find out the distance b/w points $A(3, -2)$ and $B(6, 8)$
- Find the points which divide line joining by points $A(3, 4)$, $B(1, 2)$ in $2:3$.

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**DISCUSSION
LESSON**

Date..... 24/04/18

LESSON No.

Pupil Teacher's Name

Duration of the period.....

Class..... 8+h

Pupil Teacher's Roll No.

Subject..... Maths

Average Age of the pupils.....

Topic..... Perimeter and Area.

★ Teaching aids,

Chalk, writing-board, duster, chalk, pointer, marker etc.

★ Instructional Objectives,

• Knowledge Obj.→

St. will be able to get knowledge about perimeter and area of any shape.

• Understanding Obj.→

St. will be able to understand the necessity of Perimeter and areas.

• Application Obj.→

St. will be able to calculate perimeter and areas in their daily life.

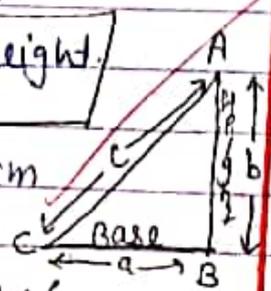
★ Preknowledge Testing,

- Tell me the name of some figures.
- Define triangle.
- What do you know about rectangle?
- Define a square.

★ Announcement of the topic→

The pupil-teacher will announce the topic as:-

Dear students, today we will study about how we can find out the lengths and space occupied by different figures and these terms are known as: "Perimeter and Area" respectively.

Subject matter	Pupil-teacher's activity	Student's activity	Writing-Board activity
→ <u>Triangle</u>	<p><u>PERIMETER</u></p> <p>Perimeter of a Δ is given by adding all the three sides. $[S = a + b + c]$ $[a, b, c = \text{sides of the } \Delta]$ Eg: if $a = 8 \text{ cm}$ $b = 4 \text{ cm}, c = 4 \text{ cm}$ Then, $S = 8 + 4 + 4 = 16 \text{ cm}$</p>	Students understand Carefully.	
<u>Area of the triangle</u>	<p>Area of triangle is half of the product of base and height.</p> <p>$A = \frac{1}{2} \times \text{base} \times \text{height}$</p> <p>Eg: If, Base = 10 cm Height = 6 cm Then, $A = \frac{1}{2} \times 10 \times 6$ $A = 30 \text{ cm}^2$</p> 	Students will note down in their note-books	<p><u>SQUARE</u></p> <p>Perimeter = $4 \times \text{side}$ Area = a^2 $(\text{side})^2$</p>
<u>SQUARE</u>	<p><u>PERIMETER</u></p> <p>$P = 4 \times \text{side}$ $= 4 \times a$ [a is the side of sq.] $d = \sqrt{2}a$ $D = [d = \text{diagonal}]$</p>	Students look carefully.	
<u>Area</u>	<p>$A = a^2$ (a is the side of sq.) If $a = 4 \text{ cm}$, Then $A = 4 \times 4 = 16 \text{ cm}^2$</p>		

LESSON No.

Date.....

Duration of the period.....

Pupil Teacher's Name.....

Pupil Teacher's Roll No.....

Class.....

Average Age of the pupils.....

Subject.....

Topic.....

Subject matter

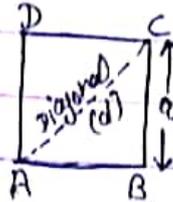
Pupil-teacher's activity

Students activity

Writing - Board activity

Rectangle

Perimeter of sq = $P = 4 \times a$
 $= 4 \times 4 = 16 \text{ cm}$



Students look carefully at writing-board and try to understand

RECTANGLE

Perimeter
 $= 2(l+b)$
 $l = \text{length}$
 $b = \text{breadth}$
Area
 $l \times b$

Area

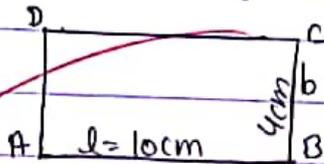
Perimeter

$P = 2(l+b)$

$l = \text{length of the rectangle}$
 $b = \text{breadth of rectangle.}$

Area

$A = l \times b$



Eg)

If, length = 10cm
 Breadth = 4cm

Then $P = 2(10+4)$
 $= 28 \text{ cm}$

And $A = l \times b$
 $= 10 \times 4$
 $= 40 \text{ cm}^2$

Students understand and note-down in their note-books

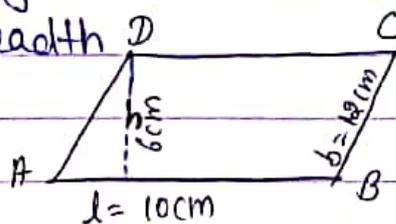
Parallelogram

Parallelogram

Perimeter

$P = 2(l+b)$

$l = \text{length}$
 $b = \text{breadth}$



Perimeter
 $= 2(l+b)$
 $l = \text{length}$
 $b = \text{breadth}$
Area =

Subject matter

Pupil - teacher's activity

Student's activity

Writing - Board activity

Example

If $l = 10\text{cm}$, $b = 12\text{cm}$, $h = 6\text{cm}$

Then
 $P = 2(l + b)$
 $= 44\text{cm}$

And $A = l \times b$
 $= 72\text{cm}^2$

In the case of a circle,
we consider perimeter as
circumference of the circle.

Circumference

$$C = 2\pi r$$

C = circumference of circle
 r = radius of circle.

Eg.,

If $r = 7\text{cm}$.

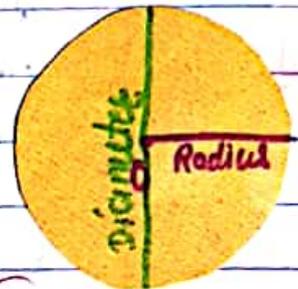
Then, $C = 2 \times \frac{22}{7} \times 7$
 $= 44\text{cm}$

$$A = \frac{22}{7} \times 7 \times 7$$

$$= 154\text{cm}^2$$

Students
under-
stand
carefully.

Circumference-
 $C = 2\pi r$



circle

Students
note-
down
in
their
note-
books.

Area = πr^2

Circle

Area

Example

LESSON No.

Date.....

Duration of the period.....

Pupil Teacher's Name

Pupil Teacher's Roll No

Class.....

Average Age of the pupils.....

Subject.....

Topic.....

★ Recapitulation

The pupil teacher will recapitulate as:-
So dear students, today we have learnt about:-

→ How to find perimeter of triangle, square, rectangle, llgm, circle etc.

→ How to find out the area of triangle, sq., rectangle, llgm and circle etc.

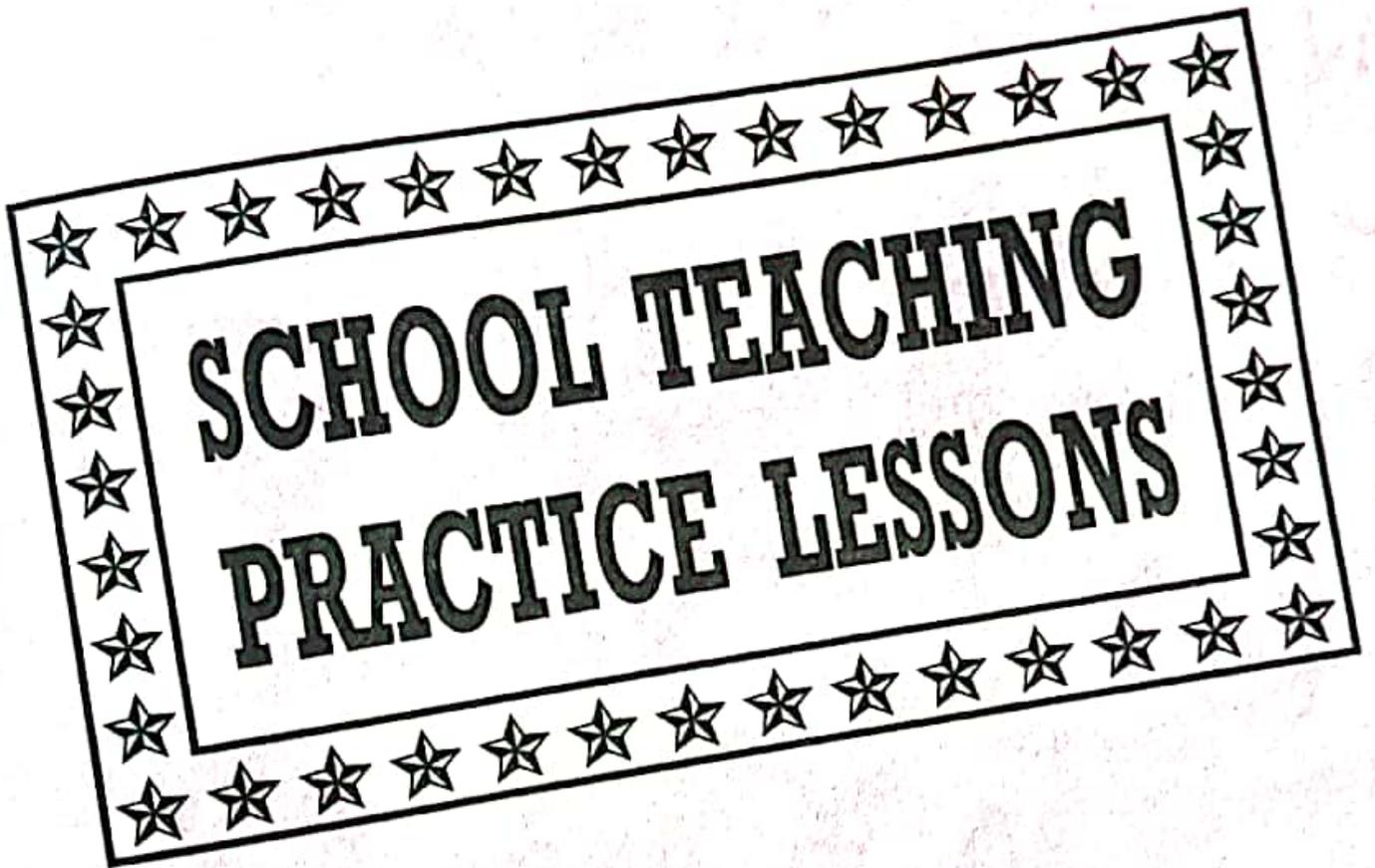
★ Home-work

Ques 1) Write down the formulae of finding area and perimeter of a triangle, square, rectangle, parallelogram.

Ques 2. Find out the area of a rectangular box, whose length is 10cm and breadth is 5cm.

Ques 3: Find out the circumference of a circle having diameter 20cm.

Pak



**SCHOOL TEACHING
PRACTICE LESSONS**

Date..... 01/12/17

LESSON No. 1.....

Pupil Teacher's Name

Duration of the period.....

Class..... 8th

Pupil Teacher's Roll No. 223

Subject..... Mathematics

Average Age of the pupils.....

Topic..... Surface Area.

★ Teaching Aids,

Chalk, writing board, duster, chart, pointer, marker etc.

★ Instructional Aids,

• Knowledge Objective,

After studying this topic, st. will be able to define surface area.

• Understanding Obj.,

St. will be able to understand about surface area and curved surface area.

• Application Obj.,

St. will be able to find surface area and curved surface area of diff. obj. in their daily life.

★ Pre-knowledge testing,

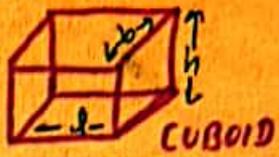
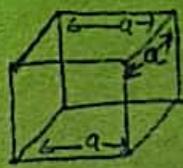
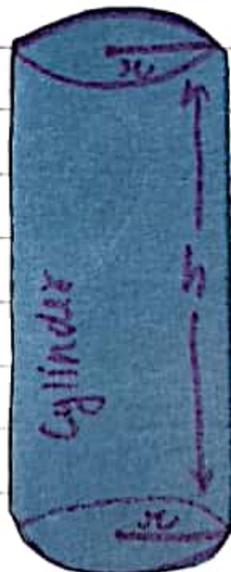
In order to check pre-knowledge, the pupil teacher will ask some question as:-

- i) Give some examples of three dimensional shapes.
- ii) What do you know about surface area?

★ Announcement of the topic,

Dear students, today we will study about the calculation of surface areas of different objects / shapes.

PRESENTATION

Subject matter	Pupil- teacher's activity	Student's activity	Writing- Board activity
<p>• Surface area</p>	<p>Tell me, what do you know about surface area?</p>	<p>The total area of a surface of three - dim. obj. is called surface area.</p>	<div style="background-color: #FFD700; padding: 10px; border: 1px solid black;"> <p>Curved surface area = $2h(l+b)$</p> <p>Total surface area = $2(lb+bh+hl)$</p>  </div>
<p><u>Cuboid</u></p>	<p>Curved surface area of a cuboid $\rightarrow 2(l+b)h$</p> <p>Total surface area $\rightarrow 2(lb+bh+hl)$</p> <p>Here, l = length b = breadth h = height.</p>	<p>St will listen carefully.</p>	<div style="background-color: #388E3C; color: white; padding: 10px; border: 1px solid black;"> <p>Curved surface area = $4a^2$</p> <p>Total Surface area = $6a^2$</p>  </div>
<p>• <u>Cube</u></p>	<p>Curved surface area of a cube = $4a^2$</p> <p>Total surface area = $6a^2$</p> <p>Here, a = side</p>	<p>St. will understand carefully.</p>	 <p style="color: red; margin-left: 20px;">C.S.A. = $2\pi rh$</p> <p style="color: red; margin-left: 20px;">T.S.A. = $2\pi r(r+h)$</p>
<p>• <u>Cylinder</u></p>	<p>Curved surface area of a cylinder =</p>		

LESSON No.

Date.....

Duration of the period.....

Pupil Teacher's Name

Pupil Teacher's Roll No.

Class.....

Average Age of the pupils.....

Subject.....

Topic.....

Subject matter

Pupil- teacher's activity

Student's activity

Writing Based activity

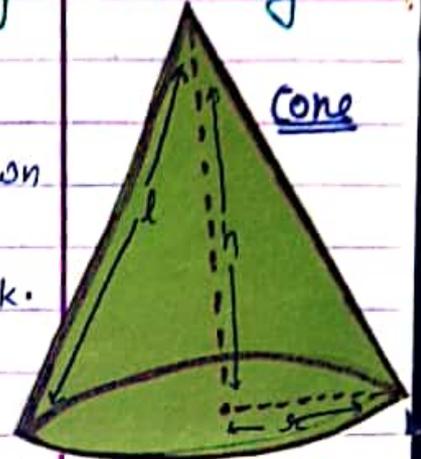
$$2\pi r h$$

$$\text{Total surface area} = 2\pi r(r+h)$$

Here, r = radius.

h = height.

St. will note-down in their note-book.



Cone

Curved surface area of a cone = $\pi r l$.

$$\begin{aligned} \text{Total surface area} &= \pi r l \\ &+ \pi r^2 \\ &= \pi r(r+l) \end{aligned}$$

$$C.S.A. = \pi r l$$

$$T.S.A. = \pi r^2 + \pi r l$$

Sphere

$$\text{Curved surface area} = 4\pi r^2$$

$$\text{Total surface area} = 4\pi r^2$$

St. will understand and note-down in their notebooks.



$$C.S.A. = 4\pi r^2$$

$$T.S.A. = 4\pi r^2$$

semi-sphere

$$\text{Curved surface area} = 2\pi r^2$$

$$\begin{aligned} \text{Total surface area} &= 2\pi r^2 \\ &+ \pi r^2 \\ &= 3\pi r^2 \end{aligned}$$



Hemi-sphere

$$C.S.A. = 2\pi r^2$$

$$T.S.A. = 3\pi r^2$$

★ Recapitulation,

After completing the topic, the pupil-teacher will say, "Dear st., today we have studied about the calculation of curved surface area and total surface area of different obj. or shapes."

★ Homework,

Ques-1) Calculate curved surface of a cuboid whose length, breadth and height are 14cm, 15cm, 20cm respectively.

Ques-2) Find out the total surface area of a cylinder having radius 5cm and height 18cm.

~~Pat~~

LESSON No. 2

Date..... 02/12

Pupil Teacher's Name

Class..... 7th

Subject..... Mathematics

Duration of the period.....

Pupil Teacher's Roll No. 223

Average Age of the pupils.....

Topic..... Angles

★ Teaching Aids,

Chalk, writing board, duster, pointer, chart, marker etc.

★ Instructional Objectives →

• Knowledge Obj. →

St. will be able to know about the angles and its different types.

• Understanding Obj. →

St. will be able to understand about the properties of angles.

• Application Obj. →

St. will be able to use this knowledge in day to day life.

★ Pre-knowledge testing,

In order to test the pre-knowledge, the pupil teacher will ask following questions:-

- (i) What is an angle?
- (ii) Can you measure any angle?
- (iii) How can you classify angles?

★ Announcement of the topic,

After getting no response from the students, the pupil-teacher will announce the topic as →

Dear Sts; today we will study about "measurements of different types of angles".

PRESENTATION

Subject matter

Pupil-teacher's activity

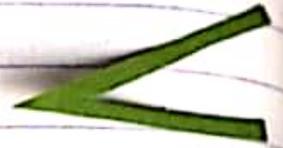
Students' activity

Writing-Board activity

Angle

The pupil-teacher draws an angle and ask what is this?
 → Define an angle.

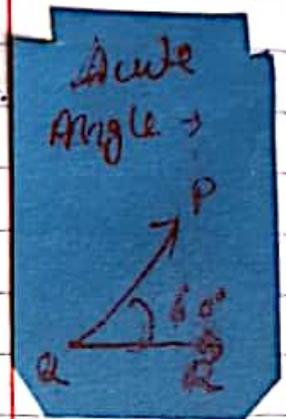
This is an angle.



Types of angle

- acute angle.
- obtuse angle.
- Right angle.
- straight angle.
- complete angle.

It is a construction of two rays with one common pt.



Acute angle

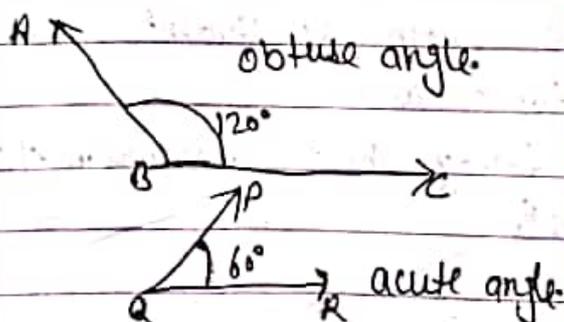
→ An angle which measures less than 90° is called an acute angle.

ex → $30^\circ, 60^\circ, 45^\circ, 15^\circ$ etc.

students will listen carefully

Obtuse angle

→ An angle which measures more than 90° and less than 180° is called an obtuse angle.
 for ex → $120^\circ, 105^\circ, 160^\circ, 150^\circ$, etc.



LESSON No.

Date.....

Duration of the period.....

Pupil Teacher's Name

Pupil Teacher's Roll No.

Class.....

Average Age of the pupils.....

Subject.....

Topic.....

★ Recapitulation

Dear Sir, today we have learnt about an angle and its classification.

★ Home-work

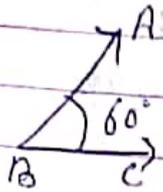
Ques 1)

Ques 2)

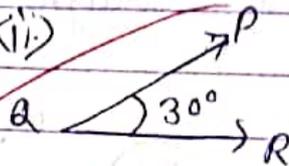
Differentiate b/w acute angle and obtuse angle.

Classify the angles →

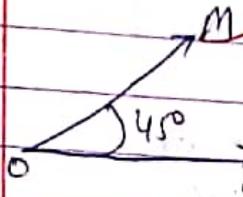
(i)



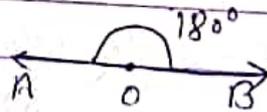
(ii)



(iii)



(iv)



Patika
02/12/17

Date..... 04/12/17

LESSON No. 3.....

Pupil Teacher's Name

Duration of the period.....

Class..... 8th

Pupil Teacher's Roll No. 223

Subject..... Mathematics

Average Age of the pupils.....

Topic..... Types of Triangles.

★ Teaching Aids,

Chalk, pointer, writing board, marker, duster, chart etc.

★ Instructional Objectives,

• Knowledge obj. →

St. will be able to get knowledge about different triangles.

• Understanding Obj. →

St. will be able to understand the difference b/w triangles.

• Application Obj. →

St. will be able to solve the problems related to different triangles in daily life.

★ Pre-knowledge testing,

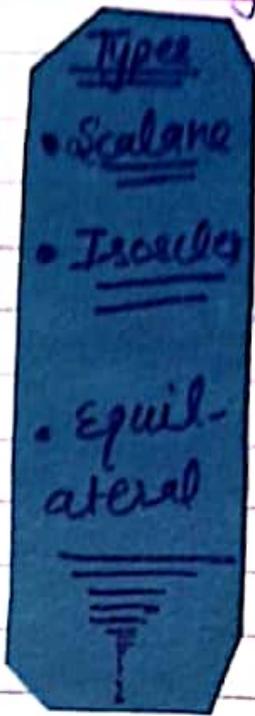
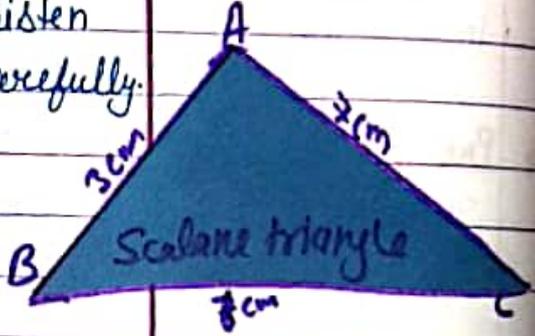
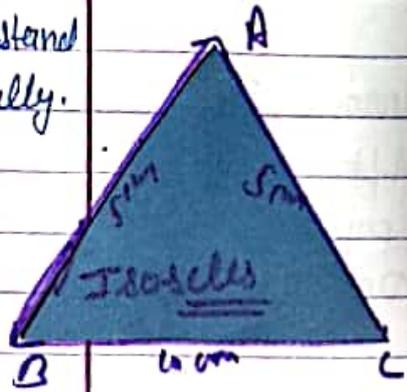
In order to check the pre-knowledge of the students, the pupil-teacher will ask following questions →

- 1) What do you know about a triangle?
- 2) What type of a triangle is this?
- 3) What are the different types of triangles?

★ Announcement of the topic →

After getting no response about the last question, the pupil-teacher will announce the topic as-

Dear St., today we will study about "different types of triangle."

Subject Matter	Pupil-teacher's activity	Students activity	Writing-Board activity
<u>Triangle</u>	The pupil-teacher will ask what is a triangle?	It is a closed fig made up of three sides.	
<u>Types of triangle</u>	There are three types of a triangle - i) Scalene triangle. ii) Isoscles triangle. iii) Equilateral triangle.		
<u>Scalene triangle</u>	The triangle whose all three sides are different or of different measure is called a 'scalene Δ'.	Student will listen carefully.	
<u>Example</u>	ΔABC is said to be scalene if AB = 3cm, BC = 4cm, AC = 7cm.		
<u>Isoscles triangle</u>	The triangle whose two sides are equal is called an isoscles triangle.	Student will understand carefully.	
<u>Example</u>	ΔABC is said to be isoscles if AB = BC = 5cm and AC = 10cm.		

LESSON No.

Date.....

Duration of the period.....

Pupil Teacher's Name

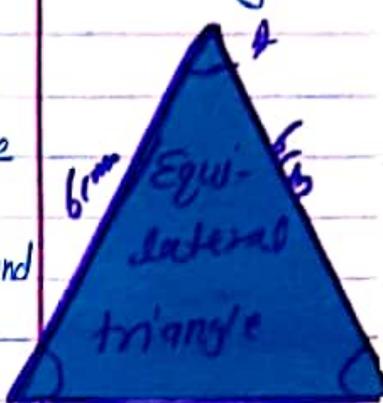
Pupil Teacher's Roll No

Class.....

Average Age of the pupils.....

Subject.....

Topic.....

Subject matter	Pupil - teacher's activity	Students activity	Writing - Board activity
<u>Equilateral triangle</u>	The triangle whose all sides are equal is said to be equilateral triangle.	Students will be able to understand	
<u>Example</u>	<p>ΔABC is said to be equilateral triangle, if its all the three sides are equal.</p> <p>For ex: if $AB = BC = CA = 6\text{cm}$ then ΔABC is an equilateral triangle.</p>	<p>students will note-down in their note-down.</p>	
	<p>In an equilateral triangle each angle is of 60°.</p>		

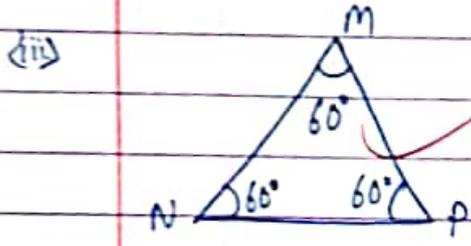
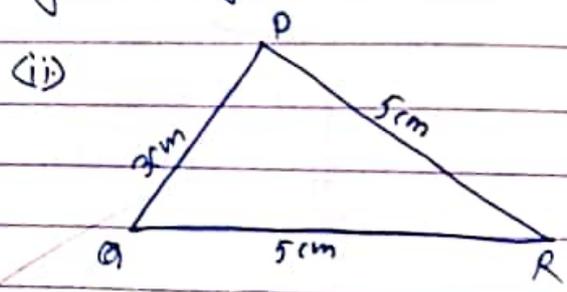
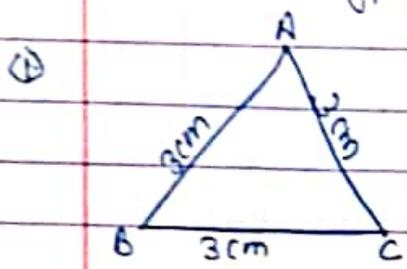
★ Recapitulations →

The pupil teacher will recapitulate as:-
Dear students, today we have studied about different types of triangles, as- Equilateral triangle, Isosceles triangle and scalene triangle.

★ Home-Work →

Ques-1 → What is the difference between scalene triangle and Equilateral triangle.

Ques-2 → Write the types of following triangles:-



LESSON No. 4:.....

Date..... 04/12.....

Duration of the period.....

Pupil Teacher's Name

Pupil Teacher's Roll No. 223.....

Class..... 8th.....

Average Age of the pupils.....

Subject..... Mathematics.....

Topic..... Types of Quadrilaterals.

★ Teaching Aids →

Charts, cluster, marker, pointer, writing-board, chart etc.

★ Instructional objectives,

• Knowledge obj. →

St. will be able to know about quadrilateral and its types.

• Understanding obj. →

St. will be able to understand the concepts of quadrilaterals.

• Application obj. →

St. will be able to solve the problem related to quadrilateral in their daily life.

★ Pre-knowledge testing,

In order to check pre-knowledge, the pupil-teacher will ask following questions:-

i) What do you know about quadrilaterals.

ii) What are the different types of ~~four~~ quadrilaterals.

★ Announcement of the topic →

After getting no response from the students, the pupil-teacher will announce the topic as -

Dear Sts, today we will study about "Types of Quadrilaterals".

PRESENTATION

Subject matter	Pupil-teacher's activity	Student's activity	Writing-Board activity
<u>Rectangle</u>	<p>The quadrilateral in which opposite sides are equal and each angle is of 90°, is known as a rectangle.</p> <p>→ Its diagonals are also equal.</p>	<p>Students will look at the board and try to understand.</p>	
<u>Square</u>	<p>The quadrilateral in which all the sides are equal and each of the angle is of 90°.</p> <p>→ Its diagonals are also equal and are perpendicular to each other.</p>	<p>Student will listen carefully and note-down.</p>	
<u>Rhombus</u>	<p>The quadrilateral in which all the sides are equal and opposite sides are parallel to each other.</p> <p>→ Its diagonals bisect each other and bisect the vertex angles and are lar to each other.</p>	<p>Student will listen carefully and note-down.</p>	

LESSON No.

Date.....

Duration of the period.....

Pupil Teacher's Name

Pupil Teacher's Roll No.

Class.....

Average Age of the pupils.....

Subject.....

Topic.....

Subject matter

Pupil-teacher's activity

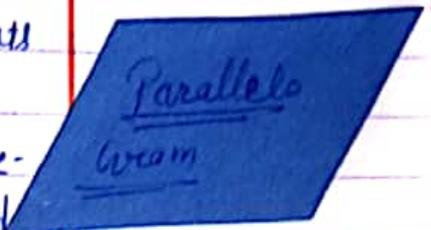
Students activity

Writing-Board activity

parallelogram

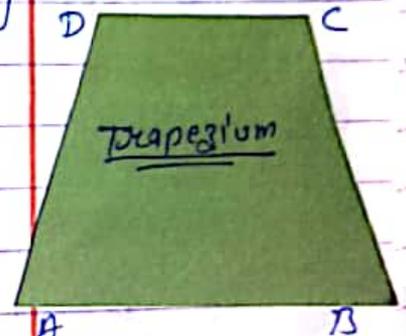
The quadrilateral in which opposite sides are equal and parallel to each-other.
 → Its diagonals bisect each-other.

Students will understand carefully.



Trapezium

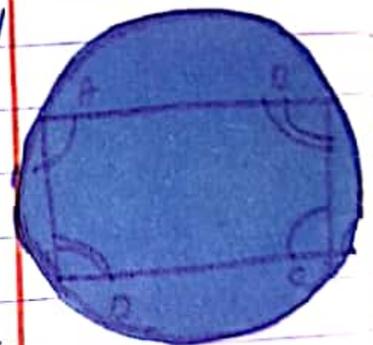
The quadrilateral in which two sides are parallel to each-other is known as a Trapezium.



Cyclic Quadrilateral

If all the four vertices of a quadrilateral lies on the perimeter of a circle, then it will said to be a "cyclic quadrilateral".

Students will understand and note-down in their note-book.



→ Sum of opposite angles is of 180°

★ Recapitulation

After completing the topic, the pupil-teacher will recapitulate as -

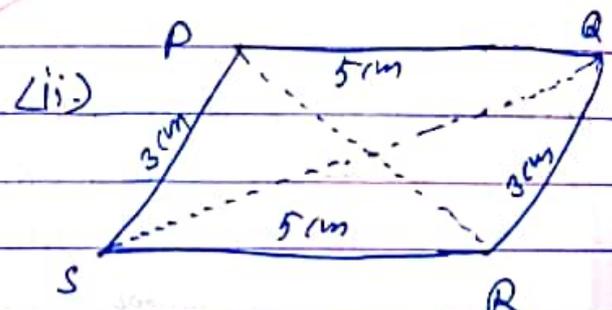
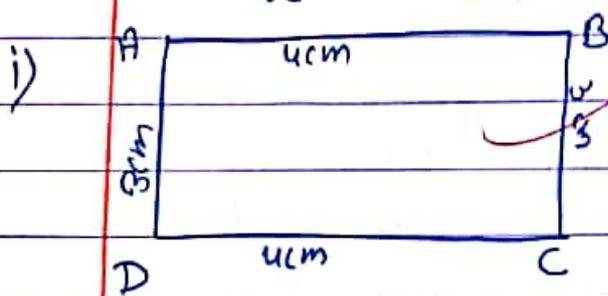
Dear st., today we have studied about different types of quadrilaterals, such as - rectangle, rhombus, square, trapezic, cyclic etc.

★ Home-work

Ques 1) Write the properties of a rectangle and trapezium.

Ques 2) What is the difference b/w a rhombus and parallelogram.

Ques 3) Identify the figures given below:-



Palwani
04/12/17

LESSON No. ...5.....

Date..... 05/12/17.....

Duration of the period.....

Pupil Teacher's Name

Pupil Teacher's Roll No. 223.....

Class..... 8th.....

Average Age of the pupils.....

Subject..... mathematics.....

Topic..... Circle and its parts.....

* Teaching Aids,

Chalk, duster, pointer, marker, writing board, chart etc.

* Instructional objectives,

• Knowledge Obj.,

St. will be able to know about circle and its parts.

• Understanding Obj.,

St. will be able to understand about diff. parts of a circle.

• Application Obj.,

St. will be able to solve problems related to circle.

* Pre-knowledge testing,

In order to check pre-knowledge of the students, the pupil-teacher will ask following questions:-

- i.) What is a circle?
- ii.) What do you know about the diameter of the circle?
- iii.) Can you define various parts of a circle?

* Announcement of the topic,

After getting no response of the last questions, the pupil-teacher will announce the topic as →

Dear Sts, today we will study about "Circle and its various parts".

PRESENTATION

Subject matter

Pupil- teacher's activity

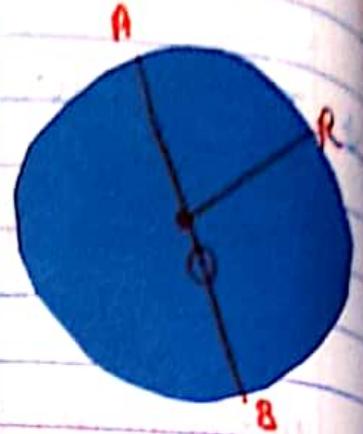
Students activity

Writing - Board activity

Centre

It is a fixed point in the middle of circle from which our circle is drawn.

Students will listen carefully.



Diameter

The line which passed through centre of the circle and touches the circle at two points.

st. will understand carefully.

O is the centre.
AB →
It is the diameter

→ It is the largest chord of the circle.

Radius

It is the half of the diameter.

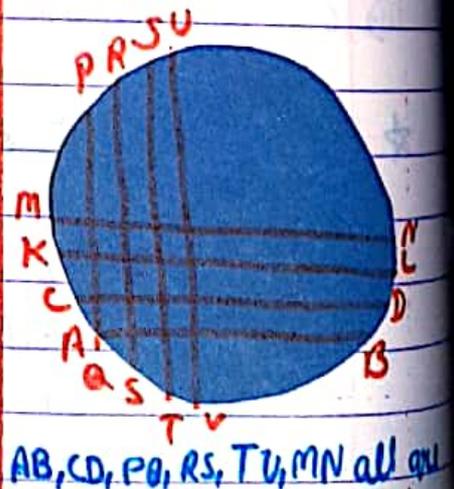
OR →
It is the radius.

It passes through centre and touches the circle at one point.

Chord

The line which is joined by the two points on the circle.

→ The diameter is the longest chord of the circle.



Chords

LESSON No.

Date.....

Duration of the period.....

Pupil Teacher's Name.....

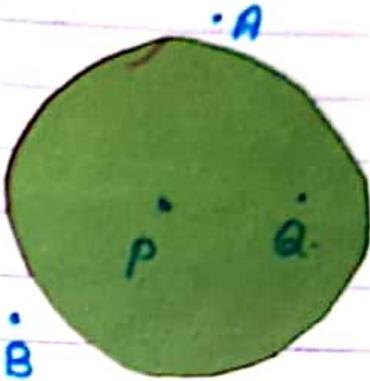
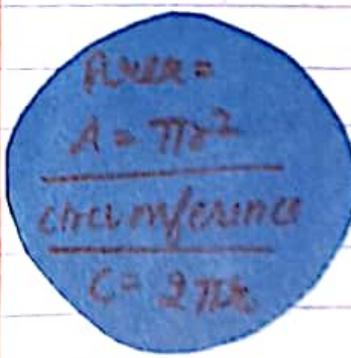
Pupil Teacher's Roll No.....

Class.....

Average Age of the pupils.....

Subject.....

Topic.....

Subject matter	Pupil-Teacher's activity	Student's activity	Writing - Board activity
<u>Interior points</u>	The points inside the circle are called, interior points.		
<u>Exterior points</u>	The points which present outside the circle, they are called exterior points.		
<u>Area</u>	<p>Total surface area covered by circle is called area of the circle.</p> <p>It is calculated by:-</p> $A = \pi r^2$ <p>where $\rightarrow r =$ (rad. of the circle).</p>		<p>A and B are exterior points.</p> <p>P and Q are interior points.</p>
<u>Circumference</u>	<p>($\pi = 22/7$) (const. term)</p> <p>The total length of a circle is known as circumference of the circle.</p> <p>It is calculated as \rightarrow</p> $C = 2\pi r$ <p>$r =$ (radius of the circle).</p>		

★ Recapitulation,

After completing the topic, the pupil teacher will recapitulate as →

Dear students, today we have learn about different parts and terms related to circle, such as- diameter, radius, chord, perimeter, area etc.

★ Home-work,

(Ques.1) What do you know about diameter and radius of the circle.

(Ques.2) What is the longest chord of the circle?

(Ques.3) Calculate area and circumference of a circle whose diameter is 20 cm.

~~Perimeter~~
05/12/17

LESSON No. 6.....

Date..... 06/12/17.....

Pupil Teacher's Name

Class..... 8th.....

Subject..... Mathematics.....

Duration of the period.....

Pupil Teacher's Roll No. 223.....

Average Age of the pupils.....

Topic..... Number System.....

★ Teaching Aids →

Chalk, writing-board, duster, pointer, marker, chart etc.

★ Instructional Objectives,

• Knowledge Obj. →

St. will be able to know about different numbers.

• Understanding Obj. →

St. will be able to understand the difference between various numbers.

• Application Obj. →

St. will be able to use this knowledge to solve various problems related to numbers.

• Pre-knowledge testing →

In order to check pre-knowledge, the pupil-teacher will ask following questions →

- i) What do you know about numbers?
- ii) How many digits we have from which we can make a number?
- iii) How many types of numbers are there?

• Announcement of the topic →

After getting no response about the last question, the pupil teacher will announce the topic as → Dear Sir, today we will study about "Number System."

PRESENTATION

Subject matter	Pupil- teacher's activity	Students activity	Writing - Board activity
<u>Numbers</u>	It is a combination of units and digits.	Students	<div style="background-color: #90EE90; padding: 5px; border: 1px solid black;"> <p><u>Numbers</u></p> <p>A combination of digits.</p> <p>Ex. 1, 2, 3, 10, 12, 21, ...</p> </div>
<u>Natural numbers</u>	The no. with the help of which we can count the things are numbers from 1 to infinity are called natural numbers. (1, 2, 3, ...)	will listen carefully.	
<u>Even Numbers</u>	→ The numbers which are divisible by 2 are called "Even Numbers"	Students understand carefully.	<div style="background-color: #FFD700; padding: 5px; border: 1px solid black;"> <p><u>Natural No.;</u></p> <p>1, 2, 3, ...</p> <p><u>Even No.;</u></p> <p>2, 4, 6, 8, ...</p> <p><u>Odd No.;</u></p> <p>1, 3, 5, 7, 9, ...</p> <p><u>Integers;</u></p> <p>... -5, -4, -3, -2, -1, 0, 1, 2, ...</p> </div>
<u>Odd Numbers</u>	→ The numbers which are not divisible by 2 are called "odd numbers".		
<u>Examples</u>	Even, (2, 4, 6, 8, ...) Odd, (1, 3, 5, 7, 9, ...)		
<u>Integers</u>	The +ve and -ve numbers included zero are called integers. → The +ve no. are called +ve integers. (1, 2, 3, 4, ...) → The -ve no. are called -ve integers. (-1, -2, -3, ...)	Students note-down in their note-books	

LESSON No.

Date.....

Pupil Teacher's Name

Class.....

Subject.....

Duration of the period.....

Pupil Teacher's Roll No.....

Average Age of the pupils.....

Topic.....

Subject matter	Pupil-teacher's activity	Student's activity	Writing - Board activity
<u>Rational Numbers</u>	The numbers which can be written in the form of p/q where $q \neq 0$. ($1/2, 3/4, 5/9 \dots$)	Students understand carefully.	<u>Rational no.</u> $1/2, 3/4, 5/9 \dots$
<u>Irrational Numbers,</u>	The no. which can not be written in p/q form. → It's complete or q is not possible. ($\sqrt{2}, \pi$)		<u>Irrational No.</u> $\sqrt{2}, \pi \dots$
<u>Real Numbers</u>	Both rational and irrational no. are real numbers.	Students note-down carefully.	
<u>Imaginary Number</u>	A complex no. that can be written as a real no. multiplied by the imag. unit 'i' $(i)^2 = (-1)$ Ex: $(2i, 3i, i \dots)$		
<u>Prime no.,</u>	The no. which is not divisible by any other no. except itself. ($2, 3, 5, 7 \dots$)	Students listen carefully and note-down.	<u>Prime no.;</u> $2, 3, 5, 7, \dots$
<u>Whole numbers</u>	All the natural no. included zero are whole no. ($0, 1, 2 \dots$)		<u>Whole numbers,</u> $0, 1, 2, 3 \dots$
			<u>Real No.;</u> Both nat. and Irrational

★ Recapitulations

After completing the topic, the pupil teacher will recapitulate as:-

Dear students, today we have studied about number system which included natural no., whole no., rational no., irrational no., etc.

★ Home-work,

Ques.1.) Differentiate b/w even no. and odd no. with the help of examples.

Ques.2.) What do you know about prime no, give examples?

Ques.3.) 1, 7, 13, 21, 27, 28, 30, 2, 50, 100, 78, 71, 73
Classify, odd, even, prime no. from the above.

Pakram
06/12/17

LESSON No. 7:.....

Date..... 07/12/17.....

Pupil Teacher's Name

Class..... 8th.....

Subject..... Mathematics.....

Duration of the period.....

Pupil Teacher's Roll No. 223.....

Average Age of the pupils.....

Topic..... Percentage.....

* Teaching Aids →

Chalk, duster, pointer, marker, writing-board, chart etc.

* Instructional Objectives →

• Knowledge Obj. →

After studying this topic the st. will know about selling price, market price, cost price and percentage.

• Understanding Obj. →

St. will be able to understand loss and profit and percentage.

• Application Obj. →

St. will be able to solve problems related to profit and loss in their daily life.

* Pre-knowledge testing →

St. pre-knowledge will be tested by asking following questions:-

- i) What do you know about selling price?
- ii) What do you know about cost price?
- iii) When does loss occur?
- iv) How can we calculate loss %age?

* Announcement of the topic →

After getting no response of the last question, the pupil-teacher will announce the topic as, "Dear st., today we will study about the terms related to shopping and percentage."

Subject
matter

Pupil-teacher's activity

Student's
activity

Writing-Board
activity

Cost
price

The price at which the article is to be bought is called cost price of the article.

It is written as \rightarrow C.P.

Students
will
listen
carefully.

Cost Price

The price at which any article is bought is called the COST PRICE.

Selling
price

The price at which any article is sold, is called selling price of that article.

It is written as \rightarrow S.P.

Students
will
understand
carefully.

Selling Price
The price at which any article is sold.

Profit

When the selling price is more than cost price, then profit will be gained.

So, $S.P > C.P = \text{Profit}$,

And,

$S.P - C.P = \text{Profit gained}$.

PROFIT
When selling price is more than cost price.
 $S.P > C.P$

Profit
percentage
P%.

Profit% =

$$\frac{\text{Profit}}{C.P} \times 100$$

E.g. \rightarrow let, Profit = 10 Rs

C.P = 100 Rs.

$$P\% = \frac{10}{100} \times 100$$

$$= 10\%$$

$$\text{Profit\%} = \frac{\text{Profit}}{C.P} \times 100$$

LESSON No.

Date.....
 Pupil Teacher's Name.....
 Class.....
 Subject.....

Duration of the period.....
 Pupil Teacher's Roll No.....
 Average Age of the pupils.....
 Topic.....

Subject matter
Loss

Pupil-teacher's activity

Students activity

Writing - Board activity

Loss occurs when cost price is more than selling price.
 i.e. $C.P. > S.P = \text{Loss}$.
 It is calculated as -
 $C.P. - S.P = \text{Loss gained}$.

Students will listen carefully and try to understand

Loss, when cost price is more than selling price.
 i.e. $C.P. > S.P = \text{Loss}$

Loss percentage
L%

$$\text{Loss\%} = \frac{\text{Loss}}{C.P} \times 100$$

If loss = ₹ 30
 C.P. = ₹ 250
 Then, $L\% = \frac{30}{250} \times 100$
 $= 12\%$

Loss % = $\frac{\text{Loss}}{C.P} \times 100$

How to calculate C.P and S.P. when P% and L% is given

$$S.P = \frac{(100 + P\%) \times C.P.}{100}$$

OR

$$S.P. = \frac{(100 - L\%) \times C.P.}{100}$$

$$C.P. = \frac{S.P \times 100}{100 + P\%}$$

OR

$$C.P. = \frac{S.P. \times 100}{100 - L\%}$$

Students understand carefully and note-down in their note-book.

$\frac{\% \times C.P.}{100}$

$\frac{\times C.P.}{100}$

$\frac{100}{P\%}$

$\frac{100}{-L\%}$

★ Recapitulation

After completing the topics, st. w/ the pupil teacher will recapitulate as:-

Dear st., today we have studied about cost price, selling price, profit, loss and percentage.

★ Home-work

Qus.1) If an article is sold at 10% of profit. Then find out its cost price if the selling price is ₹220.

Qus.2) If a table is bought for ₹650 and then sold for ₹800. Find the profit or loss gained by the seller.

Talwan
07/12/17

Date

08/12/17

Pupil Teacher's Name

Class

8th

Subject

Mathematics

Duration of the period

Pupil Teacher's Roll No

223

Average Age of the pupils

Topic

Simple Interest

★ Teaching Aids →

Chalk, slates, pointer, markers, writing-board, chart etc.

★ Instructional Objectives →• Knowledge Obj. →

St. will get knowledge about simple interest.

• Understanding Obj. →

St. will understand the terms related to simple interest.

• Application Obj. →

St. will be able to solve many problems related to simple interest in their day-to-day life.

★ Pre-knowledge testing

In order to check pre-knowledge of the students, the pupil-teacher will ask questions as:-

- (i) Do you borrow money?
- (ii) Do you lend money?
- (iii) What do you know about Principle and Interest?

★ Announcement of the topic

After completing the topic, the pupil-teacher will announce the topic as:-
 Dear St's today we will study about "Simple Interest."

Subject matter	Pupil- teacher's activity	Student's activity	Writing- Board activity
<u>Principal</u>	What do you know about "Principal".	The amount of money borrowed from anyone is	PRINCIPAL The amount of money borrowed from anyone.
<u>Time Rate</u>	<p>The period for which we borrow money is called "Time".</p> <p>If we borrow 300 Rs. for 3 years. Then 3 years is the time.</p>	<p>is called the Principal.</p>	
<u>Rate of Interest</u>	<p>The rate at which we borrow money is called "Rate of interest".</p> <p>If we borrow ₹ 300 from Radha kishan for 3 years at the rate of 5%, Then,</p> <p>Principal = ₹ 300 Rate = 5% Time = 3 years.</p>	Students listen Carefully.	<p><u>Time Rate</u> The period for which the money is borrowed.</p> <p><u>Time Rate</u> The rate at which the money is borrowed.</p>
<u>Simple Interest</u>	It is calculated as:- ₹.		

Date 9/12

Pupil Teacher's Name

Class

Subject

Duration of the period

Pupil Teacher's Roll No

Average Age of the pupils

Topic

Subject Matter

Pupil-teacher's activity

Students activity

Writing-Board activity

$$S.I. = \frac{P \times R \times T}{100}$$

P = Principal

R = Rate

T = Time

How to Calculate Rate or Principal or Time

Rate =

$$\frac{S.I. \times 100}{P \times T}$$

Principal = $\frac{S.I. \times 100}{R \times T}$

Time = $\frac{S.I. \times 100}{P \times R}$

Students listen carefully and note down in note-book.

Simple Interest

$$S.I. = \frac{P \times R \times T}{100}$$

Rate = $\frac{S.I. \times 100}{P \times T}$

Principal = $\frac{S.I. \times 100}{R \times T}$

Time = $\frac{S.I. \times 100}{P \times R}$

★ Recapitulation

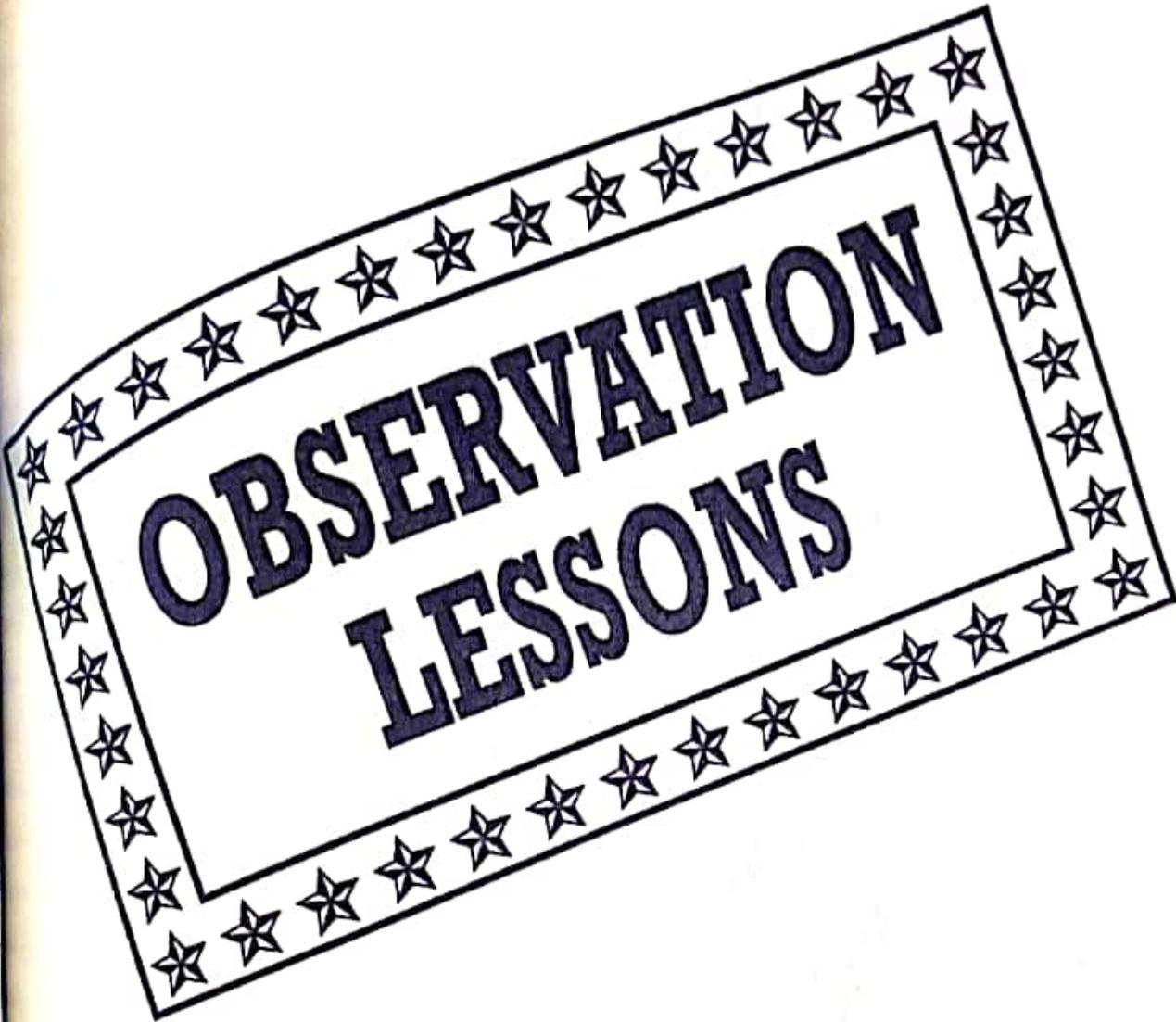
After completing the topic, the pupil-teacher will recapitulate as:-
Dear Sir, today we have studied about Principle, Time, Rate, Simple interest etc.

★ Home-work

Ques 1) If $P = ₹ 1000$
 $R = 5\%$
 $T = 3 \text{ years}$
Then, Find S.I.

Ques 2) If S.I. = ₹ 60
 $P = ₹ 20,000$
 $R = 3\%$
Find out Time period.

Perham
07/12/17



**OBSERVATION
LESSONS**

Observation Lesson No.

Date... 24/04/17

Duration of the period... 30 min.

Pupil Teacher's Name... Pinki

Pupil Teacher's Roll No... 210

Class... 8th

Average Age of the pupils.....

Subject... Mathematics

Topic... Integers

- P.K. Testing was very good.
- Proper announcement of the topic.
- Voice was clear.
- Proper use of writing-board.
- Explanation was also excellent.
- Discipline was well maintained.
- Involment of pupils was good.
- Overall impression was appreciable.

Sign. of Pupil Teacher

Sign. of Supervisor

Observation Lesson No.

Date... 24/04/18

Duration of the period... 30 min.

Pupil Teacher's Name... Sushobh

Pupil Teacher's Roll No... 208

Class... 8th

Average Age of the pupils.....

Subject... Science

Topic... Water Pollution

- P.K. testing was done properly.
- Voice was audible.
- Teaching-aids were used.
- Chart was also used.
- Class control was good.
- explanation was good.
- Homework was given
- Overall impression was good.

Sign. of Pupil Teacher

Sign. of Supervisor

Observation Lesson No.

Date... 24/04/17

Duration of the period... 30 min.

Pupil Teacher's Name ... Yogi

Pupil Teacher's Roll No.

Class... 7th

Average Age of the pupils.....

Subject... Economics

Topic... National Income

- P.K. testing and introduction was done properly.
- Content analysis was done properly.
- Class control was good.
- Teaching aids were used.
- Confidence of P.T. was good.
- Voice was clear and loud.
- Sectional recapitulation was done.
- Home-work was given.
- Impression was good.

Sign. of Pupil Teacher

Sign. of Supervisor

Observation Lesson No.

Date... 24/04/17

Duration of the period... 30 min.

Pupil Teacher's Name ... Nisha

Pupil Teacher's Roll No. ... 219

Class... 6th

Average Age of the pupils.....

Subject... English

Topic... Pronoun

- P.K. testing was good.
- Confidence was appreciable.
- discipline was maintained.
- Proper use of writing-board.
- Voice was audible.
- Explanation was good.
- Homework was given.
- Overall, the performance was good.

Sign. of Pupil Teacher

Sign. of Supervisor

Observation Lesson No.

Date..... 24/04/18

Duration of the period..... 30 min.

Pupil Teacher's Name .. Kisan

Pupil Teacher's Roll No. 211

Class..... 6th

Average Age of the pupils..... ..

Subject..... Hindi

Topic..... 17/11

- Introduction and P.K. testing was done properly.
- Topic was announced at proper time.
- Confidence was good.
- Voice was clear.
- Class control was good.
- Proper use of teaching aids.
- Chart was used.
- Home-work was given.
- Overall impression was appreciable.

Sign. of Pupil-Teacher


Sign. of Supervisor

Observation Lesson No.

Date..... 24/04/18

Duration of the period..... 30 min.

Pupil Teacher's Name .. Priyanka

Pupil Teacher's Roll No. 218

Class..... 8th

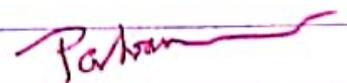
Average Age of the pupils..... ..

Subject..... Science

Topic..... Archimedes Principle

- Pk testing was done properly.
- Confidence was appreciable.
- Proper use of teaching aids.
- Explanation was good.
- Discipline was maintained.
- Sectional recapitulation was done.
- Home work was given.
- Voice was clear and audible.
- Overall impression was good.

Sign. of Pupil-Teacher


Sign. of Supervisor