

NAME :- Mansha

CLASS :- B.ed 3rd Sem

ROLL No. :- 24114

SUBJECT :- Mathematics

SUBMITTED To :- Richa Ma'am

SUBMITTED By :- Mansha

SCHOOL INTERNSHIP PROGRAMME FILE

Name Mansha S/o D/o Mr. Sumit Monga
College Roll No. 24114 University Roll No. _____ Teaching of Mathematics

Certificate

Certified that Mr./Mrs./Miss Mansha S/o D/o Sumit Monga
has delivered 5 Micro Lessons 40 Macro Lessons 8 Diary Form Lessons
ICT Based Lessons 5 Unit Test Based lessons 4
Teaching Model Based Lessons 3 Discussion Lesson 1

in School.

School Supervisor

College Supervisor

ਪ੍ਰਿੰਸੀਪਲ
ਸ਼੍ਰੀ (ਕੇ.) ਸੀਨੀਅਰ ਸੈਕੰਡਰੀ ਸਕੂਲ
ਜ਼ਾਹਰਮਸਾਏ (ਫਿਰੋਜ਼ਪੁਰ)

School Principal

Principal
Lala Jagat Narayan Education College
College Principal

Course Code : EPC-3-1
SEMESTER III
SCHOOL INTERNSHIP PROGRAMME

Total Marks : 300
Duration : 16 Week

16 Weeks internship shall be carried out in the three phases as described below:

Phase-1 : Pre-Practice

Duration: 2 week (In parent institute)

1. Student teachers will learn to write micro, macro diary, ICT, test based and teaching model based lesson plans.
2. Every students teacher should go through simulated teaching practice in each teaching subject.
3. Workshop on development of audio visual aids be organized during this week.
4. Necessary orientation programs for mentor teachers and heads of the selected school be organized by the institute.

Phase-2: Teaching Practice

Duration:14 weeks

The school teaching practice phase can be divided into two blocks. In the first block if 7 weeks, student teachers may be engaged with students of either Upper Primary or Secondary classes; and in the second block of 7 weeks in reverse order. With the permission of higher authorities (DGSE, DEO and school principals) the convenient small group of students teacher shall be attached to a school and he/she shall undertake such duties as are assigned to him / her by the Head Master/Principal of the school in all school related activities. During this period, he/she shall teach minimum of 61 lesson in each pedagogic subject under the supervision of the mentor teacher and respective teacher educators.

Nomination of Mentor Teachers': During the internship different teachers of the schools may be nominated as mentor teachers'.

The role of the mentor teacher would be to share his/her professional experiences, present model lessons, assess student teachers' performance, and provide on-site guidance and support during internship. **Identification of supervisors:** The faculty members of the parent institute would be allotted to different schools as supervisors during the internship period. The supervisors shall coordinate the activities of the mentor teachers of the school; and assess student teachers' performance, and provide on-site guidance and support during internship at least twice a week.

Activities for Student teachers: Student teachers shall undertake the following activities during this period:

Phase I. Planning and Facilitating Teaching Learning

(A) Preparing and delivering 120 lesson plans in two teaching subjects -(60+60)

Macro Lesson Plans-40

Diary form lesson Plans-08

ICT Based Lesson Plans-05

Unit Test Based Lesson Plans-04 (Preparing blue print & conducting unit tests)

Lesson plans based on Models of Teaching - 03

Discussion Lesson-1

(B) Peer teaching observation - 10+10 in each subject

Micro Lesson Plans-5+5 in each Subject, 10-15 pages with heading.

Assessment by concerned School : 40 Marks
Pedagogical Subject : 100 in each subject
External-100+Internal = 30+30

Phase II. Assessment of students' performance:

- * Assessment Record on the basis of unit test.

III. Participation in School Activities

- * Participation in organizing co-curricular activities i.e. Literary, Dramatics, Fine arts and sports (any two)
- * PTA/PTM/SMC

Records to be submitted by a Pupil teacher:

- * Teacher Practice file (Both teaching subject)
- * Assessment record
- * Record of Participation/organization of school activities.

*** Phase-III**

Post-Practice and Evaluation

Duration: 1 Week

The following activities shall be organized in the Post Practice phase

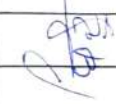
- * Presentation of brief report by each student teacher on his/her internship experiences.
- * Inviting feedback from cooperating schools.

*** Evaluation (Total - 300 marks)**

The weight age to different components of internship shall be assigned as under:-

- * Assessment by concerned teaching subject school mentor teacher and teacher educator - 40 marks (20+20 in each subject on assessment Performa- A
- * Internal assessment on the basis submitted records-30 in each teaching subject (30+30 in each subject =60)
- * External assessment: Final Skill-in-Teaching lesson in each subject to be conducted in the parent college (100+100 in each subject = 200) under the supervision of external Internship Programme Coordinator appointed by the university:
- * Breakup of external evaluation for each teaching subject (100 marks) is as follows.
- * Written Lesson - 10Marks
- * Presentation - 60 Marks
- * Teacher Traits - 20 Marks
- * Teaching aids - 10 Marks

Index

Sr. No.	Particulars	Date	Page No.	Sig.
	<u>Micro lesson Plan</u>	8		
1.	Integers	8-9-25	1-2	
2.	Division	10-9-25	3-4	
3.	Triangle	13-9-25	4-5	
4.	Percentage	20-9-25	5-6	
5.	HCF	22-9-25	6-7	
	<u>Macro lesson Plan</u>			
1.	Fraction	8-9-25	1-9	
2.	Symmetry	9-9-25	10-13	
3.	Knowing our numbers	10-9-25	14-16	
4.	Cube	11-9-25	17-19	
5.	Integers	12-9-25	20-22	
6.	Factors of term	13-9-25	23-25	
7.	Types of Triangle	15-9-25	26-28	
8.	Pythagoras Theorem	16-9-25	29-31	
9.	Angle and its Types	17-9-25	32-34	
10.	Profit and loss	18-9-25	35-37	
11.	Exponents and power	19-9-25	38-41	
12.	Divisibility Rule	20-9-25	42-44	

Index

Sr. No.	Particulars	Date	Page No.	Sig.
13.	Algebraic Expression	22-9-25	45-47	
14.	Discount	23-9-25	48-50	
15.	Probability	24-9-25	51-53	
16.	Statics	25-9-25	54-56	
17.	Parallelogram	26-9-25	57-59	
18.	Percentage	27-9-25	60-62	
19.	Point & lines	29-9-25	63-65	
20.	Number System	30-9-25	66-68	
21.	Rational number	1-10-25	69-71	
22.	Simple Interest	2-10-25	72-74	
23.	HCF	3-10-25	75-77	
24.	LCM of two numbers	4-10-25	78-80	
25.	Area of Rectangle / Square	6-10-25	81-83	
26.	Ratio & proportion	7-10-25	84-86	
27.	Decimal (Multiplication) P-I	8-10-25	87-89	
28.	Division of Decimals	9-10-25	90-92	
29.	Congruence of Triangle.	10-10-25	93-95	
30.	Understanding quadrilateral.	13-10-25	96-98	
31.	Visualizing solid shapes	14-10-25	99-101	
32.	Prime & Composite numbers.	15-10-25	102-104	

Index

Sr. No.	Particulars	Date	Page No.	Sig.
33.	Circle	16-10-25	105-108	
34.	Whole numbers	17-10-25	109-111	
35.	Direct and indirect proportion.	18-10-25	112-114	
36.	Linear Eq ⁿ in one Variable.	20-10-25	115-118	
37.	Sets.	21-10-25	119-122	
38.	Types of Sets	22-10-25	123-125	
39.	Data Handling	23-10-25	126-129	
40.	Area of Trapezium and polygon.	24-10-25	130-134	
	<u>Diary Form Lesson</u>			
1.	Integers	1-11-25	1-3	
2.	Simple Interest	3-11-25	4-6	
3.	Fraction & Decimals	4-11-25	7-9	
4.	Algebraic Expression	5-11-25	10-12	
5.	Linear Equation in one Variable.	6-11-25	13-15	
6.	Linear Equation in two Variable.	7-11-25	16-18	
7.	Perimeter and area of plane figure.	8-11-25	19-21	
8.	Data Handling.	10-11-25	22-24	
	<u>I.C.T Based Lesson</u>			
1.	Circle.	11-11-25	1-4	

Index

Sr. No.	Particulars	Date	Page No.	Sig.
2.	Cube root	12-11-25	5-8	
3.	percentage	13-11-25	9-12	
4.	Data Handling	14-11-25	13-16	
5.	Congruence of Triangles.	15-11-25	17-20	
	<u>Unit Test Based lessons</u>			
1.	Percentage	17-11-25	1-3	
2.	Rational numbers.	18-11-25	4-6	
3.	Number system	19-11-25	7-9	
4.	Integers	20-11-25	9-10	
	<u>Discussion lesson</u>			
1.	Circle	13-11-25	1-4	
	<u>Teaching model based lessons</u>			
1.	Cube root	13-11-25	1-3	
2.	Simple Interest	14-11-25	5-8	
3.	Discount	15-11-25	8-12	

INDEX

Type of Lessons	Page No.
1 MICRO LESSONS	1-10
2 MACRO LESSONS	1-147
3 DIARY FORM LESSONS	1-204
4 ICT BASED LESSONS	1-25
5 UNIT TEST BASED LESSONS	2-10
6 DISCUSSION LESSON	2-4
7 TEACHING MODEL BASED LESSONS	2-12
8 OBSERVATION OF SCHOOL TEACHERS' LESSONS PEER TEACHING OBSERVATION	

TIME TABLE

	1	2	3	4	R E C E S S	5	6	7	8	9
Mon	Computer	Maths	Punjabi	Science			Maths		Social Science	
Tue	//	//	//	//		Computer	//	Physical Education	//	
Wed	//	//	Drawing	//		//	//	//	//	
Thu	Maths	Hindi	//	//		//	//	//	//	
Fri	//	//	Punjabi	//		//	//	//	//	
Sat	//	//	//	//		//	//	//	//	

TIME TABLE

	1	2	3	4	R E C E S S	5	6	7	8	9
Mon	Maths	Pbi	English	Hindi		Comp- uter	Social Sci	Sci	Eng	
Tue	"	"	"	"		"	"	"	"	
Wed	"	"	"	"		"	"	"	Physical Education	
Thu	"	"	"	"		Drawing	"	"	"	
Fri	"	"	"	Maths		"	"	"	"	
Sat	"	"	"	"		"	"	"	Drawing	

ATTENDANCE CHART

Sr. No.	Name of Student	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1	Atashdeep	P	*	P	P	*	A	*	P	P	P	*	*	A	A	P	P	P	P	*	*
2	Anmol	P		P	P		P		P	P	A			P	A	P	P	P	P		
3	Anmol Jasuja	P		A	P		P		P	P	P			A	P	P	P	P	P		
4	Anna Gill	A	H	P	P		P	H	P	A	P			A	P	P	A	P	P		
5	Diksha	P	L	P	P		A	L	P	P	A	>		P	P	A	P	P	P		
6	Ekam	P	2	P	P		P	2	A	P	P	A		P	A	P	P	P	P		
7	Fariyad	A	A	P	A		A	A	P	A	P	RD		P	P	P	P	P	P		
8	Gurwinder Singh	P	<	P	A		P	>	P	P	P	RD		P	P	P	A	P	P		
9	Jashandeep	P	A	P	P		P	A	P	P	P	>		P	P	P	P	P	P		
10	Jasmeet	P	H	P	P	>	P	H	P	P	P	T	>	P	P	P	P	A	P	>	H
11	Karanveer Singh	A	H	A	P	A	P		P	P	A	A	A	P	P	P	P	P	P	A	L
12	Khushi	P	H	P	P	D	P	H	P	P	P	S	D	P	P	P	P	P	P	D	A
13	Komal Rani	P	H	P	P	2	P	X	P	P	P	nd	2	P	P	P	P	A	P	2	W
14	Manseerat	P	A	A	P	>	P	H	P	P	P	nd	>	A	A	P	P	P	P	>	H
15	Muskan Kaur	P	2	P	P	S	P	H	P	P	P	S	S	P	P	P	A	A	P	S	D
16	Parneet Kaur	A	A	P	P		P	L	P	A	P			P	P	P	P	P	P		
17	Prinka	P	S	P	P		P	A	P	P	P			P	P	P	P	P	P		
18	Puneet	P		P	P		A	>	P	P	P			P	P	P	P	P	P		
19	Rohini	P		P	P		P		P	P	A			P	P	P	P	P	P		
20	Sanamdeep Singh	P	*	P	P	*	P	*	P	P	P	*	*	P	P	P	P	P	P	*	*

Signature & Stamp of School Principal

ATTENDANCE CHART

Sr. No.	Name of Student	21	22	23	24	25	26	27	28	29	30	31
1.	Aakashdeep	P	*	P	A	P	*	P	P	P	P	A
2.	Anmol	P		P	P	P		A	P	A	P	P
3.	Anmol Jasuja	P		P	P	P		P	P	P	P	P
4.	Anna Gill	P		P	A	P		P	P	P	A	P
5.	Diksha	P		A	P	P		P	A	P	P	P
6.	Ekam	P		P	P	A		A	P	P	P	P
7.	Fariyad	P		P	P	P		P	P	A	P	A
8.	Gurwinder Singh	P		P	P	P		P	P	P	A	P
9.	Jashandeep	P	>	A	A	P		P	P	P	P	P
10.	Karanveer Singh	P	<	P	P	P	>	P	P	P	P	P
11.	Khushi	P	A	P	P	P	<	P	P	P	P	P
12.	Jasmeet	P	H	P	P	P	A	A	P	P	A	P
13.	Komal Rani	P	J	P	A	P	Z	P	A	P	P	A
14.	Mansoorat	P	O	A	P	P	=	P	P	P	P	P
15.	Muskan kaur	P	I	P	P	A	U	P	P	P	P	A
16.	Parneet Kaur	P		P	P	P		P	A	P	A	P
17.	Prinka	P		P	P	P		A	P	P	P	P
18.	Puneet	P		A	P	P		P	P		P	P
19.	Rohini	P		P	P	P		P	P	P	P	P
20.	Sonamdeep Singh	P	*	P	P	P	*	P	P	P	A	P

Signature & Stamp of School Princip

ATTENDANCE CHART

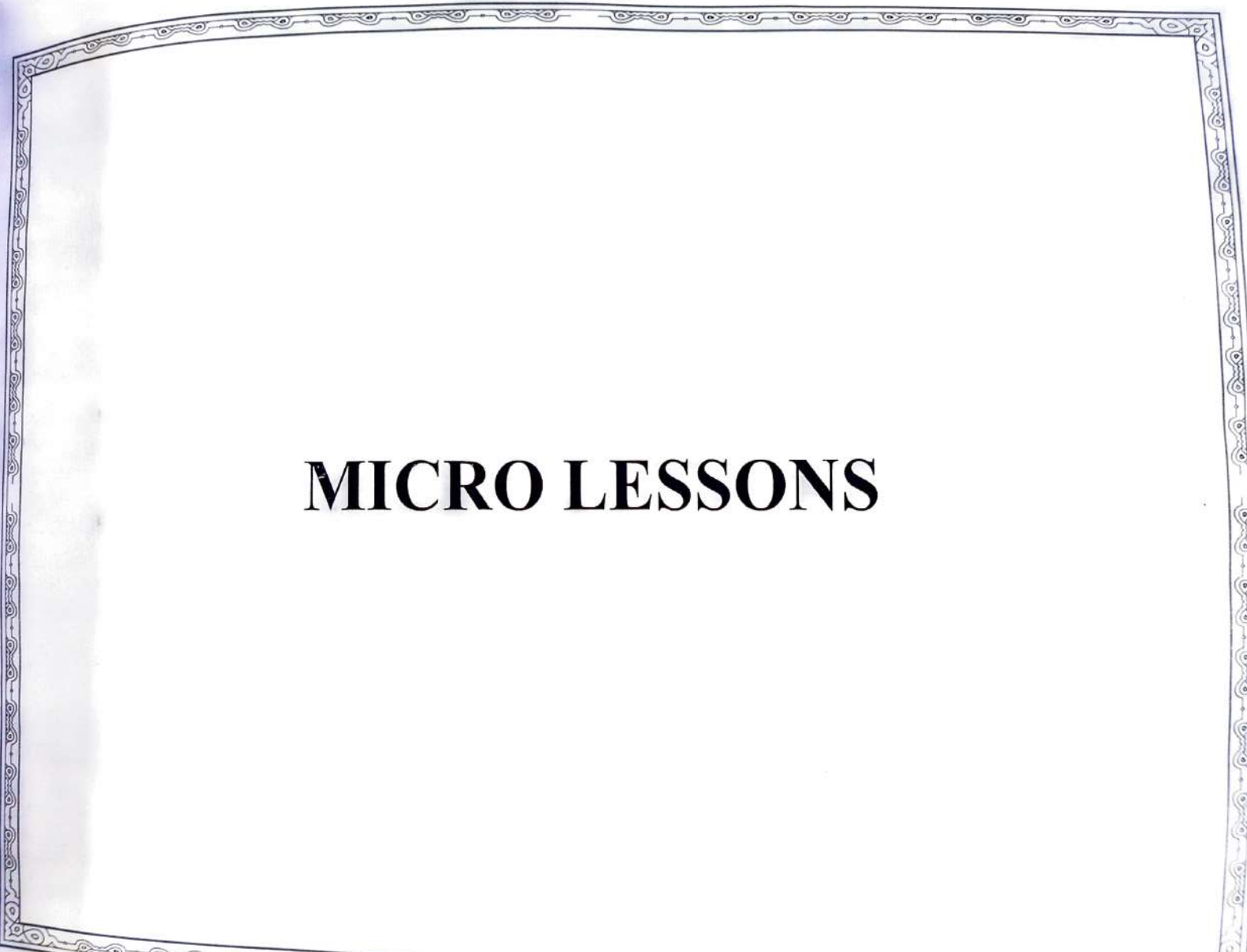
Sr. No.	Name of Student	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
1.	Atash deep	P	*	P	A	*	P	P	P	*	P	P	A	P	P	P	*	P	P	P	A	
2.	Anmol	P		P	P	H	P	P	P		P	P	P	P	A	P		A	P	A	P	
3.	Anmol Jasuja	P		A	P	T	P	A	P		P	A	P	P	P	P		P	P	P	P	
4.	Anna gill	P		P	P	Z	P	P	P		P	P	P	P	P	P		P	P	P	A	
5.	Diksha	P		P	P	A	P	P	A		P	P	P	P	A	P		P	P	P	P	
6.	Ekam	A		P	P	>	P	P	P		A	P	P	P	P	P		A	P	P	P	
7.	Farizad	P		A	P	A	P	A	P		P	A	P	P	P	P		P	P	P	A	
8.	Gurinder Singh	P		P	P	b	A	P	P		P	P	P	P	A	P		P	P	P	P	
9.	Jashandeep	P		P	A		P	P	P		P	P	A	P	P	P		P	A	P	P	
10.	Jasmeet	P	>	P	P	<	P	P	P	>	A	P	P	P	A	P		>	P	P	A	P
11.	Karanveer Singh	P	A	P	P	A	P	P	P	A	P	P	P	P	P	P		A	P	P	P	
12.	Khushi	A	A	P	P	Z	P	P	A	A	P	A	P	P	A	P		A	P	P	A	
13.	Komal Rani	P	Z	A	P	A	P	P	P	Z	P	P	P	P	P	P		Z	P	P	P	
14.	Manseerat	P	>	P	A	Z	P	P	P	>	A	P	P	A	A	P		>	A	P	A	P
15.	Muskan Kaur	P	S	P	P	>	P	P	P	S	P	P	P	P	P	P		S	P	P	P	
16.	Parnet Kaur	P		A	P	Q	P	P	P		P	A	P	P	P	P			P	P	P	
17.	Prinka	P		P	P	>	P	A	P		P	P	P	A	P	P			P	P	P	
18.	Puneet	P		P	P	S	P	P	P		A	A	P	P	P	P			A	P	A	P
19.	Rohini	P		P	P	I	P	P	P		P	P	P	P	P	P			P	P	P	
20.	Sonamdeep singh	P	*	A	P	*	P	P	P	*	P	P	A	P	P	P		*	P	P	P	P

Signature & Stamp of School Principal

ATTENDANCE CHART

Sr. No.	Name of Student	21	22	23	24	25	26	27	28	29	30
1.	Akashdeep	P	P	*	P	P	A	P	P	P	*
2.	Anmol	A	P		P	P	P	P	P	P	
3.	Anmol Jasuja	P	P		P	P	P	P	P	P	
4.	Anna Gill	P	A		P	P	A	P	A	P	
5.	Diksha	P	P		P	P	P	P	P	P	
6.	Ekam	P	A		P	P	P	P	A	P	
7.	Fariyad	P	P		P	P	A	P	P	A	
8.	Gurwinder Singh	P	P		P	P	P	P	P	P	
9.	Jashandeep	P	A		P	P	P	P	P	P	
10.	Jasmeet	P	P		P	A	P	P	P	P	
11.	Karanveer Singh	P	P		P	P	P	P	P	P	
12.	Khushi	P	P		P	P	P	P	P	P	
13.	Komal Rani	A	P		P	P	P	A	P	P	
14.	Manseerat	P	P		P	P	P	P	P	A	
15.	Manthan Kaur	P	P		P	P	P	P	P	P	
16.	Parneet Kaur	A	P		P	P	P	P	P	P	
17.	Prinika	P	P		P	P	P	A	P	P	
18.	Runeet	P	P		P	P	P	P	P	P	
19.	Rohini	P	P		P	P	A	P	P	A	
20.	Sonandeep Singh	P	A	*	P	P	A	P	P	P	*

Signature & Stamp of School Principal

A decorative border with a repeating scroll pattern surrounds the page content.

MICRO LESSONS

PT Roll no. :- 9095101

Subject :- Mathematics

Topic :- Integers

Date :-

Duration :- 15min

Class :- 7th

Subject Matter

PT Activity

Pupil Activity

The Teacher begins by recalling natural numbers (1, 2, 3, 4, ...) & then ask what comes before 1.

The Teacher asks :- Is there any number before 1? and shows a number line to introduce negative numbers.

pupil are sitting properly in the class and looking on blackboard.

Integers are Collection of positive numbers, negative no.s & zero.

The Teacher writes definition on the board and explains Integer include $\{-2, -1, 0, 1, 2\}$

Students note down the definition

on the numberline number increase towards right & decrease towards left

Teacher explains and give Examples: which is greater -2 or 3?

"Students answer: "3 is greater than -2"

Practical Elements

Ranking

1> The Intro of lesson was attractive.

0, 1, 2, 3, 4, 5, 6

2> The Teacher could keep fully concentration in the class.

0, 1, 2, 3, 4, 5, 6

3> The Class was fully discipline.

0, 1, 2, 3, 4, 5, 6

4> The sound & voice of PT was audible to students.

0, 1, 2, 3, 4, 5, 6

5> Praisable words has been used.

0, 1, 2, 3, 4, 5, 6

0 → Extremely poor

1 → very poor

2 → poor

3 → average

4 → Good

5 → very Good

6 → Excellent.

PT Roll no. 9- 9095101

Subject 9- Mathematics

Topic 9- Division

Date 9-

Duration 9- 15 min

Class 9- 7th

Subject Matter	PT Activity	Pupil Activity
Recall of multiplication as repeated addition	Teacher asks "If $3 \times 4 = 12$ can we find out how many 4's make 12?"	Students respond "yes, $12 \div 4 = 3$ "
<u>Definition of Division</u> : Division means sharing or grouping a number Equally	Teacher Explains with real object eg:- "lets share 12 pencil among 4 students Equally"	Students observe the demonstration and reply "Each student get 3 pencil"
<u>Terms used in Division</u> • Dividend:- no. to be divided • Quotient - result • Divisor $\rightarrow$ no. that divides • Remainder $\rightarrow$ leftover term	PT will tell students about Terms used in Division	Students will listen carefully and try to understand.

Practical Elements	Ranking
1) The Intro of lesson was attractive.	0, 1, 2, 3, 4, 5, 6
2) The Teacher could keepfully Concentration in the class	0, 1, 2, 3, 4, 5, 6
3) The Class was fully discipline	0, 1, 2, 3, 4, 5, 6
4) The Sound & Voice of P.T. was audible to students	0, 1, 2, 3, 4, 5, 6
5) Praisable words has been used	0, 1, 2, 3, 4, 5, 6

0 → Extremely poor
 1 → very poor
 2 → poor
 3 → average

4 → Good
 5 → very Good
 6 → Excellent

Subject
Topic :- Triangle
Subject Matter

Introduction :-
Revision of polygon
and number of
sides.

Definition of Triangle
A triangle is
closed figure
formed by
joining three
line segment.
It has 3 sides,
3 angles and 3
vertices.

PT-Activity

Teacher asks :- "What
do we call a closed
figure made by three
line segment?"

Teacher draws a
triangle on the
board and show
its sides, angle
and vertices.

Pupil Activity
Students respond
"A Triangle"

Students observe
carefully and
note down the
definition.

Practical Elements

1) The Intro of lesson was attractive.

2) The Teacher could keepfully Concentration in the class.

3) The Class was fully discipline.

4) The sound & voice of PT was audible to students

5) Praisable words has been used.

Ranking

0, 1, 2, 3, 4, 5, 6

0, 1, 2, 3, 4, 5, 6

0, 1, 2, 3, 4, 5, 6

0, 1, 2, 3, 4, 5, 6

0, 1, 2, 3, 4, 5, 6

PT Roll no. :- 2025101

Subject :- Mathematics

Topic :- Percentage

Date :-

Duration :- 15 min

Class :- 8th

Subject Matter

PT Activity

Pupil Activity

Introduction :-
Recall of fraction
and ratios.

Teacher asks: "If you
get 25 marks out of 50,
how much is that
out of 100?"

Students think and
answer: "50%."

Meaning of percentage :-
The word 'percentage'
means 'per hundred'
- out of 100

Teacher explains the
term "percent" using
the symbol (%). and
writes: $25\% = 25$ out of
100.

Students note and
repeat the definition

Conversion between
Fraction and percent

Example :- $\frac{1}{2}$
 $= \frac{1}{2} \times 100$
 $= 50\%$

Teacher Explains
through Example.

Students will
clear their
doubts & understand
the concept.

Fraction $\rightarrow$ % multiply 100

Practical Elements	Ranking
1> The Intro of lesson was attractive.	0, 1, 2, 3, 4, 5, 6
2> The Teacher Could keepfully Concentration in the class.	0, 1, 2, 3, 4, 5, 6
3> The Class was fully discipline.	0, 1, 2, 3, 4, 5, 6
4> The sound & Voice of PT was audible to the students.	0, 1, 2, 3, 4, 5, 6
5> praisable words has been used.	0, 1, 2, 3, 4, 5, 6

0 → Extremely poor
 1 → very poor
 2 → poor
 3 → Average

4 → Good
 5 → very Good
 6 → Excellent.

PT Roll no. :- 2095101
Subject :- Mathematics
Topic :- HCF

Date :-
Duration :- 15 min
Class :- 6th

Subject Matter	PT Activity	Pupil Activity
<u>Introduction</u> Recall of the concept of factors.	Teacher asks "what are the factors of 12?" & writes them on board.	Students respond: "1, 2, 3, 4, 6, 12".
<u>Definition of HCF</u> The HCF (Highest Common factor) of two or more numbers is the largest no. which divides each of them exactly.	Teacher writes definition on board and explains with Examples :- HCF of 8 and 12 is 4	Students listen and note down the definition.
<u>Methods to find HCF</u> 1) Listing method 2) Prime Factorization	Teacher demonstrates methods step by step on the board	Students observe and answer along with teacher.

Practical Elements

Ranking

1) The Intro of lesson was attractive.

0, 1, 2, 3, 4, 5, 6

2) The Teacher could keepfully concentration in the class.

0, 1, 2, 3, 4, 5, 6

3) The class was fully discipline

0, 1, 2, 3, 4, 5, 6

4) The sound & voice of PT was audible to the students

0, 1, 2, 3, 4, 5, 6

5) Praisable words has been used.

0, 1, 2, 3, 4, 5, 6

0 → Extremely poor

1 → very poor

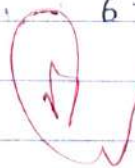
2 → poor

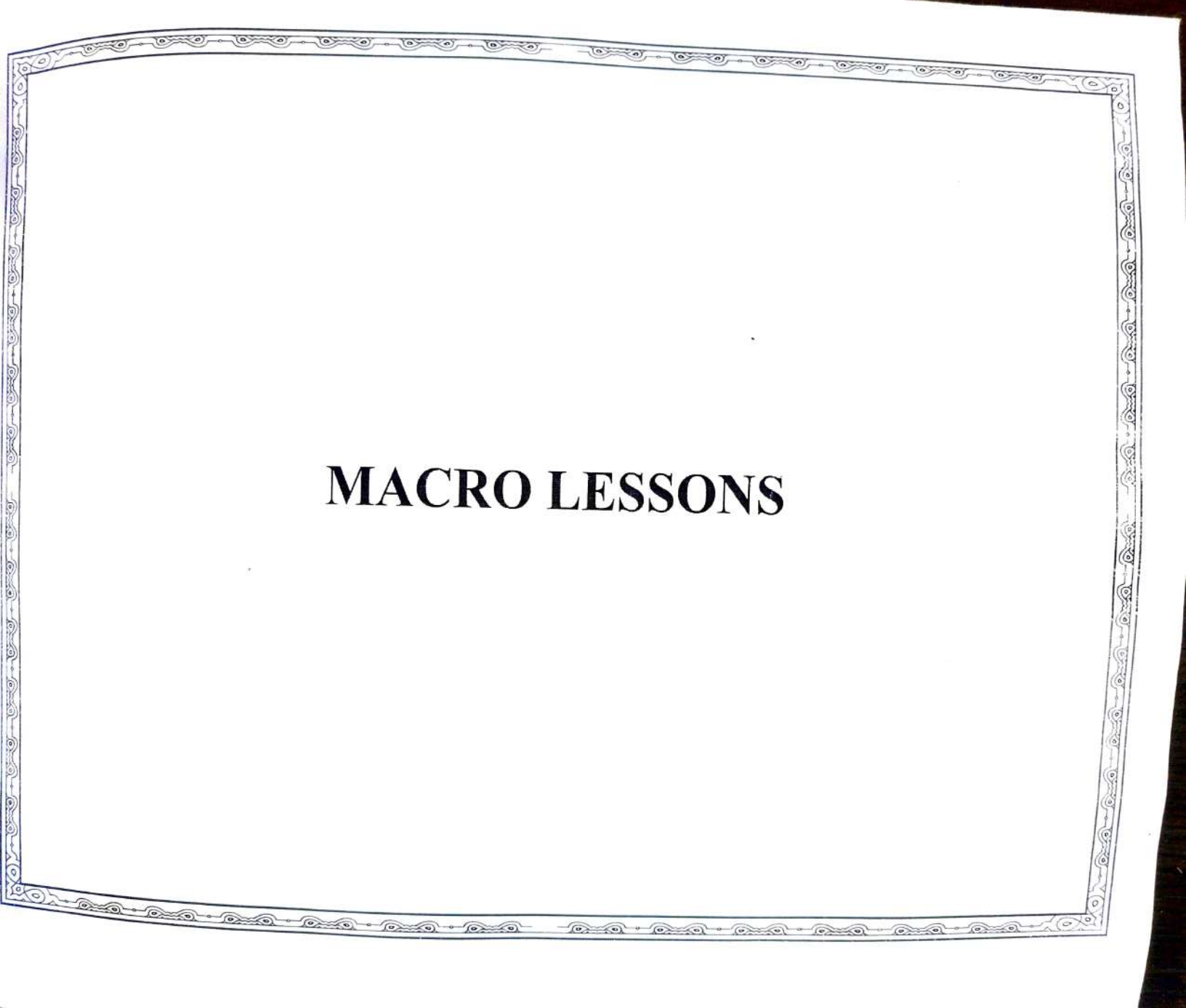
3 → Average

4 → Good

5 → very Good

6 → Excellent





MACRO LESSONS

(1)

Lesson Plan - 1

Name of Supervisor -

P.T Roll No. :- 2025101

Subject :- Mathematics

Topic :- Fraction

Class :- VIII

Duration :- 40 minutes

Date :-

INSTRUCTIONAL OBJECTIVES

After the completion of the lesson, Student will be able to :-

1. Define fraction
2. Explain different types of fraction
3. Differentiate between proper and improper fraction.
4. Arrange the given fraction into ascending and descending order.

INSTRUCTIONAL AIDS

Artificial pizza model, Fractional model

PREVIOUS KNOWLEDGE ASSUMED

P.T assumed that student have basic knowledge about whole number, natural numbers, integers & its properties.

Previous Knowledge Testing.

- Q1. How many of you like pizza?
- Q2. How many slices of pizza do you see?
- Q3. If I eat one slice of pizza then how many
- ~~Q4.~~ slices of pizza were left?
- Q4. What were the total slice of pizza and how many are remaining?
- Q5. How will you write it in the mathematical form?

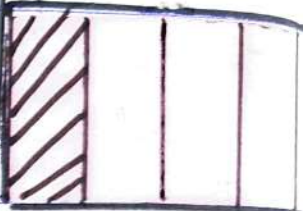
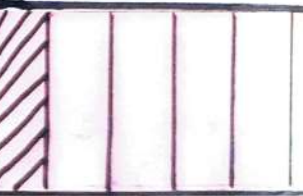
Announcement of the Topic

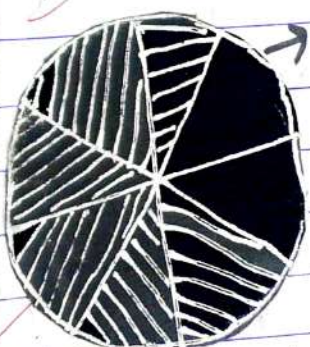
P.T will announce his topic, "So students, today we will learn about" Fraction"

Instructional Strategies

P.T will present her topic using lecture-cum-demonstration method. Active participation of the pupil is answered using question answer technique. Blackboard work is done side by side.

Subject Matter	Pupil Teacher Activity	Expected Pupil Activity	Instructional Aids	Blackboard Summary
<u>Fraction</u>:- Take a sheet of paper & divide into two parts (equal parts) Take one part with you & give your second part to your friend. so you have half of paper and it can be written as $\frac{1}{2}$: 1 is the no. you have and 2 is total no. parts 1 → Numerator 2 → Denominator	P.T will show the fraction model to the pupil and will ask how will you write one part of the model in the form of numerator. How you divide into parts & write it in the form of numerator How do you divide it into	Pupil will observe and try to give answers. Pupil will tell the answer. $\frac{1}{2}$ 1 → 1 part 2 → whole pupil will respond :- $\frac{1}{2}$	Chart paper or colored paper pieces Fraction bars or strips	<i>Activity</i> 1
				$\frac{1}{2}$ $\frac{1}{2}$

Subject Matter	Pupil Teacher Activity	Expected Pupil Activity	Instructional Aids.	Blackboard Summary
Activity → Take Two strips divide one strip into six parts and one into five parts then shade the one part of both strips.	write it in the form of numerator. PT will tell students to try out examples and ask can you write in mathematical form.	$\frac{1}{6}$ Pupil will observe the model and listen attentively	Flashcards showing different fractions	 $\frac{1}{5}$
<u>Defination</u> → Fraction is the part of whole a way to split up the numbers in equal parts. It can written in form as no.	PT will Explain the concept of fraction with the help of model.	pupil will note the defination on their notebooks.	Blackboard and Chalk	 $\frac{1}{6}$ Defination → Fraction is part of whole a way to split the number in equal.

Subject Matter	Pupil Teacher Activity	Expected pupil activity	Instructional Aids	Blackboard Summary
of equal part counted as numerator, total number of parts as denominator.	PT will give some examples to students			Parts Example :- $\frac{1}{2} \rightarrow$ Fraction $\frac{3}{4} \rightarrow$ Fraction
Types of Fraction 1) Proper fraction A fraction whose numerator is less than denominator is called proper fraction Eg:- $\frac{2}{3}, \frac{5}{7}, \frac{11}{15}$	PT will tell about proper fraction & show two circles whose some part is shaded & ask students to write down in mathematically.	pupil will observe the circles and give answers to questions	Real life objects like roti, pizza slice to demonstrate fractions	Types of Fractions Divide circle into 8 parts and shade 6 parts.  $\rightarrow \frac{3}{4}$ Improper fraction

Subject Matter	Pupil Teacher Activity	Expected pupil Activity	Instructional Aids	Blackboard Summary
2) Improper Fraction whose numerator is greater than its denominator is called Improper fraction. Eg:- $\frac{3}{2}, \frac{8}{5}, \frac{7}{3}$	PT will Explain about improper fraction and ask the students to write fraction to solve question	pupil will try to solve the question	PPT Slides with Examples	<u>Types of Fractions</u> 1. Proper Fraction 2. Improper Fraction 3. Mixed Fraction 4. Equivalent Fraction
3) Mixed Fraction A fraction which can be expressed as sum of a natural no. & a proper fraction is called mixed fraction	PT will ask the student if I distribute a chocolate having 9 pieces between two girls then how many chocolates	pupil will try to give answer and solve the question $\frac{9}{2}$	PPT Showing Chocolates	

Subject Maths	Pupil Teacher Activity	Expected pupil Activity	Instructional Aids	Blackboard Summary:
Example 8- $1\frac{2}{5} = 1 + \frac{2}{5}$	each girl has 2			
4) Equivalent Fractions :- Fraction that represent same part of a whole For Examples- $\frac{1}{2}, \frac{2}{4}, \frac{3}{6}$	PT will explain the concept of equivalent fraction with the help of examples.	pupil will listen attentively and note down on their notebooks.	Blackboard, Chalk	Examples :- $\frac{2}{3} \rightarrow$ proper fraction $N < D$ $\frac{8}{5} \rightarrow$ IF $N > D$ $1\frac{2}{5} \rightarrow$ Mixed fraction $\frac{1}{2}, \frac{2}{4}, \frac{3}{6}$ are equivalent fraction
are the Example of equivalent fraction				

Sectional Recapitulation

1. Define a fraction?
2. Identify wheather $\frac{9}{4}$ is proper or improper?
3. Convert $\frac{7}{2}$ into a mixed fraction.

Subject Matter	Pupil Teacher Activity	Expected Pupil Activity	Instructional Aids	Blackboard Summary
Real-life Examples of fraction	Shows pictures of pizzas, Chocolates, fruits. Ask: "What do you observe?"	pupil respond with daily life Examples	Flashcards and PPT slides	 Chocolate. Total pieces = 6 Fraction = $\frac{1}{6}$
Conversion of fraction	Solve Example on blackboard Step by Step	pupils solve similar Examples	Blackboard & chalk	

Final Recapitulation

1. Give 3 examples of fractions from your daily life
2. Classify the following fraction: $\frac{2}{3}$, $\frac{7}{4}$, $\frac{4}{4}$

Home Assignment

1. Write 5 examples each of proper and improper fractions
2. Draw and color 2 real life pictures where fractions are visible and label them.

Explanation was good
B.B. work was neat and clear

Lesson Plan-2

Name of supervisor:-

P.T Roll no.:- 2025/01

Subject :- Mathematics

Topic :- Symmetry

Class :- VII

Duration :- 40 minutes

Date :-

Instructional :-
Objectives

At the end of the lesson, an average pupil will be able to:-

1. Define Symmetry and line of Symmetry.
2. Identify examples of Symmetry from daily life
3. Draw and recognize lines of symmetry for basic shapes and objects.
4. Differentiate between line Symmetry & rotational Symmetry.

Instructional :-
Aids

Flash cards, PPT showing real-life Symmetrical figures, Blackboard and chalk, Video clips showing rotational Symmetry

Previous
Knowledge :-
Assumed

- Knowledge of basic shapes and Polygon (triangle, square, rectangle etc).
- understanding of equal division & mirror images.

Previous
Knowledge :-
Testing

1. Show a piece of paper. what is this?
2. What is shape of this paper? (Rectangle)
3. By folding it in half, what do we get? (Two equal halves)
4. What do you understand by term symmetry?

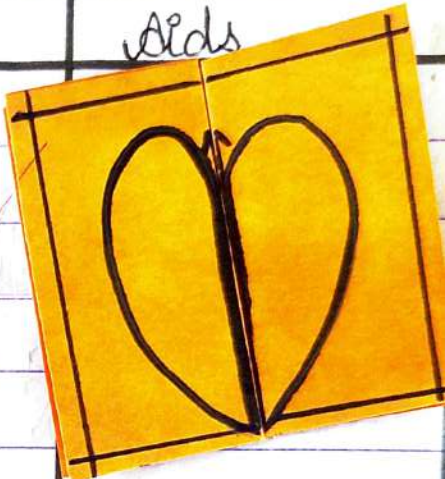
Announcement
of Topic :-
Topic

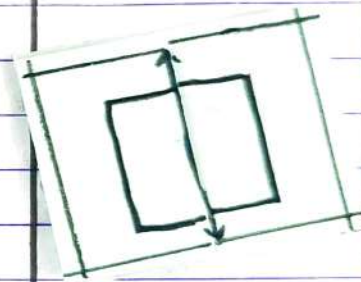
On the basis of student answer, the teacher will announce :-
"Well students! Today we are going to learn about Symmetry."

Instructional
Strategies :-
Strategies

- Lecture-cum-demonstrative method.
- Activity based learning
- Inductive-deductive technique.

Instructional Process

Subject Matter	Pupil Teacher Activity	Expected Pupil Activity	Instructional Aids
<u>Symmetry</u>:- It is when one shape become exactly like another if you flip, slide or turn it.	P.T will Explain the concept using real-life pictures (butterfly, Tajmahal, crab.)	Pupil will listen carefully & understand the concept.	
Eg:- A butterfly has two identical wings; one on each side of its body.	Teacher shows flashcards and asks: "What do you see?"	Pupil identify the object & respond.	Slides showing butterfly, Tajmahal & leaves.

Subject Maths	Pupil Teacher Activity	Expected pupil Activity	Instructional Aids	Blackboard Summary.
<u>Line Symmetry</u> A figure has a line symmetry if it can be folded along a line so that both halves match perfectly.	PT explains line symmetry & draws on blackboard.	Pupil will observe carefully and note down	Flashcards and Blackboard drawings. 	<u>line symmetry</u> A figure has a line symmetry if it can be folded along a line so that both halves match perfectly.

PT Rollno. :- 2025/01

Subject :- Mathematics

Topic :- Knowing our numbers.

Class :- 6th

Duration :- 40 min

Date :-

Instructional
objective :-

Instructional
Aids :-

Previous Knowledge
Assumed :-

PK Testing :-

Assessment of
Topic :-

Instructional
Strategies :-

After the completion of this lesson, students will be

1. Define place value & face value.

2. Develop interest in learning large numbers

• Blackboard, chalk, ppt and Flashcards will be used.

Students already know :-

• Numbers up to 5 digit

• How to perform basic operation (add, sub, multiplication)

1. What comes after 9999?

2. What is the place value of 5 in 5,432?

"Well done! you already know about small numbers. Today we will learn about "Knowing our Numbers". Which helps us to learn large numbers. Lec cum demonstration, Discussion and Explanation will be used.

Subject Matter	PT Activity	pupil Activity	Instructional Aids	Blackboard Summary
• Reading and writing large number up to 9 digit.	Teacher Explains the concept of large number	Students observe & listen carefully to teacher's Explanation		
• Indian and International place Value system	Teacher demonstrates the difference between Indian & International number system.	Students see and write large no. as instructed	<u>INTERNATIONAL SYSTEM</u>	<u>Knowing our numbers</u> 347 <u>5</u> 6 Place Value of 5 = 50 face Value of 5 = <u>5</u>
• place Value and face Value	Teacher writes Examples on board	Students answer questions related to place & face Value.		
• Comparing and ordering numbers				

Subject Matter	PT Activity	Pupil Activity	Instructional Aids	Blackboard Summary
• Round off numbers to nearest tens, hundred and thousands • Forming smallest and greatest number from given numbers	Teacher guides student to form & compare different numbers.	Students participate in comparing and arranging number in ascending & descending order.		<u>Round off</u> 24.564 $= 24.56$ 24.566 $= 24.57$

Recapitulation :-

1. what is difference between place value & face value.
2. How many digit are there in one lakh & one crore?

Home Assignment :-

write any five numbers in both Indian & International systems.

write place value of each digit 3,56,728

PT Roll no - 2023101

Subject - Mathematics

Topic - Cube

Class - 8th

Date -

Duration - 40 min.

Instructional Objectives -

- After the completion of this students will be able to
1. To know about the cube.
 2. Find the cube of a given number.

Instructional Aids -

- Blackboard, chalk, Flashcards for practice.
- Powerpoint slides, charts showing cube numbers.

Previous Knowledge Assumed -

- Students are already familiar with -
- Concept of square and square numbers
- Multiplication of whole numbers

PK Testing -

1. What do we mean by $2 \times 2 \times 2$?
2. What is square of 3?

Announcement of Topic -

Today we are going to learn about "Cubes" and how to find cube of a number.

Instructional Strategies -

lec cum demonstration method, Discussion, Brainstorming will be used.

Subject matter	PT Activity	Pupil Activity	Teaching Aids
<u>Cube</u> - To multiply single no. 3 times itself is called Cube of no.	Teacher will explain the term cube & its use.	Students will listen Carefully	$(a+b)^3 = a^3 + b^3 + 3ab$ OR $(a+b)^3 = (a+b)(a^2 + 2ab + b^2)$
foreg- $9^3 = 9 \times 9 \times 9 = 729$ $(a+b)^3 = (a+b)(a^2 + 2ab + b^2)$ or $= a^3 + b^3 + 3ab(a+b)$	Teacher will teach formula to find out cube of number	Students will try to understand it properly	<u>Cube</u>:- To multiply single number 3 times itself is called cube.
Q:- Find $(51)^3$ $(51)^3 = (50+1)^3$ $= (50+1)(50+1)(50+1)$		Students will listen & note down on their	

Subject Matter	PT Activity	Pupil Activity	Teaching Aids	Blackboard work
By formula we write $= (50+1) [(50)^2 + 2 \times 50 \times 1 + (1)^2]$ $= 12500 + 7651$ $= 132651$	Teacher Establish how to find the cube of a different number.	notebook Carefully. Students will maintain discipline	$(51)^3 = (50+1)^3$ $= (50+1)$ $[(50)^2 + 2 \times 50 \times 1 + (1)^3]$ $= 12500 +$ 7651 $= 132651$	Eg:- 8^3 $= 8 \times 8 \times 8$ $= 512$

(5)

PT Roll no :- 2025101

Subject :- Mathematics

Topic :- Integers

Class :- 7th

Date :-

Duration :- 40 min

Instructional
Objectives :-

Instructional
Aids :-

Previous Knowledge
Assumed :-

PK Testing :-

Announcement of
Topic :-

Instructional
Strategies :-

After the completion of this lesson, students will be able to

- Define Integers.
 - Identify & represent integers on number line.
- Blackboard and chalk.
- Number line chart.
- Flash cards.

Students already know :-

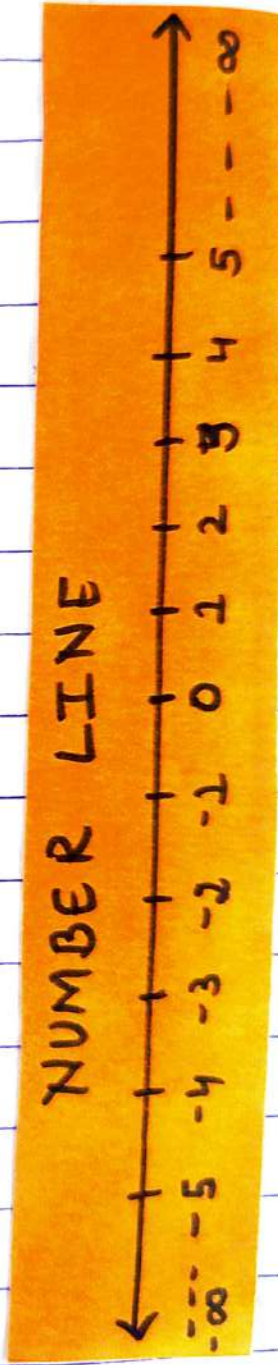
(i) The concept of natural numbers and whole numbers.

1. What are natural numbers?

2. What are whole numbers?

"Today we are going to learn about numbers that lie on both sides of zero" Integers!

Lesson demonstration method, discussion and Brainstorming will be used.

Subject Matter	PT Activity	Pupil Activity	Teaching Aids
<u>Integers</u>!- The numbers like $-4, -3, -2$ so on up to infinite integers	PT will explain about integers and its types.	Students will listen carefully and try to understand it properly	
<u>Types of integers</u>: 1) The numbers like $1, 2, 3$ are positive integers 2) The numbers like $-1, -2, -3$ are negative integers. 3) The no. zero is neither positive or -ve integer	PT will explain types in detail	Students will maintain discipline	

Subject Matter	PT Activity	Pupil Activity	Teaching Aids	Blackboard Wg.
<u>Presentation of Integers</u> :- Draw a line and mark any point on it use mark $\bullet$ at this point now use mark at equal dist. on right side & left of '0'	PT will Explain the representation of integers on the number line on black board.	Students will listen and note down on their notebook Carefully.		

- Recapitulation :-
1. What are negative integers?
 2. What is absolute value of -83 ?
 3. What is absolute value of 0 ?

Home Assignment :- Test of integers.

Topic :-
Instructional
Objectives :-

After the completion of this lesson, students will be able to

- Define a term in algebra.
- Identify and write the factors of given term.

Blackboard and chalk, flashcards of algebraic terms, powerpoint slides.

Students already familiar with

- The concept of multiplication and variables
- Simple algebraic Expressions like $3x$, $5y^2$

1. what is a variable?

2. what is the constant in the term $4x$?

"Today we will learn how to find the factors of a Term".

Demonstration, discussion demonstration method
discussion will be used.

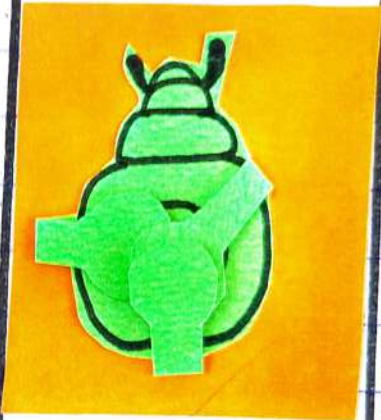
Instructional Aids :-

Previous Knowledge
Assumed

PT Testing :-

Announcement of
Topic :-

Instructional
Strategies :-

Subject Matter	PT Activity	Pupil Activity	Teaching Aids	Blackboard Writing
A factor of term is a number or variable that is multiplied to gather to form that term.	PT will Explain the term factor	Student will try to understand the concept.		
Eg- $3x$, the factors are 3 and x. $5xyz$, the factors are 5, x, y, z.	PT will give Examples	Students will maintain Discipline		A factor of Term- $5xyz$, the factors are $5xyz$ $\swarrow$ $5, x, y, z$
• Factors are multiplied together.	PT will Explain Properties			

Subject Matter	PT Activity	Pupil Activity	Teaching Aids	Blackboard Work
Factors cannot be broken down further. For Eg:- 2 and 3 are factors of 6. And it cannot break down any further.	PT will clear whole concept in detail.	PT will try to understand the concept and note down on their note books.		Factors cannot be broken down further

Instructional Objective :-

After the Completion of lesson Students will able to :-

- Define triangle
- Classify triangles based on sides and based on angles

Instructional Aids :-

→ Blackboard and chalk
→ Flashcards • Worksheets

Previous Knowledge :-
Assumed :-

Students already know :-

1. How many sides does a triangle have?
2. What is an angle.

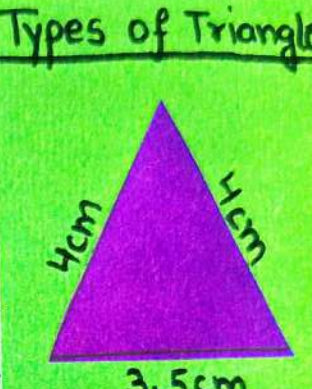
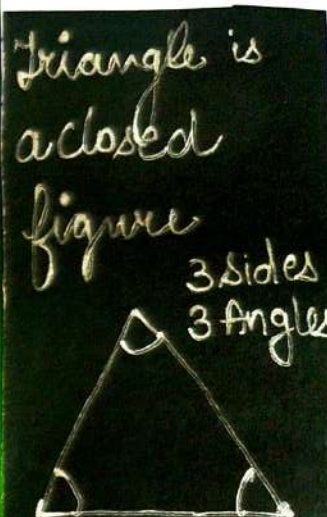
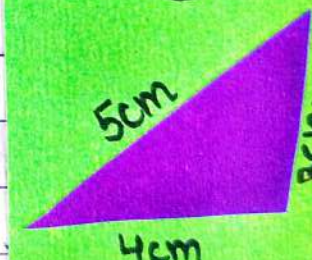
P.K. Testing :-

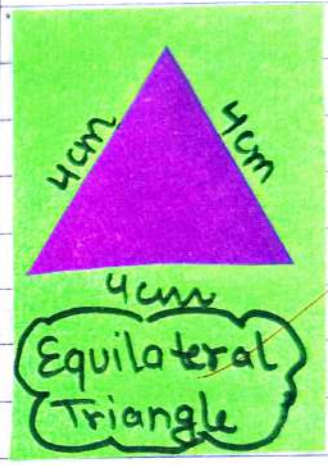
• The concept of line segment and angles.
• How to draw simple geometrical figures
Well students, Today we will learn about the "Types of Triangles"

Announcement of Topic :-

Instructional Strategies :-

Lesson demonstration method, Discussion Brainstorming will be used.

Subject Matter	PT Activity	Pupil Activity	Teaching Aids	Blackboard work
Triangle is a closed figure which has 3 sides, 3 vertices and 3 angles as shown on blackboard.	PT will tell about Term Triangle.	Students will understand the concept carefully.	Types of Triangle 	Triangle is a closed figure 3 sides 3 angles 
The sum of 3 angles of a triangle is equal to 180° we divide triangles on basis of sides & angles	PT will tell about angles of triangle.			Sum of angles of triangle is <u>180°</u>
On basis of sides 1. Isosceles Triangle 2. Scalene Triangle	PT will tell about properties of triangle on basis of			

Subject Matter	PT Activity	Pupil Activity	Teaching Aids	Blackboard W.P.
3. Equilateral Triangle	Sides.	Student will clear		Types on Basis of Angles.
<u>On basis of Angles</u> 1. Acute Angle triangle. 2. Right Angle Triangle. 3. Obtuse Angle Triangle.	PT will Explain on basis of Angles.	their doubts properly.		1. Acute 2. Right 3. obtuse angled Triangle.

Recapitulation :-

1. what is sum of angles of Triangles?
2. Explain the types of Triangle on basis of sides?

Home Assignment :- Draw different types of Triangle.

IT roll no:- 2025101

Subject:- Mathematics

Topic:- Pythagoras Theorem

Class:- 8th

Date:-

Duration:- 40 min

Instructional Objective:-

After the completion of this lesson, student will be

- Able to state & explain pythagoras theorem
- Apply the theorem to find unknown side of a right triangle.

Instructional Aids:-

Blackboard, chalk, geometrical instrument, Powerpoint

Previous Knowledge Assumed:-

Students are already familiar with:-

- properties of Triangle
- Types of Triangles based on angles.

PK Testing:-

1. What is right-angled triangle?
 a. Which side is opposite to the right angle?

Announcement of Topic:-

Today, we are going to learn one of the most famous results in geometry - "Pythagoras Theorem".

Instructional Strategies:-

Inductive Demonstration method, Discussion method, Explanation will be used.

PT Roll no:- 2025/01

Subject:- Mathematics

Topic:- Pythagoras Theorem

Class:- 8th

Date:-

Duration:- 40 min

Instructional Objective:-

After the completion of this lesson, student will be

- Able to State & Explain pythagoras theorem.
- Apply the theorem to find unknown side of a right triangle.

Instructional Aids:-

Blackboard, chalk, geometrical instrument
Powerpoint

Previous Knowledge Assumed:-

Students are already familiar with:-

- properties of Triangle
- Types of Triangles based on angles.

PK Testing:-

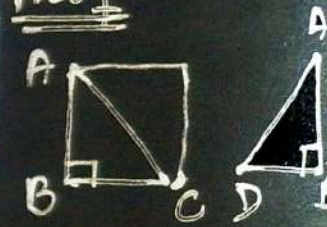
1. What is right-angled triangle?
2. Which side is opposite to the right angle?

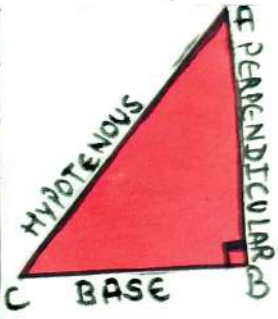
Announcement of Topic:-

Today, we are going to learn one of the most famous results in geometry - "Pythagoras Theorem".

Instructional Strategies:-

Lesson Demonstration method, Discussion method, Explanation will be used.

Subject Matter	PT Activity	Pupil Activity	Teaching Aids	Blackboard work
<u>Statement</u>:- In a right angle triangle sq. of hypoteneous is equal to sq. of other two sides each.	PT will ask to Students to read Statement from chart.	Students will listen Carefully and try to understand properly	<u>Pythagorou's Theorem</u>:-	
<u>To prove</u>:- $AC^2 = AB^2 + BC^2$	PT will Skill of	Students maintain discipline.	In a right angle triangle sq. of hypoten-eous is Equal to Sq. of other two sides.	
<u>Proof</u>:- Construction:- From B draw $BD \perp AC$. In $\triangle ABC$ & $\triangle ADB$ $\angle A = \angle A$ (Common) $\angle ABC = 90^\circ = \angle ADB$ $\angle ABC = \angle ADB = 90^\circ$ $\therefore$ By Congruency Rule of AA A $\triangle ABC \cong \triangle ADB$ $\frac{AB}{AD} = \frac{AC}{AB}$	Variation in class and will ask Students to notedown on their notebook.		$AC^2 = AB^2 + BC^2$	<u>Pythagoras Theorem</u> <u>Proof</u> 

Subject Matter	PT Activity	Pupil Activity	Teaching Aids	Blackboard Work
Cross multiply $AB \times AB = AC \times AD$ $AB^2 = AC \times AD$ Now in $\triangle ABC$ & $\triangle BDC$, $\angle C = \angle C$ $\angle ABC = 90^\circ$, $\angle BDC = 90^\circ$ Again by Congruent Rule of AAA	PT will move in classroom and check the notebook	students will listen and note down on their notebook		

Recapitulation :- 1. Write theorem which we have proved?
 2. Tell statement of this theorem?

Home Assignment :- Revise theorem and solve question related to it

(Signature)

(11)

PT Roll no - 2025101

Subject - Mathematics

Topic - Angle and its Types

Class - 6th

Date -

Duration - 40 min

Instructional Objectives -

After the completion of this lesson, students will able to

- Define an angle.
- Classify angles based on their measures.

Instructional Aids -

Blackboard, chalk, Geometry box, Chart showing different types of angles, Flashcards.

Previous knowledge
Assumed -

Students are already familiar with -

- points, lines and line segments.
 - Basic shapes like triangles and rectangles.
1. What is a line?
 2. What shape has four right angle?

PK Testing -

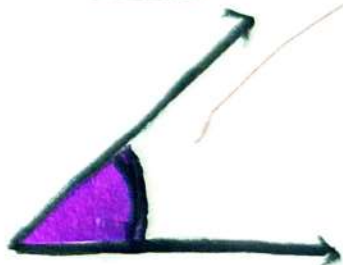
Today we are going to learn about angles -

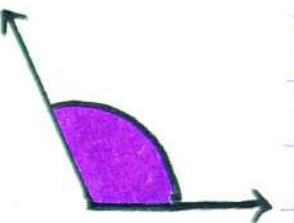
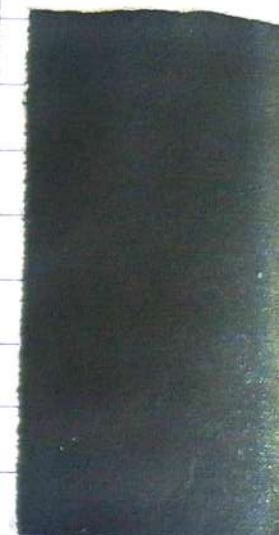
Announcement of Topic -

how they are formed and the different types of angles based on their measurement.

Instructional Strategies -

Recum demonstration, Discussion, Brainstorming will be used.

Subject Matter	PT Activity	Pupil Activity	Teaching Aids
<u>Angle</u> :- It is formed by 2 lines with common initial point	PT will tell that 2 rays with common initial point form an angle.	Pupil will try to understand the definition carefully.	Angle is formed by 2 lines with common initial point.
<u>Types of Angle</u>			1. <u>Acute</u>
1. <u>Acute Angle</u> :- A angle whose measure is less than 90° is called Acute Angle. Eg:- $45^\circ, 80^\circ$	Pupil Teacher will explain Acute Angle Eg $30^\circ, 45^\circ$	pupil will try to solve the question if necessary then noted down on their notebook.	 A diagram showing an acute angle. Two rays originate from a common vertex. One ray is horizontal and points to the right. The other ray points upwards and to the right. The angle between them is shaded in purple.
2. <u>Right Angle</u> :- A angle whose measure is equal to 90° Eg:- 90°	PT will explain Right angle Eg 90°		2. <u>Right</u>  A diagram showing a right angle. Two rays originate from a common vertex. One ray is horizontal and points to the right. The other ray is vertical and points upwards. A small square is drawn at the vertex to indicate the 90° angle. The area between the rays is shaded in purple.

Subject Matter	PT Activity	Pupil Activity	Teaching Aids	Blackboard work
3. <u>Obtuse Angle</u> :- A Angle whose measure is greater than 90° but less than 180° is obtuse angle Eg:- $90^\circ < \angle < 180^\circ$	PT will Explain obtuse angle whose measure is greater than 90° but less than 180°.	pupil will try to clear their doubts respectively.	3. <u>obtuse</u> 	

Recapitulation :-

1. What is angle?
2. How many types of angles are there?

Home Assignment :- write the Example of each

1. Complete Angle
2. Acute Angle
3. Obtuse Angle

PT Roll no - 2025101

Subject - Mathematics

Topic - Profit and loss

Class - 8th

Date -

Duration - 40 min

InstructionalObjective :-

After the completion of lesson, student will be able to

- (i) Distinguish between profit and loss.
- (ii) Understanding and define the concept of Cost price & Selling price.

Instructional Aids :-

Blackboard, chalk, flashcards with Examples, Real life Objects, PPT

Previous KnowledgeAssumed :-

Students are already familiar with

- (i) The concept of percentage.
- (ii) Simple interest and everyday transaction money.

PK Testing :-

1. what do you mean by "buying and selling"?
2. what is meant by percentage?

Announcement ofTopic :-

Today we will learn how to calculate "profit and loss"

InstructionalStrategies :-

recurrent demonstration, Brainstorming, discussion will be used.

Subject Matter	PT Activity	Pupil Activity	Teaching Aid
<u>Cost price</u> :- The price at which the article is produced is C.P.	PT will Explain about Cost price.	pupil will try to understand the definition of C.P & S.P.	
<u>Selling price</u> :- The price at which article is sold is called as S.P.	PT will Explain about selling Price		<u>Profit</u> :- $S.P > C.P$ $\therefore P = S.P - C.P$ $\swarrow$ <u>Selling Price</u> $\downarrow$ <u>Cost Price</u>
<u>Profit</u> :- If Selling price of article is more than cost price is called profit.	PT will Explain Profit and ask the question.	Pupil will answer the questions	
Profit = $S.P - C.P$			

Profit

$$= S.P - C.P$$

$$S.P > C.P$$

S.P $\rightarrow$ Selling Price

C.P $\rightarrow$ Cost price

Subject Matter	PT Activity	Pupil Activity	Teaching Aid	Blackboard work
<u>Loss</u> :- If cost price of article is more than the selling price it is called as loss. $\text{Loss} = \text{C.P.} - \text{S.P.}$	PT will explain loss and tell students to write the example of a loss.	pupil will write Examples.	<u>Loss</u> :- $\text{C.P.} > \text{S.P.}$ $L = \text{C.P.} - \text{S.P.}$	loss $= \text{C.P.} - \text{S.P.}$ $\text{C.P.} > \text{S.P.}$

Recapitulation :- 1. write the formula of profit & loss
 $\text{profit} = \text{S.P.} - \text{C.P.}$
 $\text{loss} = \text{C.P.} - \text{S.P.}$

Home Assignment :- 1. If C.P. of Article is Rs 15 and sold at Rs 25 find profit or loss?
 2. If item sold at loss of Rs 5 and C.P. of Article is Rs 20 find the S.P?

(11)

P.T Roll no:- 2025101

Class :- 7th

Subject :- Mathematics

Date :-

Topic :- Exponent and Power

Duration :- 40 min

Instructional Objectives:-

Instructional Aids:-

Prior Knowledge Assumed:-

P.K. Testing:-

Announcement of Topic:-

Instructional Strategies:-

After the completion of the lesson students will be able to:-
i) Define an Exponent and power.
ii) Write large numbers in Exponential form.
Blackboard, chalk, Flashcards, worksheet for practice problems.

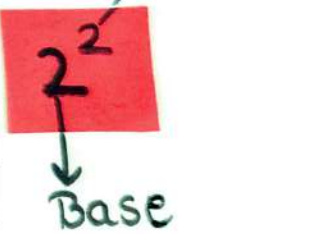
Students are already familiar with:-
i) Squares and Cubes of numbers.
ii) Concept of powers

1. What do we call 3^2 ?

2. What is $2 \times 2 \times 2$?

Well students, Today we will learn about topic "Exponents and power".

Let cum demonstration, Brainstorming, Explanation and discussion will be used.

Subject Matter	PT Activity	Pupil Activity	Teaching Aid	Blackboard work
Exponential form is a way of expressing a standard number using a base and a smaller raised number is called Exponents.	PT will explain the term Exponent	pupil will try to understand the definition carefully and write on their notebook.	Exponent & Power	
As exponent is used to tell how many times a number called a base is used a factor. In a Exponent is 7	PT will tell the students how to find base & Exponent	pupil will maintain discipline and try to understand carefully.	 The diagram shows the expression 2^2 inside a red square. An arrow points from the superscript '2' to the word 'Exponent'. Another arrow points from the base '2' to the word 'Base'.	<u>Exponents</u> If given $2 \times 2 \times 5$ times $= 2^5 \rightarrow$ power $\downarrow$ Base means 2 raised to power 5

Subject Matter	PT Activity	Pupil Activity	Teaching Aid	Blackboard work
<u>Example:-</u> 2^4, 4 is the power and 2 is the factor multiple by itself 4 times $2^4 = 2 \times 2 \times 2 \times 2$ $= 16$ Law of Exponents.	PT will Explain with the Example.	pupil try to clear their doubts respectively.		$9^2 = 9 \times 9$ $= 81$

Recapitulation

1. Express 125 in power of 5
2. $4^3 \times 4^4$ solve it?
3. $2^5 \times 2^3$ solve it?

Home Assignment

Solve the question

i) $2^6 \times 2^4$?

ii) $(3^2)^4$

15

PT Roll no :- 2025101

Subject :- Mathematics

Topic :- Divisibility Rule

Class :- 6th

Date :-

Duration :- 40 min

Instructional Objectives :-

After the completion of lesson students will be able to i) understand the concept of divisibility ii) State & apply the rules of divisibility for number 2, 3, 4, 5, 6, 7, 8, 9, 10, 11.

Instructional Aids :-

Blackboard, Chalk, charts, flashcards with numbers and PPT.

Previous Knowledge Assumed :-

Students are already familiar with:-
i) Basic division & multiplication
ii) Concept of factors and multiples.

Pk Testing :-

1. what do you mean by a factor?
2. what are multiple.

Announcement of Topic :-

well students, Today we will learn about "Divisibility Rules".

Instructional Strategies :-

Discussion, sec cum demonstration method. Brainstorming will be used.

Subject Matter	PT Activity	Pupil Activity	Teaching Aids	Blackboard work
<u>Division</u> :- If the remainder is '0' we get to know it no. is exactly divisible by another number.	PT will Explain division of 2 numbers.	pupil will try to understand the definition carefully.	$\div 2$ The last digit is Even (0, 2, 4, 6, 8)	<u>Divisibility Rule Application</u>
Divisibility of 1) 2 :- A number whose unit place is either 0 or even is divisible by '2'	PT will Explain divisible number with help of flash cards eg 20.	pupil will maintain discipline	$\div 5$ The last digit is a 0 or 5	2460 is divisible by 2? last digit '0' $\therefore$ yes, divisible by '2'
2) 5 :- A no. whose unit place is 0 or divisible by 5 is divisible by 5 3) 10 :- A no. whose unit place is '0'	PT will Explain divisibility Rule.		$\div 10$ The last digit is a zero	

Subject Matter	PT Activity	Pupil Activity	Teaching Aids	Blackboard work
is divisible by 10. 4) (3) :- If sum of all digit of no. is divisible by 3 then it is divisible by 3 5) (9) :- If sum of all digit is divisible by 9	PT will write all divisibility rule on board.	Pupil clear all their doubts.		960 is divisible by 10? yes, it is divisible by 10.

Recapitulation :-

1. 19822 is divisible by 3 or 9 or 2
2. 25 19835 is divisible by 3

Home Assignment :- which of following is divisible by 5

- a) 2135
- b) 2137
- c) 2140

PT Roll no:- 2025101

Subject:- Mathematics

Topic:- Algebraic Expression

Class:- 8th

Date:-

Duration:- 40 min

Instructional Objectives :-

Instructional Aids :-

Previous Knowledge Assumed :-

PK Testing

Announcement of Topic :-

Instructional Strategies :-

After the completion of this lesson, Students will be

i) Able to define algebraic Expression.

ii) Identify constants, Variables & Coefficients.

Blackboard, chalk, chart showing Examples of algebraic Expression

Students are already familiar with:-

i) Basic arithmetic operation

ii) The concept of terms in arithmetic

1. What are numbers called that are used in arithmetic?

Well students, Today we will learn about "Algebraic Expression".

Accum demonstration, discussion, Brainstorming will be used.

Subject Matter	PT Activity	Pupil Activity	Teaching Aids	Blackboard work
Is the Expression $4x+5$, x is Variable & 5 is Constant.	PT will Explain Algebraic Expression	Pupil will try to understand the definition carefully and		
<u>Monomials</u>- Expression that contain only one term. Eg:- $4x^2$, $7x^2$	PT will Explain Types of Algebraic Expression	write on notebook	Algebraic Expression $\rightarrow$ I] Constant variable $\rightarrow$ II] Coefficient $5x^2 + 2y + 9xy$ Monomial $\rightarrow$ Binomial $\rightarrow$ Trinomial	<u>Algebraic Expression</u> ① Monomial ② Binomial ③ Trinomial ④ Polynomial
<u>Binomial</u>:- Expression that contain two terms Eg:- $5 - 3xy$		Pupil will maintain the		
<u>Trinomial</u>:- Expression that contain three terms Eg: $a+b+c$	PT will give Examples of each type of Algebraic	Discipline		

Subject Matter	PT Activity Expression	Pupil Activity	Teaching Aid	Blackboard work
<u>Polynomial</u> :- Expression that contain one or more term Eg:- $3xy$ <u>Like terms</u> :- Eg:- $7x, 3x, -13x$	PT will ask some questions.	pupil try to clear their doubts		
<u>Unlike terms</u> :- Eg:- $7x, 5x^2$				

Recapitulation :-

1. What are like terms?
2. Explain with examples unlike terms?

Home Assignment :- Identify Coefficient
 $7x^2yz - 5zx$

PT Roll no 1- 2025101

Subject 1- Mathematics

Topic 8- Discount

Class 1- 8th

Page 1-

Duration 1- 40 min

Instructional
Objectives 8-

Instructional Aids 1-

Previous Knowledge
Assumed 8-

1st Testing 8-

Announcement of
Topic 8-

Instructional
Strategies 8-

After the completion of lesson students will be able to 1-

- Define the term discount.
- Solve word problems related to discount.
- Blackboard and chalk.
- Flashcards showing price & discount.
- Students already know 1-
 - The concept of percentage and profit/loss.
 - Basic multiplication & subtraction.
- 1. What is selling price in profit and loss?
- 2. Have you seen "50% off" in shops? What does it mean?
- Tell students, Today we will learn mean? to calculate 'discount'.

discuss demonstration method; Discussion; Explanation will be used

Subject Matter

Marked price &

The price at which the article is marked

Selling price &

The price at which the article is sold

Discount &

Discount is the difference between the MP and the S.P

$$\therefore \text{Discount} = M.P - S.P$$

PT Activity

PT will Explain the marked Price

PT will tell about Selling Price

PT will tell about Discount and formula of Discount

Pupil Activity

pupil will try to understand definition

pupil will write carefully on their note books

pupil will maintain discipline

Teaching Aids



Discount Formula

$$\text{Discount} = \text{Listed Price} - \text{Selling Price}$$

$$\text{Discount} = \text{Listed Price} \times \text{Discount Rate}$$

$$\text{Rate of Discount} = \frac{\text{Discount}}{\text{Listed Price}} \times 100$$

Blackboard work

Marked Price or Listed Price
↓
at which article is marked.

$$D = \frac{M.P - S.P}{M.P} \times 100$$

109

Subject Matter	PT-Activity	Pupil-Activity	Teaching-Aids	Blackboard Work
<u>Discount</u> <u>percentage :-</u> $\frac{M.P - S.P}{M.P} \times 100$	PT will Explain about <u>discount</u> <u>percentage.</u>	pupil will Clear their doubts.		

- Recapitulation :-
1. If $M.P = ₹ 55$ and $S.P = ₹ 50$. find Discount.
 2. If $M.P = ₹ 80$, $S.P = ₹ 70$, find Discount.

Home Assignment :- Student tomorrow test of this chapter.

PT was
 confident
 lesson was
 good.

[Signature]

(16)

PT Roll no:- 2025101

Subject:- Mathematics

Topic:- Probability

Class:- 9th

Date:-

Duration:- 40min

Instructional Objectives:-

After the completion of lesson student will be

- (i) Able to define probability.
- (ii) Develop reasoning and logical thinking.

Instructional Aids:-

→ Black board and chalk.

→ Coins and dice for demonstration.

Previous Knowledge Assumed:-

Students already know:-

- Counting numbers and simple fraction.
- How to count possible outcomes.

PK Testing

1. What happens when you toss a coin?

2. How many faces does a die have?

Assessment of Topic:-

Today, we are going to study 'probability' the measure of how likely an event is to happen.

Instructional Strategies

Lecture method, Demonstration method, Discussion method, Project-Based method will be used.

Subject Matter	PT-Activity	Pupil Activity	Teaching Aids	Blackboard work												
probability is the chance of a event to occurring is number of successful outcome divide by the total no. of possible outcome	PT will Explain defination of probability	Pupil will understand the defin-ation of probability														
probability = $\frac{\text{no. of favour outcome}}{\text{no. of total outcome}}$	PT will write formula of probability	Pupil will maintain discipline	probability <table border="1"> <thead> <tr> <th>What is the probability of ...?</th> <th>favourable outcomes possible outcomes</th> <th>probability</th> </tr> </thead> <tbody> <tr> <td>  heads (H) tails (T) </td> <td>  </td> <td>$\frac{1}{2}$</td> </tr> <tr> <td>  rolling a six </td> <td>  </td> <td>$\frac{1}{6}$</td> </tr> <tr> <td>  stopping on purple </td> <td>P G B R Y</td> <td>$\frac{1}{5}$</td> </tr> </tbody> </table>	What is the probability of ...?	favourable outcomes possible outcomes	probability	 heads (H) tails (T)		$\frac{1}{2}$	 rolling a six		$\frac{1}{6}$	 stopping on purple	P G B R Y	$\frac{1}{5}$	
What is the probability of ...?	favourable outcomes possible outcomes	probability														
 heads (H) tails (T)		$\frac{1}{2}$														
 rolling a six		$\frac{1}{6}$														
 stopping on purple	P G B R Y	$\frac{1}{5}$														
in a dice, it has 6 different faces each is equally likely to appear	PT will give Example	Pupil will try to understand properly		Probakility is the chance of a event to occurring is number of successful outcome divide by total no. of Possible outcome												

Subject Matter	PT Activity	Pupil Activity	Teaching Aids	Blackboard Work
When dice is thrown Total outcome = 6 Favourable outcome = 3 (2, 4, 6) Sample space = 1, 2, 3 4, 5, 6 Probability = $\frac{3}{6}$ = $\frac{1}{2}$	PT will give more Examples related to probability	Pupil will write Example of probability		Probability = $\frac{\text{no. of fav. outcomes}}{\text{Total outcome}}$

Recapitulation :- 1. What is probability of getting 2 tails?
 2. What is sample space?
 when two dice are thrown

Home Assignment :- Students solve the back Exercise
 of the book.

PT Roll no:- 2025101
 Subject:- Mathematics
 Topic:- Statistics

class:- 9th
 Date:-
 Duration:- 40min

Instructional Objectives:-

After the completion of lesson students will be able to

- 1) Define Statistics
- 2) Identify and collect data for a given situation

Instructional Aids:-

- Blackboard and chalks
- Flashcards with data sets

Previous Knowledge Assumed:-

- Students already know
- Basic arithmetic operations
 - Concept of numbers and counting

PK Testing

1. How do we find the average of a few numbers?

Measurement of Topic:-

Well students, Today we are going to study about "Statistics".

Instructional Strategies:-

Lecture method, Inquiry-Based Method, Activity based method, Group learning will be used.

Subject Matter	PT Activity	Pupil Activity	Teaching Aids	Blackboard work
----------------	-------------	----------------	---------------	-----------------

Data :- A set of numerical factors with definite object in row is called data

For Example:-

Name	Height
------	--------

Rahul	153cm
-------	-------

Aman	147cm
------	-------

Rohan	149cm
-------	-------

Here set of no. 153, 147, 149 are called set of data.

Raw Data

Let Students of Class score

PT will

Explain about data

PT will give

Examples related to Data

PT will Explain about

Raw Data

Pupil Activity

pupil will try to understand the concept

pupil will maintain discipline

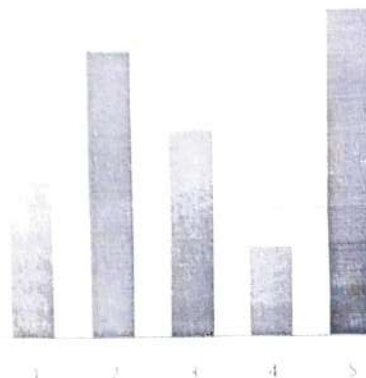
pupil will note down on their notebooks

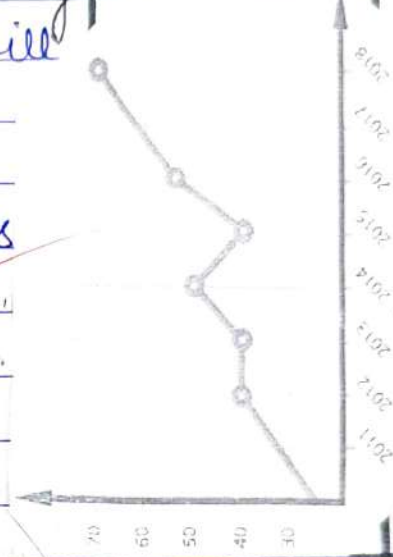
Teaching Aids

Blackboard work

Data

A set of numerical factors with definite object in row is called Data



Subject Matter	PT-Activity	Pupil Activity	Teacher Aids	Blackboard work
of marks is 9, 8, 6, 10, 15, 20, 21, 11, 15		pupil will clear their doubts		<u>Raw Data</u> is data that is not arranged in ascending & Descending order.

Recapitulation:- A Set of numerical factor collected with a definite object is called data

Home Assignment:-

1. what is data?
2. what is Raw data?
3. Give Examples of data?

PT Roll no:- 2025101

Subject:- Mathematics

Topic:- Parallelogram

Class:- 8th

Date:-

Duration:- 40min

Instructional Objectives:-

After the completion of the lesson, students will be able to:-

1. Define parallelogram.
 2. State & Explain properties of parallelogram.
- Blackboard and chalk.
 - Ruler, Compass • chart

Instructional Aids:-

Previous Knowledge Assumed:-

Students already know:-

- The Concept of line, line segment and angle
- The meaning of parallel lines

PK Testing:-

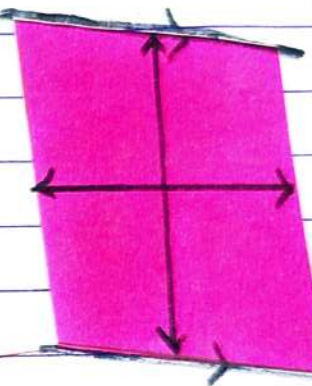
1. what is a quadrilateral?

2. what are parallel lines?

Announcement of Topic:-

Today, we are going to learn about a "parallelogram" a special type of quadrilateral in which opposite sides are parallel & equal in length".
Lecture method, Demonstration method, Discussion method, Activity based learning will be used

Instructional Strategies

Subject Matter	PT Activity	Pupil Activity	Teaching Aid	Blackboard work
<u>Properties of parallelogram</u> 1. A diagonal of parallelogram divides it in 2 Congruent triangle 2. In gm opposite sides are Equal 3. opposite sides are parallel i.e. $AB \parallel DC$, $AD \parallel BC$ 4. opposite angles are equal $\angle A = \angle C$ $\angle B = \angle D$	PT will Explain the properties of parallelogram	pupil will listen carefully. pupil will note down on their notebook. pupil will maintain discipline.	 • 2 pairs of parallel sides • Opposite angles of Equal size • Opposite sides of Equal length.	<u>Properties of parallelogram</u> 1. A diagonal of gm divide it in 2 Congruent Triangle. 2. opposite sides are Parallel.

Subject Matter	PT-Activity	Pupil Activity	Teaching Aids	Blackboard work
5. Diagonals Bisect each other.	PT will tell properties	pupil will clear their doubts.		
6. Area of gm = Base $\times$ height				

Recapitulation Parallelogram is quadrilateral with opposite sides equal.
opposite angle of the parallelogram are equal.

Home Assignment - Solve the back Exercise

PT Roll no:- 2023101

Subject:- Mathematics

Topic:- Percentage

Class:- 7th

Duration:- 40 min

Mode:-

Instructional Objectives:-

After the completion of lesson students will be able to:-

i) Define Percentage.

ii) Apply the concept of percentage in daily life.

Instructional Aids:-

Blackboard and chalk, flashcards of fractions and percentages.

Previous Knowledge

Assumed:-

Students are ~~are~~ already familiar with:-

- Fractions and decimals.
- Simple arithmetic operations

PK Testing:-

1. What is fraction? Give one example.
2. What is 0.5 in fraction form?

Announcement of Topic:-

"Today, we are going to learn about percentage - a way of expressing a number as a part of 100".

Instructional Strategies:-

Lecture method, Activity-based method, Demonstration method will be used.

Subject Matter

PT Activity

Pupil Activity

Teaching Aids

Blackboard Work

Percentage :- A

PT will
Explain the
Concept
of percentage

Pupil will
listen
carefully

percentage is a
way to Express a
number or ratio
as a fraction of
100, meaning
"per hundred".

PT will
give Example

pupil will
understand
carefully

It is represented
by percent symbol
%. For Example
50% means 50
out of every 100
or half of something

Percentage Increase
= $\frac{\text{Increase}}{\text{original value}} \times 100$

PT will tell
about
percentage
increase
formula

pupil
will
note down
on
notebook

Percentage

The fractional
Part out of
100.

% can be
Expressed as
whole numbers,
decimals &
Fractions.

Percentage :-

$\% = \frac{\text{Part}}{\text{Whole}} \times 100$

eg:-

$\% = \frac{21}{100} \times 100$
= 21%

Subject Matter	PT Activity	Pupil Activity	Teaching Aids	Blackboard work
Percentage decrease $= \frac{\text{Decrease}}{\text{original value}} \times 100$	PT will tell about percentage decrease.	pupil write down on notebook.		

Recapitulation & What do you mean by percentage?
How can we write $\frac{38}{100}$ in percentage?

Home Assignment & Solve the Back Exercise.

Tg. was effective

PT Roll no:- 2025101

Class:- 7th

Subject:- Mathematics

Date:-

Topic:- Point & Lines

Duration:- 40 min

Instructional Objectives:-

After the completion of lesson, Students will able to

- 1) Define a point and line
- 2) Identify & represent line segments, rays & lines.

Instructional Aids

- Blackboard and chalk.
- Charts showing points, lines and angles

Previous Knowledge Assumed:-

Students already know:-

The Concept of shapes & figures from earlier classes.

PK Testings:-

1. How do you draw a straight line using a ruler?
2. Can you find examples of lines around you?

Announcement of Topics

Today we will learn about the basic components of geometry - points and lines.

Instructional Strategies:-

lecture method, demonstration method, discussion method will be used.

Subject Matter	PT Activity	Pupil Activity	Teaching Aid	Blackboard Work
<u>Point</u> :- A point is just a position which has no length, no breadth, no height	PT will Explain point and line on blackboard.	pupil will listen Carefully and try to understand		
<u>Line Segment</u> :- 2 points which are joined it forms a line segment.	PT will Explain about line segment	pupil will write on notebook	1. Point • 2. Line ↔ 3 Segment — 4. Ray →	<u>Point</u> → • <u>line</u> ↔ <u>line segment</u> — • — • <u>Ray</u> →
<u>line qualities of a point</u> A point may have many lines can be	PT will Explain line qualities of a point	pupil will maintain discipline		

Subject Matter	PT Activity	Pupil Activity	Teaching Aids	Blackboard work
drawn upto infinity <u>Types:-</u> ① parallel lines ② Intersecting lines	PT will Types of lines	pupil will understand carefully.		

Recapitulation :- A point is just a position.
 A line can be drawn from one point and
 can be extended to infinity

Home Assignment :- solve the back exercise.

Be

PT Roll no :- 2025101

Subject :- Mathematics

Topic :- Number Systems

Class :- 8th

Date :-

Duration :- 40 min

Instructional Objectives :-

After the completion of this lesson, students will be able to

- Define the term number system
- Diff. between natural, whole, Integer & Rational number

Instructional Aid :-

→ Blackboard and chalk

→ Chart showing types of number system.

Previous Assumed Knowledge :-

Students are already familiar with

- Counting numbers
- Basic Addition and subtraction.

PK Testing

1. What are counting numbers called?
2. Is zero a natural number?

Announcement of Topic :-

From the numbers we use everyday to the negative & fractional ones, all belong to one big group called Number System.

Instructional Strategies :-

Lesson demonstration method, Brainstorming, discussion etc will be used.

Subject Matter	PT Activity	Pupil Activity	Teaching Aids	Blackboard work
<u>Natural no.</u> :- All number that are counting no. called natural no. Eg:- 1, 2, 3, 4 ---	PT will Explain different types of number on board.	Students will listen Carefully.		1. <u>Natural no.</u> 1, 2, 3, 4 --- 2. <u>whole no.</u> 0, 1, 2, 3, 4 --- 3. <u>Integers</u> -2, -1, 0, 1, 2 --- 4. <u>Rational no.</u> 0, $\frac{2}{3}$, 4, $\frac{5}{4}$
<u>Whole no.</u> :- All counting no. including zero are called whole numbers. Eg:- 0, 1, 2 ---		Students will actively participate in the classroom		
<u>Integers</u> :- All the +ve no.s and -ve no.s number including zero are integers. Eg:- -2, 10, 1, 2 ---	PT will Explain Integers			

Subject Matter	PT Activity	Pupil Activity	Teaching Aids	Blackboard Work
<u>Rational no</u> :- The number which can be written in the form of $\frac{p}{q}$ i.e. $q \neq 0$ are rational no. Eg:- 1, 2, $\frac{3}{2}$	PT will Explain about Rational no. on board.	Students will clear their doubts and understand the concept properly.		

Recapitulation :- The counting numbers are called natural numbers along with zero they are called whole number.

Home Assignment :- Students solve the back Exercise

PT Roll no B- 2085101

Class B- 6th

Subject B- Mathematics

Date B-

Topic B- Rational numbers

Duration B- 40 min

Instructional

Objectives B-

After the completion of this lesson, students will be able to:-

- (i) Define Rational number.
- (ii) Identify numerators and denominators.

Instructional Aids B-

Blackboard and chalk, numberline chart, flashcards, PPT

Previous Knowledge
Assumed B-

Students are already familiar with:-
• The concept of fraction and integers.
• Representation of numbers on number line.

PK: Testing B-

1. What is a fraction?
2. Is $\frac{1}{2}$ greater than or less than 1?

Announcement of
Topic B-

well students, Today we will learn about "Rational Numbers".

Instructional
Strategies B-

Lesson demonstration method, discussion, lecture and Discussion will be used.

Subject Matter	PT-Activity	Pupil Activity	Teaching Aids	Blackboard Work
<u>Rational Numbers</u> The numbers in form of $\frac{p}{q}$ are rational numbers if $q \neq 0$	PT will tell about Rational numbers.	pupil will try to understand the concept		<u>Rational Numbers</u> $\frac{p}{q}$ where $q \neq 0$
<u>Types of Rational Numbers</u> 1. Positive Rational numbers 2. Negative Rational numbers.	PT will Tell about Types of Rational numbers.	Pupil will maintain discipline		<u>Types of Rational no.</u> 1. +ve Ratio - nal no. 2. -ve Ration - al no.
<u>Positive Rational no.</u> The number like $\frac{1}{2}, \frac{1}{3}, 2$ are				

Subject Matter	PT Activity	Pupil Activity	Blackboard	Blackboard Work
+ve Rational numbers.		pupil will clear their doubts.		
2. <u>Negative Rational numbers</u> :- The numbers like $-\frac{1}{2}$, $-\frac{1}{3}$ are -ve Rational number.				

Recapitulation :-

1. what is a rational number?
2. What is the standard form of a rational number?

Home Assignment :-

1. write five examples of rational numbers.
2. If a person walks 3 km in one round and completes 5 rounds, find the total distance covered.

PT Roll No. :- 2023101

Subject :- Mathematics

Topic :- Simple Interest

Class :- 8th

Date :-

Duration :- 40 min

Instructional Objectives :-

After the Completion of lesson students will be able to

- Define Simple Interest.
- Derive and apply the formula for simple interest.

Instructional Aids :-

→ Blackboard and Chalk

→ chart showing formula & solved examples.

Previous Knowledge

Assumed :-

- (i) Basic Operations
- (ii) Concept of percentage.

PK Testing :-

1. What is meant by percentage?

2. Why do banks give us extra money on deposits?

Announcement of

Topic :-

Instructional

Strategies :-

"Today we are going to learn about topic 'Simple Interest'."

Discussion, evaluation, & cursive demonstration method will be used.

Subject Matter	PT Activity	Pupil Activity	Teaching Aid	Blackboard Work
Simple Interest is a fixed amount of money on a principal amount over a specific period.	PT will Explain definition of simple Interest	pupil will listen Carefully	<u>Simple Interest</u> :- $S.I = \frac{P \times R \times T}{100}$ Principal Rate Time	
<u>Formula</u> :- $S.I = \frac{P \times R \times T}{100}$ Where, P → principal R → Rate of Interest T → Time period.	PT will tell about formula	pupil will write definition and formula on their notebook		<u>Simple Interest</u> It is a fixed amount of money on a principal amount over a specific period.
<u>Example</u> :- A person borrows ₹5,000 at S.I of rate of 8%				

Subject Matter	PT Activity	Pupil Activity	Teaching Aid	Blackboard Work
per year for 3 years. solution:-	PT will give Examples related to topic.	pupil will clear their doubts and understand the concept properly.		Eg:- $S.I = \frac{5000 \times 8 \times 3}{100}$ $= ₹1200$
$S.I = \frac{P \times R \times T}{100}$ $P \rightarrow 5000, R = 8\%, T = 3y$ $S.I = \frac{5000 \times 8 \times 3}{100}$ $= ₹1200$				

Recapitulation:-

1. what do you mean by simple interest?
2. what is the formula for simple interest?

Home Assignment:- solve the following in your notebook.

- (i) Find the S.I. on ₹800 at 5% per annum for 3y
- (ii) Find the amount to be paid on a loan of ₹2000 at 6% per annum for 2 years.
- (iii) A sum of ₹5000 is borrowed at 10% per annum. Find the simple interest for 4 years.

PT Roll no. :- 2025101

Subject :- Mathematics

Topic :- HCF

Date :-

Class :- 6th

Duration :- 40 min

Instructional Objectives :-

After the completion of the lesson students will be able to:-

- i) Define the term HCF
- ii) Find the HCF of two or more numbers

Instructional Aids :-

Blackboard and chalk, Flashcards of numbers, chart showing factor trees and method of HCF.

Previous Assumed Knowledge :-

Students are already familiar with:-

- i) prime & composite numbers.
- ii) The concept of factors and multiples.

PK Testings :-

1. What is a factor?
2. What do you mean by a multiple?

Announcement of Topic :-

"Today, we will learn about HCF - The Highest Common factor - and understand how to find it for two or more numbers"
 Lesson demonstration, Discussion and Brainstorming will be used.

Instructional Strategies :-

Subject Matter

HCF $\rightarrow$ Highest Common factor
HCF of two numbers is the highest factor that can divide the two numbers evenly.

Example - The HCF of 60 and 75 is 15 because 15 is the largest no. which can divide both 60 and 75 exactly.

PT Activity

PT will explain definition of HCF

PT will give Example related to topic

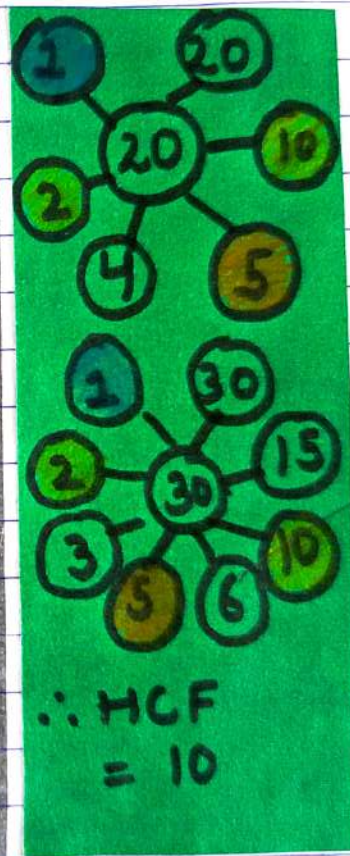
Pupil Activity

Pupil will understand the concept carefully.

Pupil will listen carefully

Pupil will maintain discipline.

Teaching Aids



Blackboard work

HCF
Highest common factor

20: 1, 2, 4, 5, 10, 20

30: 1, 2, 3, 5, 6, 10, 15, 30

HCF = 10

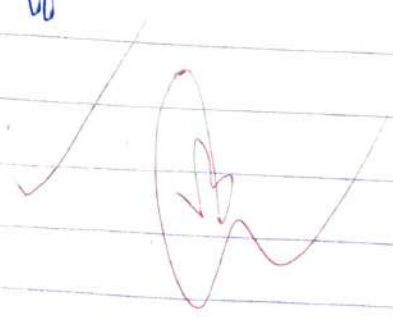
Subject Matter	PT Activity	Pupil Activity	Teaching Aids	Blackboard work
<u>Methods of finding HCF :-</u> • By prime factorization method. • by division method.	PT will explain methods of finding HCF.	Pupil will clear their doubts.		<u>Methods</u> • Prime Factorization • By division method.

Recapitulation :-

1. what is the full form of HCF?
2. what is the difference between factors and multiple?

Home Assignment :- Find HCF of

- a) 20 and 30
- b) 18 and 24
- c) 42 and 63



PT Roll no :- 2025101

Subject :- Mathematics

Topic :- LCM of 2 numbers

Class :- 8th

Date :-

Duration :- 40 min

Instructional

Objectives :-

After the completion of lesson students will be able to:
 (i) Find LCM of two or more numbers
 (ii) Able to define "multiple", "common multiple" and "least common multiple".

Instructional Aids :-

whiteboard, marker, visual aids like multiplication tables and number chart, worksheets

Previous Knowledge

Assumed :-

Students should already know that:
 Understanding of multiplication & multiples
 • Basic concept of factors & prime number

PK Testings :-

PT will ask :-

(i) Can you list the first five multiples of 4 and 6?

Announcement of

Topic :-

"Today we will learn about topic
 "LCM of two numbers".

Instructional

Strategies :-

recursion demonstration, Brainstorming, discussion will be used.

Subject Matter	PT Activity	Pupil Activity	Teaching Aids
LCM - least common multiple.	PT will Explain about LCM	pupil will listen carefully.	
Methods to find LCM	PT will Tell about methods to find LCM.	pupil will maintain discipline	
① By finding Multiples :- Eg:- Find LCM of 3 and 6 multiple of 3 :- 3, 6, 9, 12, 15 multiple of 6 6, 12, 18, 24 LCM = 6	PT will Explain all the method briefly.	pupil will note down on their notebooks.	The teaching aid shows two cartoon figures holding up a board. The board has the title "LEAST COMMON MULTIPLE" at the top. Below it, there are two tables side-by-side. The left table is for 12 and the right table is for 18. Both tables show the prime factors 2 and 3, with 2 appearing twice for 12 and once for 18, and 3 appearing once for 12 and twice for 18. Below the tables, it says "LCM of 12 and 18".
② By prime factorization Eg:- LCM of 15 & 45			

Subject Matter	PT Activity	Pupil Activity	Teaching Aids	Blackboard Work																
<u>LCM</u> - least common multiple.	PT will Explain about LCM	Pupil will listen carefully.	Teaching Aids 12 and 18 <table border="1"> <tr> <td>2</td> <td>12</td> <td>3</td> <td>18</td> </tr> <tr> <td>2</td> <td>6</td> <td>3</td> <td>6</td> </tr> <tr> <td>3</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <td>3</td> <td>1</td> <td>1</td> <td>1</td> </tr> </table> LCM of 12 and 18 = 36	2	12	3	18	2	6	3	6	3	2	2	2	3	1	1	1	
2	12	3	18																	
2	6	3	6																	
3	2	2	2																	
3	1	1	1																	
<u>Methods to find LCM</u> ① By finding Multiples :- Eg:- find LCM of 3 and 6 multiple of 3 :- 3, 6, 9, 12, 15 multiple of 6 :- 6, 12, 18, 24 LCM = 6 ② By prime factorization Eg:- LCM of 15 & 45	PT will Tell about methods to find LCM. PT will Explain all the method briefly.	pupil will maintain discipline pupil will note down on their notebooks.		<u>Method to find LCM</u> ① By finding Multiples. ② By factorization																

Subject Matter	PT Activity	Pupil Activity	Teaching Aids	Blackboard Work																
<u>LCM</u> - least common multiple.	PT will Explain about LCM	Pupil will listen carefully.	Teaching Aids 12 and 18 <table border="1"> <tr> <td>2</td> <td>12</td> <td>3</td> <td>18</td> </tr> <tr> <td>2</td> <td>6</td> <td>3</td> <td>6</td> </tr> <tr> <td>3</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <td>3</td> <td>1</td> <td>1</td> <td>1</td> </tr> </table> LCM of 12 and 18 = 36	2	12	3	18	2	6	3	6	3	2	2	2	3	1	1	1	Method to find <u>LCM</u> ① By finding Multiples. ② By factorization
2	12	3	18																	
2	6	3	6																	
3	2	2	2																	
3	1	1	1																	
<u>Methods to find LCM</u> ① By finding Multiples :- Eg:- find LCM of 3 and 6 multiple of 3 :- 3, 6, 9, 12, 15 multiple of 6 :- 6, 12, 18, 24 LCM = 6 ② By prime factorization Eg:- LCM of 15 & 45	PT will Tell about methods to find LCM. PT will Explain all the method briefly.	pupil will maintain discipline pupil will note down on their notebooks.																		

Subject Matter	PT Activity	Pupil Activity	Teaching Aids	Blackboard Work																
<u>LCM</u> - least common multiple.	PT will Explain about LCM	Pupil will listen carefully.	Teaching Aids 12 and 18 <table border="1"> <tr> <td>2</td> <td>12</td> <td>3</td> <td>18</td> </tr> <tr> <td>2</td> <td>6</td> <td>3</td> <td>6</td> </tr> <tr> <td>3</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <td>3</td> <td>1</td> <td>1</td> <td>1</td> </tr> </table> LCM of 12 and 18 = 36	2	12	3	18	2	6	3	6	3	2	2	2	3	1	1	1	Method to find <u>LCM</u> ① By finding Multiples. ② By factorization
2	12	3	18																	
2	6	3	6																	
3	2	2	2																	
3	1	1	1																	
<u>Methods to find LCM</u> ① By finding Multiples :- Eg:- find LCM of 3 and 6 multiple of 3 :- 3, 6, 9, 12, 15 multiple of 6 :- 6, 12, 18, 24 LCM = 6 ② By prime factorization Eg:- LCM of 15 & 45	PT will Tell about methods to find LCM. PT will Explain all the method briefly.	pupil will maintain discipline pupil will note down on their notebooks.																		

Subject Matter	PT Activity	Pupil Activity	Teaching Aids	Blackboard Work												
<u>LCM</u> - least common multiple.	PT will Explain about LCM	Pupil will listen carefully.		Method to find <u>LCM</u> ① By finding Multiples. ② By factorization												
<u>Methods to find LCM</u> ① By finding Multiples - Eg:- find LCM of 3 and 6 multiple of 3 - 3, 6, 9, 12, 15 multiple of 6 - 6, 12, 18, 24 LCM = 6 ② By prime factorization Eg:- LCM of 15 & 45	PT will Tell about methods to find LCM. PT will Explain all the method briefly.	pupil will maintain discipline pupil will note down on their notebooks.	LEAST COMMON MULTIPLE Teaching Guide 12 and 18 <table border="1"> <tr> <td>2</td> <td>12</td> <td>18</td> </tr> <tr> <td>2</td> <td>6</td> <td>9</td> </tr> <tr> <td>3</td> <td>3</td> <td>3</td> </tr> <tr> <td>3</td> <td>1</td> <td>1</td> </tr> </table> LCM of 12 and 18	2	12	18	2	6	9	3	3	3	3	1	1	
2	12	18														
2	6	9														
3	3	3														
3	1	1														

Method to find d & CM

- ① By finding Multiples.
- ② By factorisation

Subject Matter	PT Activity	Pupil Activity	Teaching Aids	Blackboard Work
$\begin{array}{r} 3 \overline{)15} \\ 5 \overline{)5} \\ \hline 1 \end{array}$ $\begin{array}{r} 3 \overline{)45} \\ 3 \overline{)15} \\ 5 \overline{)5} \\ \hline 1 \end{array}$ LCM = $3 \times 3 \times 5 = 45$		Pupil will clear their doubts		Common = <u>division</u> $\begin{array}{r} 3 \overline{)15-45} \\ 3 \overline{)5-15} \\ 5 \overline{)5-5} \\ \hline 1-1 \end{array}$
<u>Common division</u> $\begin{array}{r} 3 \overline{)15-45} \\ 3 \overline{)5-15} \\ 5 \overline{)5-5} \\ \hline 1-1 \end{array}$ LCM = $3 \times 3 \times 5 = 45$	PT will tell about common division method.			

- Recapitulation :-
1. what is the full form of LCM?
 2. what do we mean by least common multiple?
 3. How do we find LCM by the listing method?

Home Assignment :- Find the LCM of :-

- a) 5 and 10
- b) 6 and 8
- c) 12 and 18
- d) 15, 25 and 30

PT Roll no :- 2025101

Class :- 8th

Subject :- Mathematics

Date :-

Topic :- Area of Rectangle / Square

Duration :- 40 min

Instructional

Objectives :-

Students will able to :-

i) Define area

ii) Students will distinguish between Square & Rectangle.

Instructional Aids :-

• Chalkboard, Textbooks and workbook containing Exercise related to area, Real world of

Previous Knowledge

Assumed :-

→ Students have basic knowledge of geometric notation, including line segment, lengths.

→ Awareness that Square is special type of Rectangle.

PK Testing :-

• Ask students to identify rectangle and square in the classroom.

Announcement of Topic :-

"Today we will learn how to identify rectangle and square and calculate their area using mathematical formulas"

Instructional Strategies :-

Encourage Collaborative problem-solving, Recurrence demonstration, Brainstorming will be

Subject Matter	PT Activity	Pupil Activity	Teaching Aids	Black
----------------	-------------	----------------	---------------	-------

Area:- The measure of amount of surface is called Area.

Area of Rectangle
Area of Rectangle
 $= l \times b$

In Rectangle opposite sides are equal.

Area of Square:-
Area of Square
 $= \text{Side} \times \text{Side}$
 $= (\text{Side})^2$

In Square all sides are Equal.

PT will Explain the definitions of terms

(i) Area

(ii) Area of Rectangle

(iii) Area of Square.

pupil will ask

a) what is length?

b) what is Breadth

pupil will listen Carefully.

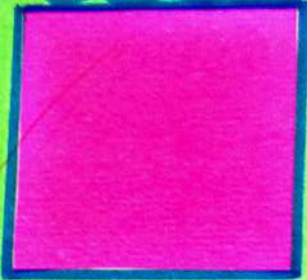
pupil will write down important points on their notebook.

Teaching Aids

1. RECTANGLE



Area of Rectangle
 $= l \times b$
 $\swarrow \quad \searrow$
 length Breadth
 opposite sides are Equal

Subject Matter	PT Activity	Pupil Activity	Teaching Aids	Blackboard Work
S- Find the area of Rectangle where $l = 14\text{cm}$ $b = 15\text{cm}$. $\therefore \text{Area} = 14 \times 15$ $= 210\text{cm}^2$ S- Find the area of Square $s = 6\text{cm}$ $\therefore \text{Area} = 6 \times 6$ $= 36\text{cm}^2$	PT will give Examples	pupil will clear the doubts.	2. SQUARE  Area of Square $= s \times s$ All sides are eq.	Area of Square $= s \times s$

Recapitulation

1. What do you mean by area?
2. What is the formula for the area of a rectangle.

Home Assignment :- (i) Find the area of a rectangle whose:-

- a) length = 10cm breadth = 6cm
- b) length = 8m breadth = 5m

PT Rollno:- 2025101

Subject:- Mathematics

Topic:- Ratio and Proportion

Class:- 7th

Date:-

Duration:- 40 min

Instructional Objectives:-

After the completion of lesson students will able to

- learn about ratio
- to understand about unit of ratio
- learn about proportion.

Instructional Aids:-

Chalk, duster, blackboard, pointer, chart, etc.

Previous Knowledge Assumed:-

Students must have general familiarities with the number and must have knowledge of tables

PK Testing:-

1. What are Rational numbers?

2. What is the simplest form of any Rational no?

Announcement of Topic:-

Well students, Today we will learn about topic "Ratio and proportion".

Instructional Strategies:-

Lesson demonstration, Explanation, Discussion and Brainstorming will be used.

Subject matter

Ratio:- A Ratio is a way to compare two quantities by using division.

* A Ratio can be written in three diff. ways and we read it as - 'The ratio of x to y '.

- (i) x to y
- (ii) $x : y$
- (iii) $\frac{x}{y}$

* Proportion:-

A proportion on the other hand

PT Activity

PT will define Ratio

PT will tell different way of writing Ratio.

Pupil Activity

pupil are listening carefully

Students are noting down in their notebooks

Students will maintain discipline

Teaching Aids

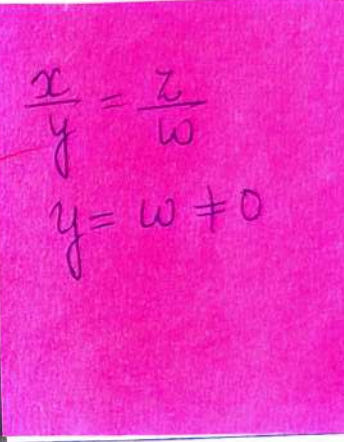
Ratio & Proportion

1	2	3	6
2	4	6	12
3	6	9	18
4	8	12	24
5	10	15	30
6	12	18	36
7	14	21	42
8	16	24	48
9	18	27	54
10	20	30	60

Blackboard work

Ratio and Proportion

- (i) x to y
- (ii) $x : y$
- (iii) $\frac{x}{y}$

Subject Matter	PT Activity	Pupil Activity	Teaching Aid	Blackboard work
is an Eqⁿ that says two ratios are equivalent A proportion is read as :- 'x is to y Equal to z is to w i.e. $\frac{x}{y} = \frac{z}{w}$ where $y = w \neq 0$	PT will define proportion	Students are trying to understand the concept	 $\frac{x}{y} = \frac{z}{w}$ $y = w \neq 0$	Eg:- 8:64 $\frac{8}{64} = \frac{1}{8}$ Ratio 1:8

Recapitulation :-

1. Define Ratio
2. Define proportion

Lesson was well prepared

Home Assignment :- write different ways of writing proportion

PT Roll no. :- 2025101

Subject :- Mathematics

Topic :- Decimal (Multiplication) P-I

Class :- 7th

Roll :-

Duration :- 40 min

Instructional

Objectives :-

- At the End of lesson Students will able to
- Expand form of decimal number
 - Conversion of decimal numbers
 - Add or subtract decimal numbers.

Instructional Aids :-

→ Model, charts, chalk, duster, pointer, blackboard etc.

Prior Knowledge
Assumed :-

The students must have general familiarity with fraction numbers, decimal numbers expanded form etc.

PK Testing :-

1. What is fraction
2. Give some Example of fraction numbers.

Announcement of
Topic :-

So, Students today we will study about 'Multiplication of Decimals'.

Instructional
Strategies :-

dec cum demonstration method, discussion
Brainstorming will be used.

Subject Matter	PT Activity	Pupil Activity	Teaching Aids	Blackboard
To multiply decimal $\therefore$ first multiply them as whole no.s ignoring the decimal points. Then count the total number of digit to right of the decimal point in the original. Finally, place the decimal point in your answer so that it has the same total no. of decimal places.	PT will Explain in detail about the multiplication of Decimal.	pupil will listen carefully Students will maintain discipline	 NUMBER LINE Decimal numbers on number line	40 = 2 1
		Students will try to understand properly		

Subject Matter	PT Activity	Pupil Activity	Teaching Aid	Blackboard work
Eg:- 2.3 by 1.5 first multiply $23 \times 15 = 345$ now digit on right side of decimal is 2.3 and 1.5 $\begin{array}{c} \downarrow 1 + 2 \downarrow \\ = 2 \end{array}$ $\therefore \underline{\underline{3.45}}$ is Ans	PT will give Examples	Student will try to solve examples and clear their doubts.	2.3×1.5 $= 23 \times 15$ $= 345$ $\begin{array}{c} 2.3 \times 1.5 \\ \downarrow \quad \downarrow \\ 1 \quad 1 \end{array}$ $= 3.45$	

Recapitulation 6- Find:-

(i) 1.3×10

(ii) 3.1×2.1

Home Assignment 6- Find:-

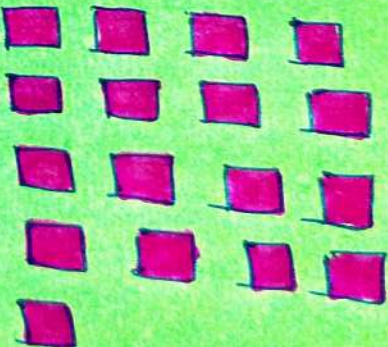
(i) 2.5×5.3

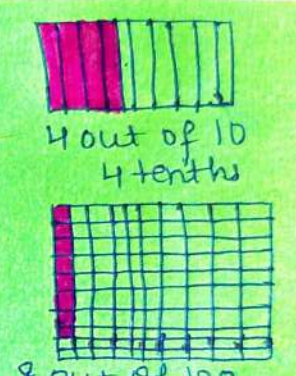
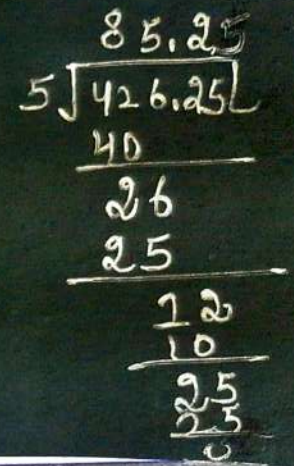
(ii) 4.5×5.6

(iii) 1.9×2.7

(iv) 6.3×1.8

<u>Instructional Objectives</u> :-	At the last of lesson students will able to i) To perform division of decimal numbers ii) Students will learn solve division of decimal no.s by 10, 100, 1000.
<u>Instructional Aids</u> :-	Chalk, model, charts, cluster, pointer, blackboard etc.
<u>Prior Assumed Knowledge</u> :-	The students must have at least general familiarity with fraction numbers, decimal numbers, expanded form etc. i) what is fraction ii) Give some examples of fraction numbers
<u>P.K. Testing</u> :-	So students today we will study about "Division of Decimals."
<u>Announcement of Topic</u> :-	sec cum demonstration method, discussion, Explanation method and Brainstorming will be used.
<u>Instructional Strategies</u> :-	

Subject Matter	IT Activity	Pupil Activity	Teaching Aids
To divide decimal no. first move the decimal point in the division to right until it become a whole number and move the decimal point in the dividend the same number of places. Example: Divide 77.5 by 25 1) The divisor 25 is already a whole number	Teacher will explain division of decimal numbers	Students will listen carefully. Students will note down the important points on their notebook.	<u>Division of Decimals</u> Decimal point 17[↑].48 ↓ ↓ Whole no. part Decimal Part  17 whole
	Teacher will Examp Explain Examples		

Subject Matter	PT Activity	Pupil Activity	Teaching Aids	Blackboard work
(i) Place the decimal pt. in the quotient directly above the decimal in 77.5 (ii) Divide 77 by 25 which is 3 with remainder of 2 (iii) Bring down the 5 to make 25 (iv) Divide 25 by 25 which is 1 (v) The result is 3.1	PT will explain in detail	Students will clear their doubts.		

Recapitulation & 1. What is a decimal number?
 2. How do we divide a decimal number by a whole number?

Home Assignment & Solve the following problems in your notebook:

- $4.8 \div 6 = ?$
- $12.6 \div 3 = ?$
- $8.4 \div 0.7 = ?$
- $0.96 \div 0.8 = ?$

Instructional Objectives :-

After the completion of lesson students will be

- Able to describe the congruency of Triangle.
- Able to solve the problem related to congruency.

Instructional Aids :-

Blackboard, chalk, duster, pointer, paper cutting of congruent triangles.

Previous Knowledge Assumed :-

Students must have general knowledge about triangles and its types.

P.K. Testing :-

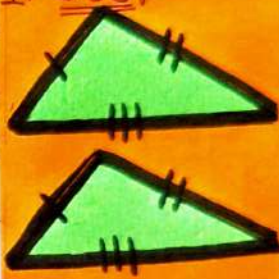
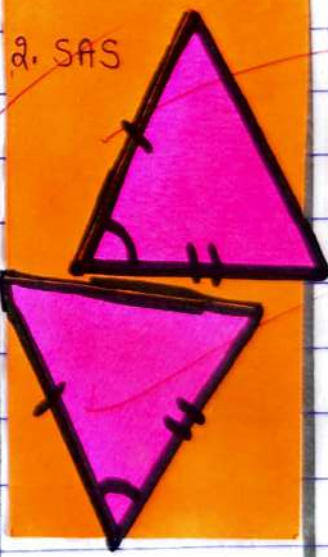
1. What is a Triangle?
2. What are the types of Triangle on basis of sides?

Announcement of Topic :-

Well Student, Today we are going to learn about "congruence of Triangle".

Instructional Strategies :-

ec cum demonstration method, discussion, Brainstorming will be used.

Subject Matter	PT Activity	Pupil Activity	Teaching Aids	Blackboard Work
Two figures are said to be congruent if they have same shape and size.	PT will Explain the Concept of Congruence of two Triangle.	Student will Observe the PT and try to understand the Concept.	<u>Rule:-</u> 1. <u>SSS:-</u> 	<u>Criteria for Congruence of Triangle</u>
Two Triangle are congruent if all corresponding sides and angles are equal.	PT will Explain about criteria of congruency.	Students will try to solve the question.	2. <u>SAS</u> 	1. SSS Side-Side-Side
<u>Criteria for Congruence of Triangle</u> • SSS • SAS				2. SAS Side-Angle-Side 3. AAS Angle-Angle-Side

Subject Matter	PT-Activity	Pupil Activity	Teaching Aids	Blackboard work
• ASA • RHS → If one triangle is congruent to another, their corresponding parts are equal (CPCT)	PT will tell rule of congruent.	Student will write imp. point on their notebooks.		4. ASA Angle-Side-Angle 5. RHS Right Angle-Hypotenuse-Side

Recapitulation :-

1. What do you mean by congruent figures?
2. What does CPCT stands for?
3. Write any two criteria for congruence of Triangle.

Home Assignment :-

1. Draw two triangles with sides 5cm, 6cm and 7cm. Are they congruent? Which rule applied?
2. Write all the congruence criteria with one example each.

PT Roll no. :- 2025101

Class :- 8th

Subject :- Mathematics

Date :-

Topic :- understanding the Quadrilaterals

Duration :- 40 min

Instructional Objectives :-

- After the completion of lesson student will able to
- to know about quadrilaterals.
 - to know the types of quadrilaterals
 - to know about properties of them.

Instructional Aids :-

Model, charts, chalk, duster, pointer, Blackboard.

Previous Knowledge Assumed

The students must have at least general familiarity with curves, polygon, lines and angle, properties of Triangle etc.

PK Testing :-

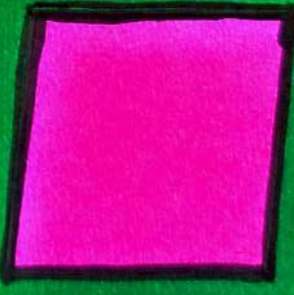
- What is line segment?
- How many types of Curves are there?

Announcement of Topic :-

So students today we will study about the topic - 'understanding of Quadrilateral'.

Instructional Strategies :-

Lesson Demonstration method, Demonstration discussion, Explanation will be used.

Subject Matter	PT Activity	Pupil Activity	Teaching Aids	Blackboard work
A simple closed curve made up of only line segment called a polygon.	PT will Explain the concept of polygon.	Students are listening carefully.	<u>Triangle</u>  <u>Quadrilateral</u> 	<u>Types of Polygon</u> i) <u>Triangle</u> ↓ 3 sided closed figure. ii) <u>Quadrilateral</u> ↓ 4 sided closed figure.
Eg:- i) Triangle have 3 sides ii) quadrilateral have 4 sides iii) Pentagon have 5 sides etc.	PT will Explain in detail	Students are trying to understanding the overall concept taught.		
<u>Angle sum property of quadrilateral</u>	PT will tell about Angle Sum			

Subject Matter

PT Activity

Students

Teaching Aids

Board work

The sum of measures of the four angles of a quadrilateral is 360°
 $1 + 2 + 3 + 4 = 360^\circ$

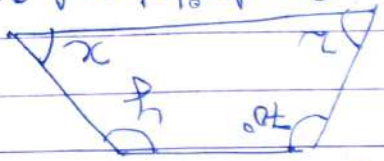
property of quadrilateral to understand this new concept

Pentagon



(iii) Pentagon
 ↓
 5-sided polygon

Recapitulation Consider the following parallelograms. Find the value of unknown x, y, z



Home Assignment 8-9. Revise all the types of quadrilateral and properties of all.

2. Two adjacent angles of a 11° have equal measures.

Find the measure of each of the angle of the parallelogram.

PTA Act 8- 2025101

Subject :- Mathematics

Topic :- Visualizing solid shapes

Instructional Objective :-

Instructional Aids :-

Previous Knowledge Assumed :-

PK Testing :-

Announcement of Topic :-

Instructional Strategies :-

Class :- 7th

Date :-

Duration :- 40 min

By the end of the lesson, students will be able to understand the difference b/w 2D and 3D shapes.

- Identify and name different solid shapes.
- Recognize faces, edges & vertices of 3D objects.

Model of cube, cuboid, cylinder, cone.

Charts showing different solid shapes, Chalk
Students already know basic plane figures
such as square, rectangle, triangle
and circle.

1. What is a square?

2. What is shape of a ball?

Today we are going to learn about
Visualizing solid shapes - How we can understand
3D object and their different views."

Accum demonstration, discussion,
Brainstorming will be used.

Subject Matter

• 2D Shapes:- Have length and Breadth
Eg:- Square, Rectangle

• 3D Shapes:- Have length, Breadth & height
Eg:- Cube, Sphere

Shape	Faces	Edges
Cube	6	12
Cuboid	6	12
Cylinder	3	2
Cone	2	1
Sphere	1	0

Eg:- Dice

Box

Can

Ice-Cream Cone

Ball.

PT-Activity

PT will show real object to the class.

PT will demonstrate each object's face, edges and vertices

PT will draw top, front and side views of simple object on the board.

Pupil Activity

pupil will observe the object carefully

Students will handle each object and identify different shapes

Students will make 2D representation of each solid with its 2D representation.

Teaching Aids

Blackboard work

2D Shapes
↓
Rectangle Square

3D Shapes

Subject Matter	PT Activity	Pupil Activity	Teaching Aid	Blackboard work
<u>View of solid</u> • Top View :- what we see from above • Front View :- what we see from front • Side View :- what we see from one side.	PT will ask students to identify the corresponding 2D shapes.	Pupil will draw top, front and side view of cube or cuboid in their notebooks		<u>Views of solid</u> → Top View → Front View → Side View

Recapitulation :-

1. what is difference between 2D and 3D shapes?
2. How many faces does a cube have?
3. Name a solid having no edge and no vertex?

Home Assignment :- Draw a cube, cuboid, cylinder and cone in your notebook & write their faces, edges and vertices.

Instructional Objectives :-

After the completion of lesson student will be able to :-

- (i) Define prime numbers and composite number
- (ii) Find prime factors of a given number.

Instructional Aids :-

- Blackboard and chalk
- Flashcards of numbers.

Previous Knowledge Assumed :-

Students already know :-

- Counting number
- Concept of factors & multiples.

IK Testing :-

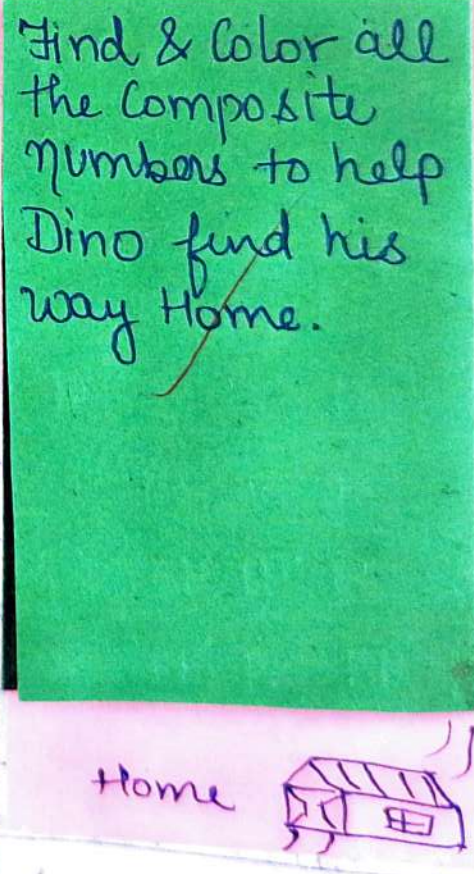
1. What do we mean by factors of numbers?
2. What are multiples of 5?

Announcement of Topic :-

Well students, Today we will learn about "prime & composite numbers"

Instructional Strategies

Lecture method, Activity-based method, Demonstration method will be used.

Subject Matter	PT Activity	Pupil Activity	Teaching Aids
<u>Prime Numbers</u> The number other than 1 whose factor 1 and number itself are called prime numbers.	PT will Explain prime number	pupil listen to there teacher Carefully.	
<u>Composite Numbers</u> Number having more than 2 factor are called Composite numbers. Eg:- find factor of 4 Solⁿ :- 1, 2, 4	PT will Explain composite number	pupil will try to understand the concept	

Subject Matter	PT Activity	Pupil Activity	Teaching Aid	Blackboard Work
Since 4 has 3 factors i.e. '4' is Composite number. '7' has factor 1, 7 Therefore 7 is a prime number.	PT will Explain examples.	pupil will note down important point on their note book.		<u>Composite numbers</u> :- no. whose factor is 1 + number itself + other number also

- Recapitulation :-
1. What is prime number?
 2. What is a Composite number?
 3. Is 1 is a prime number? why or why not?

Home Assignment Q1 write all prime numbers between:-

- a) 2 and 20
- b) 20 and 50

Roll no. :- 2025101

Subject :- Mathematics

Topic :- Circle

Class :- 7th

Sub.

Date :- 40 min

Instructional Objectives :-

After the completion of lesson students will be able to

- Define circle
- Identify radius, diameter, chord, arc and circumference.
- Blackboard and chalk.
- Compass.

Instructional Aids :-

Previous Knowledge Assumed :-

Students know basic shapes (square, rectangle and triangle) and measurement of line segments.

PK Testings :-

1. Have you seen a coin or bangle
2. What is the shape of a coin?

Announcement of Topic :-

well students, "Today we are going to study circle and its parts."

Instructional Strategies

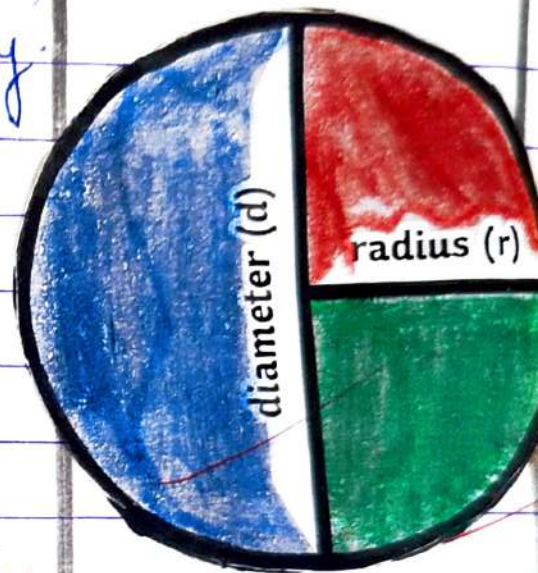
lecture method, demonstration method, discussion method, activity-based method will be used.

Subject Matter	PT Activity	Pupil Activity	Teaching Aid
----------------	-------------	----------------	--------------

Circle:- A circle is the collection of all points in a plane which are at a fixed distance from a fixed point.

PT will explain about circle.

pupil will understand carefully.



Important Points

PT will tell important points

pupil will maintain discipline.

- Centre:- The fixed point
- Radius:- Distance from the centre to any point on the circle.

Subject Matter	PT Activity	Pupil Activity	Teaching Aids	Blackboard work
• <u>Diameter</u> :- line joining two points on the circle. • <u>Arc</u> :- part of the circumference	PT will tell about diameter	pupil will write on their notebooks		
Diameter = $2 \times \text{Radius}$ Eg :- Coins, bangles, plates, wheels.	PT will give Examples			

Recapitulation :-

1. What is diameter?
2. What is Arc?

Home Assignment :-

- (i) If Radius = 5cm find diameter?
- (ii) If Diameter = 20cm find radius?

IT Roll no - 2025101

Subject - Mathematics

Topic - Whole number

Class - 7th

Date -

Duration - 40 min

Instructional Objectives :-

Students will be able to

- Define whole number.
- Identify whole numbers on the number line.

Instructional Aids :-

- Blackboard & chalk.
- Flash cards.

Previous Knowledge assumed :-

Students already know :-

- Natural number.
- Basic operations

Pre Testing :-

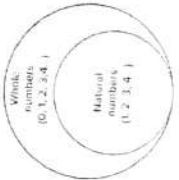
1. What are natural numbers?
2. Which number comes before 1?

Announcement of Topic :-

Well students, Today we are going to study whole numbers.

Instructional Strategies :-

Lesson demonstration method, Activity based method and discussion will be used.

Subject Matter	PT-Activity	Pupil Activity	Teaching Aids	Blackboard work
whole numbers are the collection of all natural numbers including 0.	PT will tell about whole number.	pupil will try to understand the concept		
Whole numbers:- $\{0, 1, 2, 3, 4, 5, \dots\}$				
Smallest whole number:- 0	PT will tell about smallest whole number.	pupil will maintain discipline	Difference between Natural Numbers and Whole Numbers. Whole numbers include natural numbers that begin from 1 onwards. 	
* <u>Properties of a whole number</u>				
1. Closure property 2. Commutative property				Whole number are Natural number included zero $\{0, 1, 2, 3, \dots\}$ <u>Closure property</u> $a + b \in W$ $a - b \notin W$

Subject Matter	PT Activity	Pupil Activity	Teaching Aids	Blackboard work
3. Associative Property.	PT will tell about properties of whole number.	pupil will write important notes on their notebook.		Disassociative Property $a + (b + c) = (a + b) + c$ $a - (b - c) \neq (a - b) - c$
4. Identity Element.				
5. Demons				
5. Distributive Property.				

Re capitulation :-

1. what are whole numbers?
2. what is the smallest whole number?
3. Represent whole numbers on a number line?

Home Assignment :-

- i) write the first 15 whole numbers.
- ii) verify
 - $4 + 7 = 7 + 4$

PT Roll no - 8025101

Subject - Mathematics

Topic - Direct & Indirect proportion

Class - 8th

Date -

Duration - 40 min

Instructional Objectives

After the completion of this lesson, student will be able to

- Understand the meaning of direct & inverse proportion.

- Apply these concept to real-life situation

→ Blackboard, chalk, flashcards, worksheet for practice, chart showing examples.

Students are already familiar with :-

- The concepts of ratio and proportion
- Basic multiplication and division.

1. What is a ratio?

2. What is proportion?

"Today we will learn about Direct and Inverse proportion which show how two quantities change in relation to each other".

decum demonstration method, Discussion method, Brainstorming will be used.

Instructional Aids

Previous Knowledge Assumed

PK Testing :-

Announcement of Topic :-

Instructional Strategies :-

Subject Matter
Direct proportion
When two
quantities increase
or decrease
together in the
same ratio

$$\frac{x_1}{y_1} = \frac{x_2}{y_2}$$

eg:- More items
→ More Cost

Inverse proportion
When one
quantity increase
and the other
decrease such
that their
product

PT Activity

PT will
Explain
Direct
proportion

PT will
Explain
Examples

PT will
Explain
Inverse
proportion

Pupil Activity

pupil
will
understand
Carefully

Pupil will
write down
on their
notebook

pupil will
understand
examples

Teaching Aids

Direct

Blackboard work

Direct
Proportion

$$\frac{x_1}{y_1} = \frac{x_2}{y_2}$$

More Items
→ More Cost

Subject Matter
remains Constant.
 $x_1 \times y_1 = x_2 \times y_2$
Eg:- More workers
→ less time

Real-life
Application

- Cost & number of items.
- speed and time
- Number of workers & days.
- Quantity and price.

PT Activity
PT will
Explain
Examples.

PT will
Explain
Real life
Application.

Pupil Activity
pupil
listen
Carefully.

pupil will
write
down
their
notebook.

Indirect

Blackboard work

Inverse
Proportion

$$x_1 \times y_1 = x_2 \times y_2$$

More Workers
→ less Time

- recapitulation
1. what do you mean by direct proportion?
 2. what is inverse proportion?
 3. give one real-life ex.
 4. write the formula for direct proportion

Home Assignment :- Solve the following problems :-

- a) If 6m of cloth cost ₹ 240, find the cost of 9m cloth.
- b) A car travels 80km in 2 hours. How far will it travel in 5 hours at the same speed?
- c) 8 men can finish a work in 18 days. In how many days will 12 men finish it?

2. write two real-life situations for :-
 - Direct proportion
 - Inverse proportion.

PT Roll no. :- 2025101

Subject :- Mathematics

Topic :- Linear Equation in one Variable

Class :- 8th

Date :-

Duration :- 35-40 min

Instructional Objectives :-

- After Completion of lesson Students will be able to
1. Define a linear equation in one variable.
 2. Recognize the standard form of a linear equation
 3. Solve simple equation involving one variable
 4. Verify the solution of a given statement

Instructional Aids :-

- Blackboard and chalk
- Flashcards showing Example of equation
- Charts

Previous Knowledge Assumed :-

Students already know :-
The concept of Variable and Constants.

• Basic algebraic operations

Previous Knowledge

Testing :-

1. What is Variable? Give an Examples.
2. What is Constant?
3. What is the Value of $2x$ when $x=3$?
4. Can we find the Value of a Variable if an Equation is given?

Announcement of
Topic :-

Today, we are going to learn how to form and solve linear Equations in one Variable.

Instructional
Strategies :-

1. Lecture method
2. Demonstration method
3. Discussion Method
4. Inquiry - Based Learning
5. Project - Based learning
6. Group learning

Subject Matter

Equation :- A statement which states that two algebraic expressions are equal is called Equation

Eg :- $7x^2 + 8 = x - 3$
 $3x - 4y = 8$

Linear Equation

The Equation involving only one variable in first order highest power equal to one is called a linear equation

Eg: $3x - 5 = 0$
 $8 - y = 15$

PT Activity

PT will Explain Concept of Equation

PT will tell about linear Equation

PT will tell about Examples.

Pupil Activity

pupil will try to solve the Equation

pupil will maintain Discipline

PT will tell solve the Example & pupil will solve along with PT

Teaching Aids

linear Equation :-

$$Ax + By = C$$

Diagram illustrating the components of a linear equation:

- Ax : Coefficient of x
- By : Coefficient of y
- C : Constant
- $Ax + By$: Variables

Blackboard work

Equation

$$7x^2 + 8 = x - 3$$

linear equation

$$3x - 5 = 0$$

↓
Contain one Variable

Subject Matter

1. To solve an equation means to find the value of Variable.

• A linear

Eqⁿ has only one solution which is called its root.

$$\text{Eg: } 21 - 3(a - 7) = a + 20$$

$$\Rightarrow 21 - 3a + 21 = a + 20$$

$$\Rightarrow 42 - 3a = a + 20$$

$$\Rightarrow -3a - a = 20 - 42$$

$$\Rightarrow -4a = -22$$

$$\Rightarrow a = \frac{-22}{-4}$$

$$\Rightarrow a = 5\frac{1}{2}$$

PT Activity

PT will tell steps to solve an Equation

PT will give an Examples.

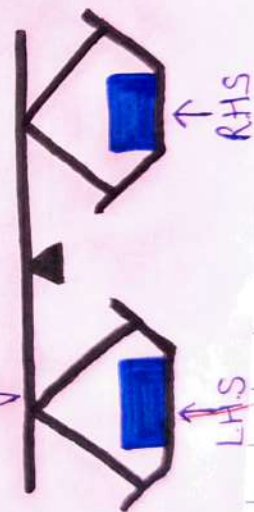
Pupil Activity

pupil will solve the Example

pupil will understand properly and note down important points on notebook.

Teaching Aids

Balancing a linear equation

Blackboard Work

$$\text{Eg: } 2x - 3 = 9$$

$$\Rightarrow 2x = 9 + 3$$

$$\Rightarrow 2x = 12$$

$$\Rightarrow x = \frac{12}{2}$$

$$\Rightarrow \boxed{x = 6}$$

(37)

Recapitulation :- 1. what is a linear Equations?

2. what do we mean by "one variable"?

3. Give an Example of a linear Equation in one variable.

4. Solve

a) $x + 5 = 9$

Home Assignment :- Q1 Solve the following questions

a) $x + 7 = 12$

b) $2x - 5 = 9$

Q2 write the linear Equation

a) Twice a number increased by 5 gives 15

b) 8 subtracted from a number is 10.



PT Roll no:- 2025101
Subject:- Mathematics
Topic:- Sets

Class:- 7th
Date:-
Duration:- 40 min

Instructional Objectives:-

After the completion of the lesson, students will be able to:-

1. Define a set and understand the concept of elements and members.
2. Represent a set in roster form and set-builder form.
3. Identify finite, infinite, singleton sets.

Instructional Aids:-

- Blackboard and chalk
- Charts showing types of sets with examples.
- Worksheets for practice.

Previous Knowledge Assumed

Students already know:-

- The concept of grouping or collection of

objects.

- Use of symbols and numbers in mathematics.

Previous Knowledge
Testings -

1. What do we mean by a collection?
2. Give some exple examples of collection you see in daily life
3. Can you list some examples of fruits or colors?

Announcement of
Topic -

"Today, we will learn abouts sets - a well defined collection of distinct objects or elements"

Instructional
Strategies -

- Lecture method, Demonstration method, Discussion method, Activity-based method will be used.

Subject Matter

Sets :- A Set is a Collection of well defined objects.

Elements :- The object used to form a set are called elements.

The symbol ' $\in$ ' stands for 'belongs to' and the symbol ' $\notin$ ' stands for 'does not belong to'.

PT Activity

PT will tell about Sets

PT will tell abouts Elements Contained in Sets.

PT will tell about symbols ' $\in$ ' and ' $\notin$ '

Pupil Activity

pupil will understand about the Concept.

pupil will maintain discipline

pupil will listen carefully.

Teaching AidSets:-

A Set is a Collection of well defined object.

Elements :-

$\{1, 2, 3\}$

1, 2, 3 are Elements.

Blackboard workSets:-

A Set is a Collection of well defined objects.

' $\in$ ' belongs to set

' $\notin$ ' Not belongs to set.

Recapitulations:-

1. What is Set?
2. How are sets represented?
3. Give an example of sets from daily life.

Homework:- Describe the following sets in roster form:-

- (a) Set of natural numbers less than 8
- (b) Set of even numbers between 1 and 20.

Sol write in set-builder form:-

- (a) $A = \{2, 4, 6, 8, 10\}$
- (b) $B = \{2, 4, 6, 8, 10, 12, 14, 16, 18, 20\}$

PT Roll no:- 2025101

Subject:- Mathematics

Topic:- Types of sets.

Class:- 7th.

Date:-

Duration:- 40 min

Instructional Objectives:-

After the completion of lesson students will be able to:-

1. Define a set and understand the concept of elements and number.
2. Represent the set in Roster and Set builder form.
3. Identify finite, infinite, singleton and null set.

Instructional Aids:-

- Blackboard and chalk.
- Charts showing types of sets with examples.
- Worksheets for practice.

Previous Knowledge:-

Students already know:-

Previous Knowledge
Testing & -

Announcement of
Topic & -

Instructional
Strategies & -

- The concept of grouping or collection of objects.
- Use of symbols and numbers in mathematics.

1. What do we mean by a collection?
2. Give some examples of collection you see in daily life.
3. Can you list some examples of fruits or colors?

"Today, we will learn about sets - a well defined collection of distinct objects or elements."

- Lecture method, Demonstration method, Discussion method, Activity - Based method will be used.

Subject MatterPT-ActivityPupil-ActivityTeaching Aids1. Finite Set

A set with finite number of elements

Eg:- $\{3, 4, 5, \dots, 20\}$

PT will tell about different types of set.

Students will listen carefully.

2. Infinite set

A set which is not finite is called an infinite set.

Eg:- $\{x : x \text{ is a living thing}\}$

PT will give examples of each type of set.

Students will try to maintain discipline.

3. Singleton set

A set which has only one element - it is called

Types of Sets

1. Finite Set

$$A = \{1, 2, 3\}$$

2. Infinite Set

$$B = \{1, 2, 3, 4, \dots\}$$

3. Singleton Set

$$C = \{M\}$$

<u>Subject Matter</u>	<u>PT Activity</u>	<u>Pupil Activity</u>	<u>Teaching Aids</u>	<u>Blackboard Work</u>
Singleton Set. Eg:- $\{x\}$ is president of India?	PT will tell different types of sets	Students will try to understand the concept.		
4. <u>Null Set</u> :- The set which has no element in it. Eg:- $\{\}$	PT will try to clear concept	Students will note down important topic on their notebooks.	4. <u>Null Set</u> $D = \{\}$ or ϕ 5. <u>Joint Set</u>  $P = \{1, 2, 3\}$ $Q = \{3, 4, 5\}$ '3' is Common	4. <u>Null Sets</u> Eg:- $\{\}$ or ϕ 5. <u>Joint Set</u> Eg:- $A = \{1, 2, 3\}$ $B = \{3, 4, 5\}$ 3 is common in both 'A' and 'B'
5. <u>Joint Set</u> Two sets are said to be joint if they have at least one element in common.				

Recapitulation &

1. what is difference between finite and infinite set?
2. what is Singleton set?
3. what is a null or empty set?

Home Assignment & Q1 write two Examples of the following:-

- a) finite set.
- b) infinite set.
- c) Null set
- d) Singleton set

Q2 Identify the type of set

- a) set of even numbers less than 20
- b) set of rivers in India.

PT Roll no. 8-2025101

Subject 8- Mathematics

Topic 8- Data Handling

Class 8- 8th

Date 8-

Duration 8- 40 min

Instructional Objectives 8

After the completion of lesson, student will be able to

1. Define data and data Handling
2. understand how to collect, organize and represent data
3. Apply the Concept of data Handling to real life situation

Instructional Aids

- Blackboard and chalk.
- Chart showing types of data Representation
- Flashcards.

Previous Knowledge assumed 8-

- Students already know 8-
- The concept of numbers and counting.

Previous Knowledge Testing :-

- How to perform basic arithmetic operations.
 - How to read and compare simple numerical data.
1. Have you ever seen a chart showing students marks or attendance?
 2. How do we compare who got the highest or lowest marks?
 3. What do we call a collection of numerical information?

Announcement of Topic :-

Instructional Strategies :-

"Today, we are going to learn about data handling - how we collect, organize and represent information in an easy and meaningful way".

Lecture method, Activity-based method, Demonstration method, Discussion method will be used.

Subject Matter

Class Marks

The class-mark of a class-interval is the value that is midway between lower limit and upper class limit

Class mark =

$$\frac{\text{lower limit} + \text{upper limit}}{2}$$

Eg:- Class mark of 10-20

$$= \frac{10+20}{2} = 15$$

PT Activity

PT will tell about class mark

PT will explain in detail with Example

Pupil Activity

pupil will clear the doubts

pupil will maintain discipline.

Teaching Aids

class mark

$\frac{\text{lower limit} + \text{upper limit}}{2}$

class mark of 20-30

$$= \frac{20+30}{2}$$

$$= \frac{50}{2}$$

$$= \underline{\underline{25}}$$

Blackboard Work

class Mark

$$= \frac{\text{upper limit} + \text{lower limit}}{2}$$

Classmark of 20-30

$$= \frac{20+30}{2}$$

$$= \underline{\underline{25}}$$

Subject Matter

Class Marks

The class-mark of a class-interval is the value that is midway between lower limit and upper class limit

Class mark =

$$\frac{\text{lower limit} + \text{upper limit}}{2}$$

Eg:- Classmark of 10-20

$$= \frac{10 + 20}{2} = 15$$

PT Activity

PT will tell about class mark

PT will explain in detail with Example

Pupil Activity

pupil will clear the doubts

pupil will maintain discipline.

Teaching Aids

class mark

lower limit + upper limit

2

class mark of 20-30

$$= \frac{20 + 30}{2}$$

$$= \frac{50}{2}$$

$$= \underline{\underline{25}}$$

Blackboard Work

class Mark

$$= \frac{\text{upper limit} + \text{lower limit}}{2}$$

classmark of 20-30

$$= \frac{20 + 30}{2} = \underline{\underline{25}}$$

Recapitulation :- 1. What is data?

2. What do we mean by data handling?

3. Name the different ways to represent data.

Home Assignment :- Students complete the exercise on your notebooks.

18

PT Roll no :- 2025101

Class :- 8th

Subject :- Mathematics

Date :-

Topic :- Area of Trapezium & Polygon

Duration :- 40 min

Instructional Objectives :-

After the completion of the lesson, students will be able to :-

1. Define a trapezium and a polygon
2. Derive and apply the formula for area of a trapezium.
3. Solve numerical problems based on the area of trapezium and polygon.
4. Relate the concept to real-life applications (fields, tiles, plots, etc.)

Instructional Aids :-

- Blackboard and chalk
- Geometry box
- chart showing trapezium & polygon shapes

Previous Knowledge Assumed :-

Students already know :-

- The formula for area of a rectangle

Square & triangle.

- The concept of base and height.

Previous Knowledge
Testing &

Questions to test prior learning:-

1. What is the formula for the area of a rectangle?
2. What is area of triangle?
3. Can you name a figure that has one pair of parallel sides?

Announcement
of Topic:-

"Today we are going to learn how to find the area of a Trapezium and polygons using formulas and by dividing shapes into simpler figures"

Instructional
Strategies &

PT will present her topic using lecture-cum demonstration method. Active participation of the pupil is answered using question answer technique. Blackboard work is done side by side.

Subject Matter

Area of Trapezium

$$= \frac{1}{2} \times (\text{sum of 11 sides}) \times \text{height}$$

Eg:- The length of parallel sides of a trapezium is 3:5 and the distance between them is 10cm.

If the area of the trapezium is 180cm^2 . find the length of 11 sides:

Solⁿ let length of 11 sides be $3x$ & $5x$

$$\text{Area} = \frac{1}{2} (3x + 5x) \times 10$$

$$120 = \frac{1}{2} (8x) \times 10$$

PT Activity

PT will

Tell about formula of Area of Trapezium.

PT will Explain

related to the Concept.

Pupil Activity

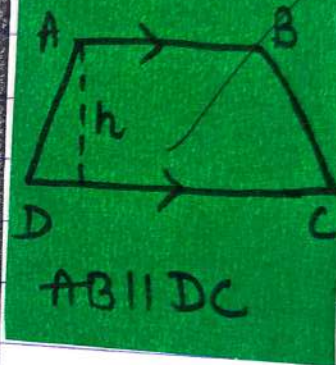
Students

will listen Carefully.

Students will try to understand the Concept.

Teaching Aid

Trapezium



Area
 $= \frac{1}{2} \times (\text{Sum of 11 Sides}) \times \text{height}$

Blackboard Work

Trapezium

Area of Trapezium
 $= \frac{1}{2} \times (\text{Sum of parallel side}) \times \text{height}$

Subject Matter

$$x = \frac{120}{40} = 3$$

∴ length of parallel sides

$$3 \times 3 = 9 \text{ cm}$$

$$5 \times 3 = 15 \text{ cm}$$

Area of parallelogram

$$= \text{Base} \times \text{height}$$

Eg: A parallelogram has sides 12 cm & 8 cm

If the distance b/w the 12 cm & 8 cm

Find the dist. b/w 8 cm side.

Solⁿ Area = $12 \times 5 = 60 \text{ cm}^2$

Height = ? base = 8

$$\text{Height} = \frac{60}{8} = 7.5 \text{ cm}$$

PT ActivityPupil Activity

Students will note down important Examples on their notebooks.

Teaching AidsBlackboard Work

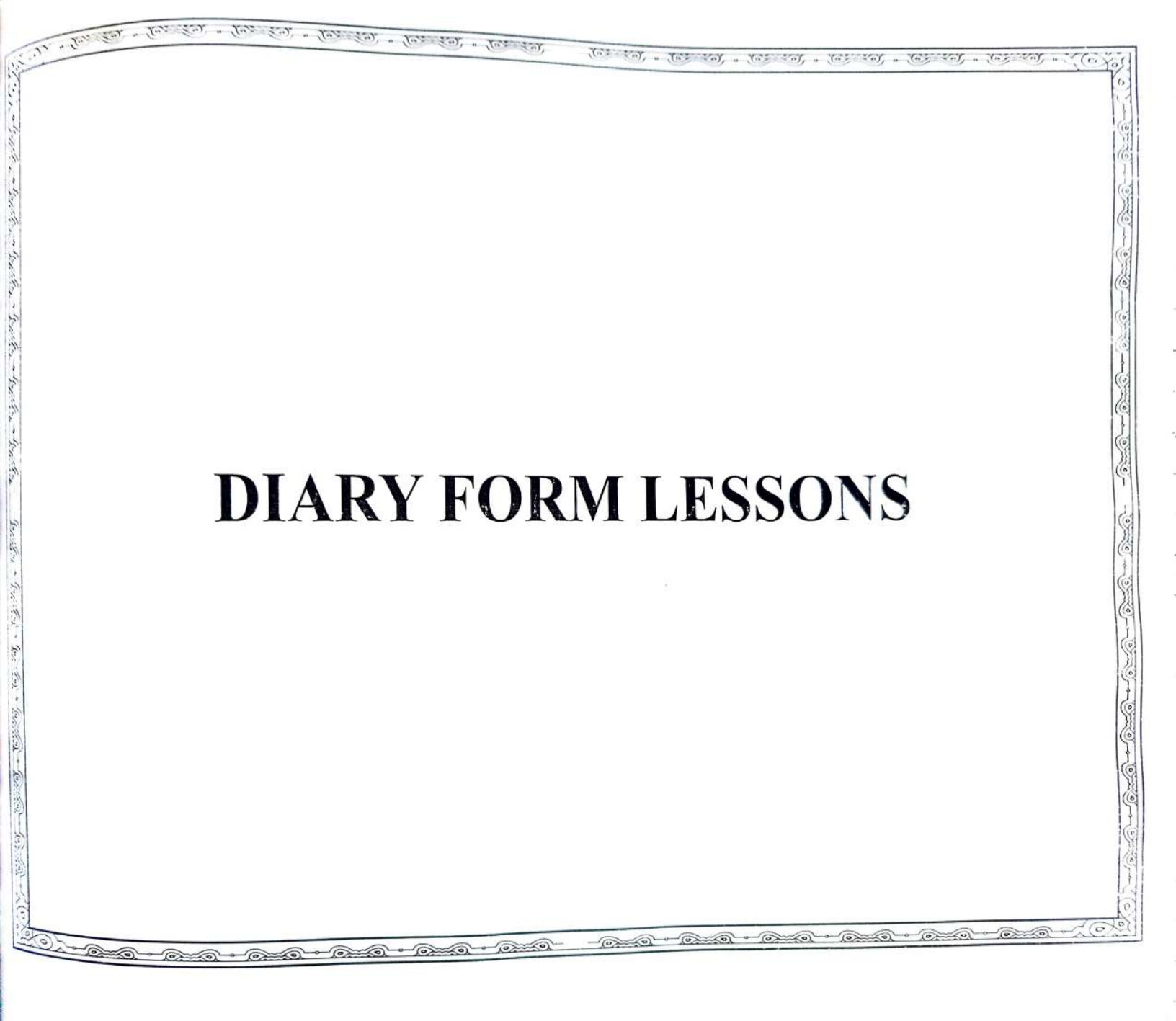
Parallelogram



Parallelogram
Area of 11 gm
= Base $\times$ height

Area :-

$$\text{Base} \times \text{height} = CD \times AE$$

A decorative border with a repeating pattern of small, stylized floral or scroll motifs, framing the entire page.

DIARY FORM LESSONS

PT Roll no:- 2025101
Subject:- Mathematics
Topic:- Integers

Class:- 7th

Date:-

Duration:- 40min

Instructional Objectives:-

After the completion of lesson students will be able to
define integers as a set of positive and negative whole number including zero.

Instructional Aids:-

- Number line chart
- Blackboard and chalk
- Flashcards.

Previous Knowledge Assumed:-

Students already know about

- whole numbers
- The concept of addition and subtraction of whole numbers.

PK Testing:-

1. What are whole numbers?
2. What comes before 1?
3. Can we have numbers smaller than zero?

Announcement of Topic:-

Well students, Today we will learn about topic "Integers".

Instructional Strategies :-

Inductive method, lecture method, Demonstration method, Discussion method
Brainstorming will be used.

Teaching Point	Instructional Objectives	Instructional Strategies	Resource material	Evaluation Strategies
1. <u>Introduction to integers</u>	Students will understand what integers are and identify them on number line.	Teacher uses real-life examples to introduce integers.	Number line chart, Flash Cards	What are integers? Give examples.
2. <u>Representation on Number line</u>	Students will locate and represent integers on a number line.	Teacher draws a number line on the board.	Blackboard and chalk	Where is -3 located on the number line?
3. <u>Addition of Integers</u>	Students will perform addition of numbers using number line method.	Teacher explain with example like $(+3) + (-2)$	Number line chart	Solve $(+4) + (-5) = ?$

Teaching Point	Instructional Objectives	Instructional Strategies	Resource Material	Evaluation Strategies
1. <u>Subtraction of Integers</u>	Students will subtract integers using the rule "add the additive inverse".	Teacher demonstration using number line and examples	Flashcards, Numberline	Solve:- $(-6) - (-2)$ $= ?$

Recapitulation :-

1. What are integers?
2. Give three positive integers examples.
3. Which number is neither positive or negative?

Home Assignment :-

1. Represent the integers $-4, +3, 0, +2$ and -5 on the number line.

2. Solve:-

(a) $(-8) + (+5) = ?$

(b) $(+6) - (-3) = ?$

(c) $(-7) + (-2) = ?$

PT Roll no:- 2025101

Subject:- Mathematics

Topic:- Simple Interest

Class:- 7th

Date:-

Duration:- 35-40 min

Instructional Objectives:-

After completing this lesson, students will be able to:

1. Understand the concept of interest; principal, rate, and time.
2. Derive and apply the formula for simple interest.
3. Calculate simple interest using the formula.

Instructional Aids:-

- chart showing formula for simple interest ($SI = P \times R \times T \div 100$)
- flash cards showing terms (Principal, Rate, Time, Interest)

Previous Knowledge Assumed:-

- students already know about:
- Basic arithmetic operations (multiplication, division, percentage)
- conversion of years into months
- The concept of money and saving

PK Testing:-

1. Have you ever heard of "interest" in banks?
2. What does it mean when we say "10% interest per year"?
3. If you borrow ₹ 100 and return ₹ 110, what is the extra ₹ 10 called?

Announcement of Topic:-

Well students, "Today we are going to learn about SIMPLE INTEREST."

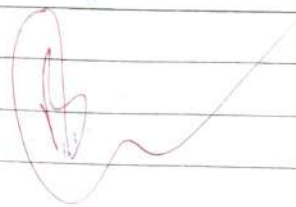
Instructional Strategies:-

- Inductive method, lecture method;
- Demonstration method, Discussion method Brainstorming will be used.

Teaching Point	Instructional Objectives	Instructional Strategies	Resource material	Evaluation Strategies
1. concept of Interest	students understand that interest is the extra money paid or earned on a principal amount	Teacher explains with a real-life example (bank deposit or loan)	chart, bank passbook image	what is interest?
2. Terms used in simple interest	students learn meanings of Principal (P), Rate (R), Time (T).	Teacher explains each term with examples	Flash cards	Define principal and state
3. formula for simple interest	students learn and apply the formula: $SI = \frac{P \times R \times T}{100}$	Teacher writes the formula on the board and derives it using examples	chart showing formula	what is the formula for SI?
4. Solving Numerical Problems	Students calculate SI for given values	Teacher solves examples step-by-step on the board	Blackboard, worksheet	Find SI on ₹ 5000 at 5% for 2 years.
5. Word problems/ Real-Life Application	Students apply the concept to real-life banking or lending cases	Teacher gives word problems to solve in groups	Worksheet, examples	A sum of ₹ 800 is lent at 10% per annum for 3 years. Find the SI.

- Recapitulation :-
1. What is meant by Simple Interest?
 2. What is the formula for finding Simple Interest?
 3. What do the symbols P , R and T stand for in the formula?

- Home Assignment :-
1. Find the Simple interest on ₹ 5000 at 8% per annum for 3 years.
 2. Calculate the amount if the principal is ₹ 2500, Rate is 5% per annum and Time is 4 years.



PT Roll no :- 9025101

Class :- 7th

Subject :- Mathematics

Date :-

Topic :- Fractions & Decimals

Duration :- 30-35 min

Instructional Objectives :-

After the completion of lesson students will be able to :-

1. Define fraction and Decimals.

2. Identify and classify types of fractions.

Fraction chart, decimal chart, fraction strips, blackboard and chalk.

Instructional Aids

Previous Knowledge Assumed :-

Students already know :-

• whole numbers.

• Basic arithmetic operations.

Pre Testing :-

1. What are whole numbers?

2. What is half of 1?

3. How many parts make one whole?

Announcement of Topic :-

Today we will learn about Fractions and Decimals.

Instructional Strategies :-

Lecture method, demonstration method, discussion method will be used.

Teaching Point	Instructional Objectives	Instructional Strategies	Resource Material	Evaluation Strategies
1) <u>Concept of fraction</u>	Students understand a fraction as a part of a whole	Teacher uses chocolate pieces to explain numerator and denominator	Fraction chart	What is $\frac{1}{2}$? What are its numerator & denominator?
2) <u>Types of fraction</u>	Students identify proper, improper and mixed fraction	Teacher writes examples like $\frac{3}{4}$, $\frac{7}{4}$ on board and discuss.	Blackboard, Flashcards.	Classify $\frac{9}{5}$ and $\frac{7}{8}$
3) <u>Concept of Decimals</u>	Students understand decimal as another way of representing fraction	Teacher explains using rupees and paise	Decimal chart	Write 1 as a decimal.
4) <u>Conversion between fraction & decimals.</u>	Students convert fraction into decimal	Teacher demonstrates division $3 \div 4 = 0.75$	Blackboard	Convert $\frac{1}{4}$ into decimals

- Recapitulation:-
1. what is fractions?
 2. what do we call the upper and lower number in a fraction?
 3. what is a decimal number?

Home Assignment:-

1. Convert the following into decimal
a) $\frac{1}{2}$ b) $\frac{3}{4}$

2. Add:- $2.4 + 3.6$

P.T. was confident

Explanation was good



PT Roll no:- 2025101

Class:- 7th

Subject:- Mathematics

Date:-

Topic:- Algebraic Expression

Duration:- 35-40 min

Instructional Objectives:-

After the completion this lesson, students will be able to:-

1. Define & understand the meaning of algebraic expression.

• Chart showing examples of algebraic expression.

• Blackboard and chalk.

Previous Knowledge Assumed:-

Students are already familiar with:-

• Basic arithmetic operations

• Understanding of simple equations from previous grades.

PK Testing:-

1. What are numbers called that do not change?

2. What is result of adding $2+3$?

Announcement of Topic:-

Well students, Today we will learn about "Algebraic Expressions"

Instructional Strategies:-

Lecture method, demonstration method, Discussion will be used.

Teaching points	Instructional objectives	Instructional strategies	Resource material	Evaluation strategies
1. <u>Concept of Algebraic expression</u> &	Students understand expressions as combination of number and variables.	Teacher Explains Examples like $2x+3$ and $5y-2$	chart, Blackboard	What is Algebraic Expression?
2. <u>Terms, Coefficient</u> <u>Constants, Variable</u>	Students identify parts of an expression.	Teacher underline & labels terms	Flashcards	Identify Coefficient and constant in $4x+7$.
3. <u>Types of Algebraic Expressions</u>	Students form expressions from statements	Teacher gives verbal problem:- "Add 5 to twice a number"	worksheet	Form an expression for & "Subtract 3 from a number"

- Recapitulation &
1. what is an algebraic Expression?
 2. what are constant and variables?
 3. what is term in an algebraic Expression?

- Home Assignment &
1. Identify constants, coefficients and variables in $3x + 4y - 7$
 2. Simplify: $5a + 2b = 3a + b$
 3. form expressions for:
 - a) "Add 4 to a number x ."
 - b) "Subtract 6 from twice a number y ."

Roll no. :- 2025101

Class :- 8th

Subject :- Mathematics

Date :-

Topic :- Linear Eqⁿ in one Variable

Duration :- 35-40 min

Instructional Objectives

After completion of this lesson, students will be able to :-

1. Define a linear equation in one variable.
 2. Identify variable, constant & coefficient.
- charts, • Blackboard and chalk.

Instructional Aids

Previous Knowledge Assumed :-

Students are already familiar with :-
 → Algebraic Expression and Simplification.
 → Arithmetic operations.

PK Testings :-

1. What is an algebraic expression?
2. What is value of x if $x+3=6$?

Announcement of Topic :-

Well students, today we will learn about "linear equations in one variable".

Instructional Strategies :-

Lecture method, discussion method, Demonstration method will be used.

Teaching point	Instructional objectives	Instructional strategies	Resource material	Evaluation strategies
1. <u>Concept of linear equations</u>	Students understand that linear equation has degree one.	Teacher Explains the meaning of equation and gives Examples like $x+3=7$	chart, Blackboard	What is a linear equation?
2. <u>Parts of an equation</u>	Students identify Variable, Constant and coefficient.	Teacher underline & labels each part in Examples	Flashcards, Chart	Identify Variable & constants in $2x+5=9$
3. <u>Solving simple linear equations</u>	Students solve equations using inverse operation	Teacher demonstrates step by step:- $x+4=9$ $x=9-4=5$	Blackboard	Solve: $x-3=7$

- Recapitulation :-
1. what is a linear equation?
 2. what does "one variable" mean?
 3. Give one example of a linear equation in one variable.

Home Assignment :-

1. Solve the following :-
 - a) $x + 7 = 15$
 - b) $2x - 3 = 7$
 - c) $5x = 20$
2. Form an equation :- "Twice a number increased by 3 gives 11."

6

PT Roll no:- 2025101

Subject:- Mathematics

Topic:- Linear Eqⁿ in two variables

Class:- 8th

Rate:-

Duration:- 35-40 min

Instructional Objectives:-

After completing this lesson, students will be able to:

1. Define a linear equation in ~~two~~ variable
2. Identify the variable, constant, and coefficient in an equation.

Instructional Aids:-

- chart showing examples of linear equations
- Flash cards with terms (variable, coefficient, constant)

Previous Knowledge Assumed:-

Previous knowledge Assumed:

Students are already familiar with

- Algebraic expressions and simplification
- ~~Arithmetic~~ linear equation in one variable.

PK Testing:-

1. What is variable?
2. Give an example of a linear equation in one variable
3. How do we plot a point on the coordinate plane?

Announcement of Topic

Well students, Today we are going to learn about linear equations in Two variables.

Instructional Strategies:-

Lecture method, Demonstration method, Discussion will be used

Teaching Point	Instructional Objectives	Instructional Strategies	Resource material	Evaluation Strategies
1. Definition of linear equation in two variables	Students understand that an equation having two variables and degree 1 is a linear equation in two variables	Teacher explains the general form $ax + by + c = 0$ with example	Blackboard, chart	What is the general form of a linear equation in two variables?
2. Example Identification	Students identify coefficients and constants	Teacher gives examples $3x + 2y = 6$, $x - y = 2$, and asks students to identify a, b, c	Flash cards	In $3x + 4y = 12$, what are a, b , and c ?
3. Solution of linear equations	Students find pairs (x, y) satisfying the equation	Teacher substitutes different values of x to get corresponding y	Blackboard	Find y when $x = 2$ in equation $2x + y = 7$
4. Graphical Representation	Students represent equation on a graph using ordered pairs	Teacher demonstrates plotting of points and drawing the straight line	Graph paper, scale	Plot $2x + 3y = 6$ on graph paper

Recapitulation :-

1. what is linear equation in two variables?
2. what is general form?
3. How many variables are there in such an equation?

Home Assignment :-

1. Find any three solutions of the equation $2x + 5y = 10$
2. Draw a graph of the equation $x - 2y = 4$
3. Write two linear equations in two variables used in real-life situations

PT Roll no :- 2025101

Subject :- Mathematics

Topic :- Perimeter & Area of plane figure

Class :- 7th

Date :-

Duration :- 35-40 min

Instructional Objectives :-

After the completing this lesson, students will be able to :-

1. Define perimeter & area of plane figure.
2. Calculate perimeter & area.

Instructional Aids :-

- Blackboard & chalk.
- Chart showing formulas of perimeter & area.

Previous Knowledge Assumed :-

Students already know :-

- Plane shapes & their sides.
- Basic unit of length and area.

PK Testing :-

- 1) What is a Square? What is Rectangle?
- 2) What is the length of the boundary of a figure called?

Announcement of Topic :-

Well students, Today we will learn about perimeter and area of plane figures.

Instructional Strategies :-

Lecture method, Demonstration method, Discussion method will be used.

Teaching Point	Instructional Objectives	Instructional Strategies	Resource material	Evaluation Strategies
1. <u>Concept of perimeter</u> :-	Students understand perimeter as the boundary length of a figure.	Teacher Explains with a rectangular paper strip	paper models, ruler	what is perimeter of a square
2. <u>Concept of Area</u>	Students understand area as the surface covered by figure.	Teacher uses graph paper to show the number of square covered by a shape	Graph paper shapes.	Define area.
3. <u>Formula for perimeter & area of square</u>	Students learn & apply formula: $P = 4a$ & $A = a^2$	Teacher demonstrates using a square Board.	Chart, model.	Find the area of a square of side 5cm.

Recapitulation b-

1. what is meant by perimeter?
2. what is mean by area?
3. what is the formula for the perimeter of rectangle?

Home Assignment b-

1. Find the perimeter and area of:
a) A square of side 12 cm.
b) A rectangle of length 8 cm & breadth 6 cm.
2. A Rectangular park is 50m long and 40m wide. Find the cost of fencing it at ₹ 25 per meter.

PT Roll no. - 2025101

Subject - Mathematics

Topic - Data Handling

Class - 8th

Date -

Duration - 35-40 min

Instructional Objectives :-

After completing the lesson students will be able to :-

Define data and understand the need for data handling.

Instructional Aids :-

• Flashcards, • charts showing Example of pictograph & bar graph, • Blackboard
Students already know :-

Previous Knowledge Assumed :-

• counting & representing object using tally marks.

• Basic Arithmetic operations

P.K. Testing :-

1. What the information collected from different sources?

2. How can we show data clearly?
Well students, "Today we are going to learn about Data Handling."

Announcement of Topic :-

Instructional Strategies :-

Lecture method, Demonstration method
Activity - based method will be used.

Teaching Points	Instructional Objectives	Instructional Strategies	Resource material	Evaluation Strategies
1) <u>Concept of Data</u> &	Students understand that data is collected of facts or numbers.	Teacher explains with Examples.	Chart, Blackboard.	What is data?
2) <u>Organization of Data</u>	Students learn to arrange data in tabular form.	Teacher collects data from students	Blackboard, table chart	Arrange data of your classmate's fav. games.
3) <u>Pictograph</u>	Students represent data using pictures or symbols.	Teacher demonstrate how one symbol can represent a number of items	Chart with pictographs	What does one symbol represent in a pictograph?

Recapitulation:-

1. what is data?
2. why do we collect data?
3. what is a pictograph?
4. what is bar graph?

Home Assignment:- 1. Make a pictograph showing the number of books read by five students (3, 5, 4, 2, 6)

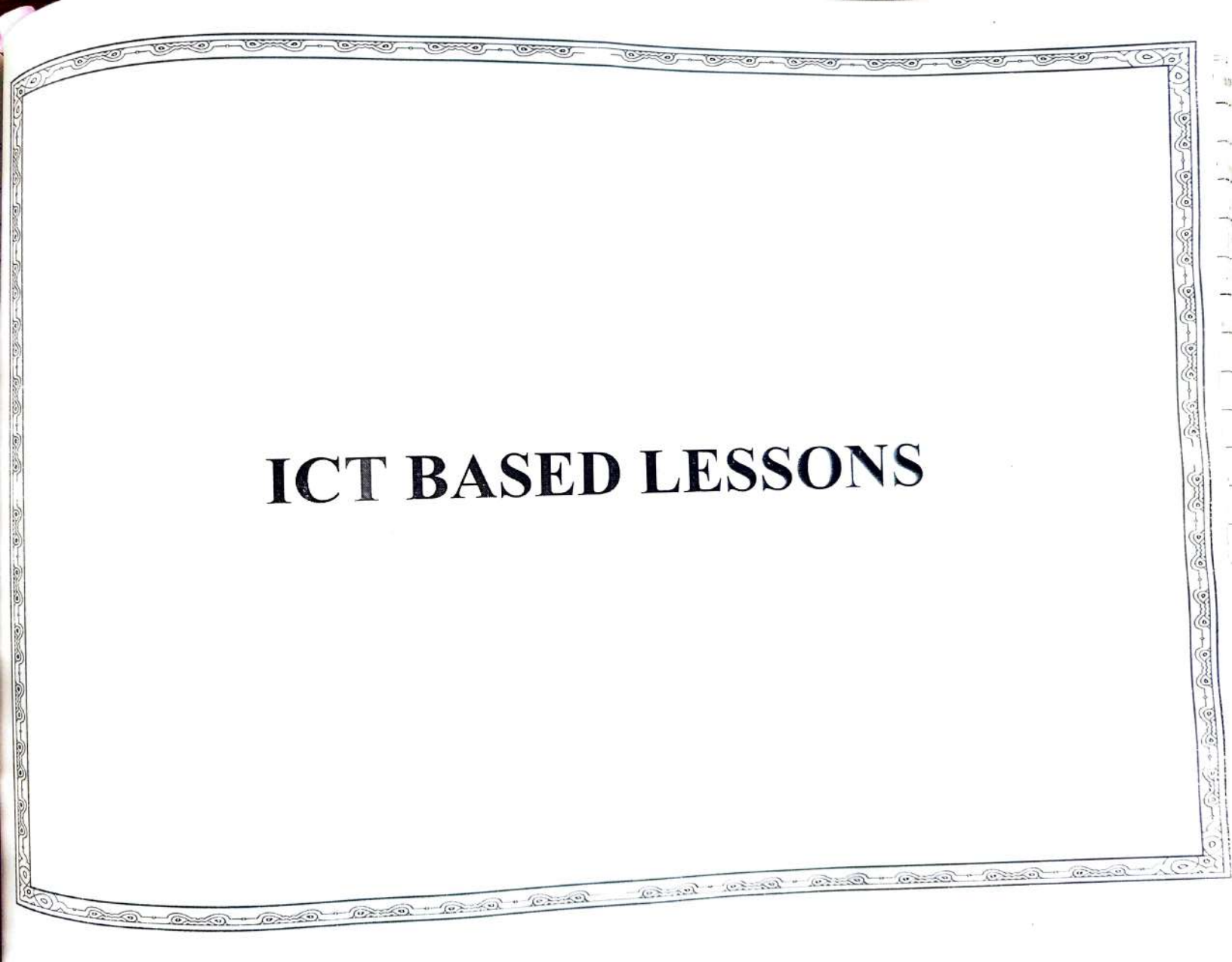
2. The following table shows the number of students in each class who like Cricket.

class	6th	7th	8th	9th	10th
no. of students	20	25	15	10	30

Draw a bar graph to represent the data

Lesson was
well prepared

16

A decorative border with a repeating pattern of small circles and lines, framing the entire page.

ICT BASED LESSONS

PT Roll No. $\Rightarrow$ 2025101

Subject $\Rightarrow$ Mathematics

Topic $\Rightarrow$ Circle

Class = 7th

Date =

Duration = 40 min

Instructional After the lesson, students will be able to:-

Objectives :-

- i) Define circle.
- iii) Identify radius, diameter, chord, arc and circumference.

Instructional Aids :-

- Blackboard and chalk.
- Compass
- Chart with labelled circle.

Previous knowledge Students know basic shapes

Assumed :-

(square, rectangle, triangle) and measurement of line segment.

Pk testing :-

- i) Have you seen a coin or bangle?
- (ii) What is the shape of a coin

Announcement of
St Topic :-

well students, Today we will learn about circle and its parts.

Instructional strategies:- ~~dec~~ demonstration method, discussion method, Activity-based method will be used.

Subject Matter

P.T. Activity

Definition:- A circle is the collection of all points in a plane which are at a fixed distance from fixed point.

PT will show a bangles coin and ask students to observe its shape.

Important term

- centre:- The fixed point.
 - radius:- Distance from the centre to any point on the circle.
 - Diameter:- line joining two points on the circle & pass from centre.
 - Chord:- line segment joining two points on the circle.
 - Circumference:- Boundary of circle.
 - Arc:- part of circumference.
- Diameter = $2 \times$ Radius.
Eg:- coin, bangles, plates.

PT will draw a circle using a compass on the board.

PT will mark the centre, radius, diameter, chord and arc.

PT will ask students the difference between chord and diameter.

Pupil Activity

pupil will observe
teacher's demonstration

pupil will draw a circle
using a compass in
their notebooks.

Students will participate
in discussion and
answer questions

pupil will maintain
discipline.

ICT work

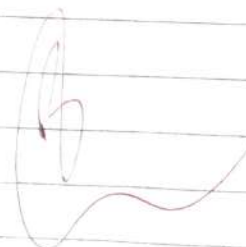
PPT

Recapitulation:-

1. What is a circle?
2. What is radius of a circle?
3. How many radii can a circle have?
4. What is the relation between radius and diameter.

Home assignment:-

1. Draw a circle of radius 4cm and mark its centre, chord, diameter and arc.
2. If the radius of circle is 7cm, find its diameter.



PTROLL No. = 2025101

Class = 8th

Subject - Mathematics

Date =

Topic = Cube Root

Duration = 40min

Instructional

Objectives :-

Students will be able to:-

- understand the meaning of cube and cube root.
- Identify perfect cube up to 10^3 .

Instructional Aids :-

- Blackboard and chalk.
- Chart of cube of number 1-10
- worksheets

Previous Knowledge

Assumed :-

Students already know:-

- cube of a number
- prime factorization.
- exponents.

Pk. Testing :-

- What is the square of 3?
- What is cube of 2?

Announcement of
Topic =

"well students, Today we will learn Cube root"

Instructional decide demonstration method, discussion strategies :- method, Activity - based method will be used

Subject Matter

1. Definition of Cube: The Cube of a number is obtained by multiplying the number by itself three times

Example:

$$4^3 = 4 \times 4 \times 4 = 64$$

2. Definition of Cube Root: Cube root of a number is the number which gives the original number when multiplied by itself three times.

Symbol: $\sqrt[3]{}$

1. $\sqrt[3]{125} = 5$

2. $\sqrt[3]{216} = 6$

3. $\sqrt[3]{512} = 8$

P.T. Activity

P.T. will explain the concept of Cube and Cube root.

P.T. will draw examples on the board.

P.T. will perform prime factorization of Perfect Cubes like 64, 125, 216.

Pupil Activity

Students will understand the definition of cube and cube root.

Students will observe the cube-shaped objects shown by the teachers.

Students will look at the examples and chart of cubes.

ICT work

PPT

Recapitulation:- 1.) Cube of a number = number $\times$ number $\times$ number

• example • $3^3 = 27$

2.) Cube root is the number which, when multiplied by itself three times, gives the original number.

• example $\sqrt[3]{27} = 3$

Home assignment:- 1.) Find the cube root of:

(a) 125

(b) 512

2.) State whether the following are perfect cubes:

(a) 1000

(b) 150

B

PT Roll No. = 2025101

Subject = Mathematics

Topic = Percentage

Class = 7th

Date =

Duration = 40 min

Instructional

Objectives :- after the completion of the lesson, students will be able to:-

- 1.) find Percentages of quantities.
- 2.) Define Percentage and understand its meaning as "Per hundred".

Instructional Aids :- 1.) Black board

- 2.) worksheet for practice
- 3.) calculator (optional)

Previous knowledge

of assumed :- Students already know

- 1.) The concept of fractions and decimals.
- 2.) Simple ratio and proportion
- 3.) Basic arithmetic operations, division

P.k. Testing :- 1.) what is a fraction? Give one example!

2.) what is 0.5 in fraction form?

3.) How many parts makes a whole?

Announcement of "Today, we are going to learn about Percentage"

Topic :- a way of expressing numbers as a part of 100.

Instructional learn demonstration method, discussion
stages:- method, Activity -based method will be used

Subject Matter

P.T. Activity

A. Meaning of Percentage

- 1) Percentage means "Per hundred,"
- 2) Symbol: %
- 3) Example: $25\% = 25$ out of 100

P.T. will writes examples of fractions, decimals, and Percentages on the board

B. Conversion

1) fraction $\rightarrow$ Percentage $\frac{a}{b} \times 100$ Example:
 $\frac{1}{4} = 25$

P.T. will Demonstrates conversion step-by-step

2) Decimal $\rightarrow$ Percentage. Multiply by 100.
Example: $0.5 = 50\%$

3) Percentage $\rightarrow$ fraction $\frac{\text{percentage}}{100}$
Example: $20\% = 20/100 = 1/5$

Example

- 1) Convert 25 to percents
- 2) Convert 35% to fraction
- 3) Find 15% of 200

Pupil Activity

pupil will listen carefully to the explanation.

pupil will observe the chart and examples shown by the teachers.

pupil will answer oral questions asked by the teachers.

pupil will come to the board to solve examples.

ICT work

Meaning of percentages

→ percentage means "per Hundred"

→ Symbol :- %

Conversion of Fraction

ii) $\frac{1}{4} \times \frac{25}{100} = 25\%$

iii) Decimal $\rightarrow$ %

$\frac{0,5}{10} \times 100 = 50\%$

Recapitulation :- 1.) Percentage means "Per hundred" and is denoted by the symbol %.

2.) To convert a fraction on Percentage, multiply by 100.

3.) To convert a decimal to percentage to Percentage, multiply by 100.

Example : $0.75 \times 100 = 75$

Home assignment :- 1.) Convert the following into Percentage?

(a) 0.32

(b) $\frac{7}{8}$

2.) Convert into decimal:

(a) 68%

(b) 5%

16

PT Roll No. = 2025101
Subject = Mathematics
Topic = Data Handling.

Class = 7th
Date =
Duration = 40 min

Instructional

Objectives :- After the completion of the lesson, students will be able to:

- 1.) Define data and data handling
- 2.) Read and draw pictographs, bar graphs and tally charts.

Instructional Aids :- 1.) Black board and chalk
2.) Graph paper, scales, and pencil
3.) worksheet for practice

Previous knowledge

Assumed :- Students already know:

- 1.) The concept of numbers and counting
- 2.) How to perform basic arithmetic operations
(Addition, subtraction, etc.)

P.K. Testing :- 1.) Have you ever seen a chart showing students' marks at attendance?

Announcement of Teachers Says :- "Today we will be going to learn about Data Handling."

Instructional Inductive method, Lecture method, Demonstration strategies: method, Discussion method, will be used.

Subject Matter

- Meaning of data: Data means information collected for reference or analysis.

- Example: marks of students, scores in matches, number of siblings etc.

Types of data Representation.

1. Tally Marks
2. Pictograph
3. Bar Graph

P.T. Activity

- Pt will Defines data & data handling.

- Pt Demonstrates how to make tally marks using an example.

- Pt will Shows pictograph symbols and explains their meaning.

- Pt will Draws a simple bar graph on th board using sample data

Pupil Activity

- Student will Try to understand the meaning of data.

- Student will maintain discipline.

Student will understand
Types of data
Representation.

ICT work

Types of Graph

- 1) Bar graph
- 2) Pie charts
- 3) Tally charts
- 4) Area graph

Recapitulation:- 1.) what is data?

2.) what are tally marks used for?

3.) what does the height of the bar show in a bar graph?

Home assignment:- 1.) Collect data about the number of vehicles passing your house in 10 minutes.

• Represent the data using tally marks.

PT Roll No. = 2025101

Subject = Mathematics

Topic = Congruence of triangles

Class = 8th

Date =

Duration = 40 mint

Instructional

Objectives:- By the end of the lesson, students will be able to:

- 1.) understand the meaning of Congruence.
- 2.) Apply Congruence rules to solve simple problems.

Instructional Aids:- 1.) Geometry Box

2.) Black board and chalk

3.) Chart showing SSS, SAS, ASA, RHS Criteria

Previous Knowledge

Assumed:- Students already know about triangles, their sides and angles and measurement using Scale and Protractor.

P.k. Testing:- 1.) What is a triangle?

2.) How many sides and angles does a triangle have?

Announcement of Today we are going to learn about Congruence of Triangles.
Topic:-

Instructional Inductive method, Lecture method, Demonstration
Strategies:- method, Discussion method, will be used.

Subject Matter	P.T. Activity
Concept:- Two figures are said to be Congruent if they have the same shape and size. Two triangles are equal.	P.t will draw two triangles on the board • and asks if they are identical.
Criteria for Congruence of Triangles: 1. SSS - Side - Side - Side 2. Side - Angle - Side 3. Angle - Side - Angle 4. RHS - Right angle - Hypotenuse - Side.	• P.t Shows overlapping of one triangle over another using paper cut-outs.
Cpt:- Corresponding parts of Congruent Triangles are equal.	• P.t will Guides student to perform a hand-on triangle congruence activity.
Examples:- 1. Two triangles drawn using same measurements.	

Pupil Activity

- Students observe the demonstration carefully.
- Cut triangle of given measurements and check if they are congruent.
- Student will conclude cases putting sides and angles.
- Participate in discussion and answer teacher's question.

ICT Work

CRITERIA FOR CONGRUENCE OF TRIANGLE

1. SSS - Side - Side - Side
2. SAS - Side - Angle - Side
3. ASA - Angle - Side - Side
4. RHS - Right - Hypotenuse - Side
5. AAS $\rightarrow$ Angle - Angle - Side.

Recapitulation:- 1.) what do you mean by congruent figures?

2.) what does c.p.c.t stand for?

3.) write any two criteria for congruence of triangles.

Home assignment:- 1.) Draw two triangles with sides 5cm, 6cm, and 7cm, Are they congruent? which rule applies?

2.) write all the congruence criteria with one example each.

UNIT TEST BASED LESSONS

PT Roll no:- 2025101

SUBJECT - Mathematics

Topic - Percentage

Class :- 6th

Date :-

Duration :- 40 min

Objective On Topic Percentage

1. Knowledge Domain

- Students will be able to ~~define~~ percentage.
- Students will be able to state the symbol of percentage (%).
- Students will identify percent as 'per hundred'.

2. Understanding Domain

- Students will be able to explain the meaning of percentage with examples.
- Students will be able to interpret percent values in real-life contexts (e.g. 50% means half).

3. Application Domain

- Students will calculate the percentage of a given quantity.
- Students will convert fractions and decimal into percentage and vice versa.
- Students will solve word problems based on percentage.

4. Evaluation Domain

- Students will check the accuracy of given percentage calculations.
- Students will verify whether a solution is reasonable [e.g. percentage cannot exceed 100% in some cases]

5. Creativity

- Students will design their own percentage-based word problems.
- Students will create charts or pictorial representations showing percentage values.

PT Roll no - 2025101

Class:- 7th

Subject - Mathematics

Date:-

Topic - Rational numbers

Duration:- 40 min

Objectives on Topic Rational numbers

'Knowledge Domain

- Define rational numbers.
- State examples of rational numbers (positive, negative zero).
- Recall that a rational number is in the form $\frac{p}{q}$ where $q \neq 0$
- Identify integers, fractions and decimal that are rational.

2. Understanding . Domain

- Explain in their own words the meaning of rational numbers .

- Distinguish between ~~rational and irrational~~ numbers .

- Interpret rational numbers on the number line .

3. Application & Domain -

- Convert numbers into the p/q form to check if they are rational -

- Represent rational numbers on a number line .

4. Evaluation Domain:

- Verify whether a given number is rational or irrational.
- Evaluate if a rational number has been simplified correctly.

5. Creativity Domain:

- Create their own word problems involving rational numbers.
- Form new rational numbers by combining given integers or fractions.

PT Roll no

Class :- 6th

Topic - Number System

Date :-

Subject - Mathematics

Duration :- 40 min

Number system

1. Knowledge Domain

- Define numbers system and its types.
- State properties of numbers (Closure, associative, commutative, distributive)
- Identify examples of each type of number.
- Recall the structure of the number line.

2. Understanding Domain

- Explain the difference between natural, whole, integers, rational, irrational and real numbers.
- Explain the meaning of terminating and non-terminating.

- Interpret the position of numbers on the number line.

3. Application Domain

- Classify given numbers into correct number sets $[N, W, Z, Q, \text{irrational}, R]$
- Convert fractions to decimal and decimals to fraction.

4. Evaluation Domain

- Verify whether given number is rational or irrational.
- Compare real numbers and justify which is greater or smaller.

5. Creativity Domain

- Draw and design number line models showing various sets of numbers.
- Create charts, diagrams, or posters representing their hierarchy of number system.

PTROLL no - 2025 101
Subject - Mathematics
Topic - Integers

Class:- 7th
Date:-
Duration:- 40 min

Objectives on Topic Integers

1. Knowledge Domain

- Define Integers.

- Recall that integers include positive numbers negative numbers and zero.

2. Understanding Domain

- Explain how opposite integers eg +5 and -5

- Explain the meaning of positive & negative Integers

3. Application Remain

- Represent given integers on the number line.
- Add subtract, multiply and divide integers using rules.

4. Evaluation Remain

- Compare integers and justify which is greater or smaller.
- Identify and correct errors in integer based calculations.

5. Creativity

- Create their own word problems using integers.
- Design a number line model showing positive and negative integers.
- Make charts or posters showing rules of integer operations.
- Form new integer patterns [e.g. sequences or operations]

DISCUSSION LESSON

super. r. no pens.

PT Roll No = 2025101

Subject = Mathematics

Topic = Circle

Class = 7th

Date =

Duration = 40 Mins

Instructional Objectives:- After the lesson, students will be able to:-

- Define a circle.
- Identify radius, diameter, chord, arc, and circumference.
- Understand the relationship between radius and diameter.

Instructional aids:- • Blackboard and chalk

- Compass
- Chart with labelled circle.
- Real objects: bangle, coin, lid, plate

Previous knowledge

Assumed :- Students know ~~about~~ basic shapes (square, rectangle, triangle) and measurement of line segments.

P.K Testing:- Have you seen a coin or bangle?

What is the shape of a coin?

Announcement of "Today we are going to study circle and its parts."

Instructional Inductive method, lecture method,
strategies:- Demonstration method, Discussion method,
Brainstorming will be used.

Subject Matter

P.T. Activity

Defination: A circle is the collection of all points in a plane which are at a fixed distance from a fixed point.

Important Terms:

- Centre: The fixed point.
- Radius: Distance from the centre to any point on the circle.
- Diameter: line joining two points on the circle and passing through the centre.
- Chord: line segment joining two points on the circle.
- Circumference: Boundary of the circle.

P.T. will explain about the topic circle.

P.T. will explain about important terms on topic circle.

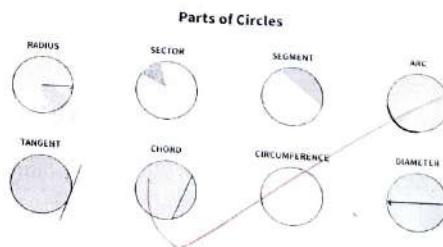
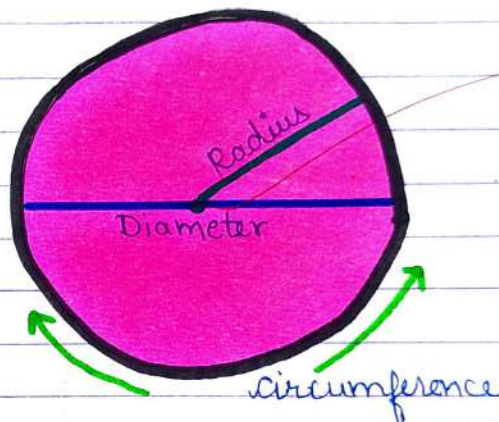
Pupil Activity

Pupil will understand the concept of circle.

Pupil will maintain discipline.

Pupil will write important points on their notebooks.

Teaching aids



Black board work

Radius = ?

Diameter = $2 \times$ Radius

If Radius = 4cm

Then Diameter = ?

$$= 4 \times 2$$

$$= 8 \text{ cm}$$

If D = 10cm

$$R = ?$$

$$R = \frac{10}{2} = 5 \text{ cm}$$

Recapitulation:- 1. What is a circle?

2. What is the radius of a circle?

3. How many radii can a circle have?

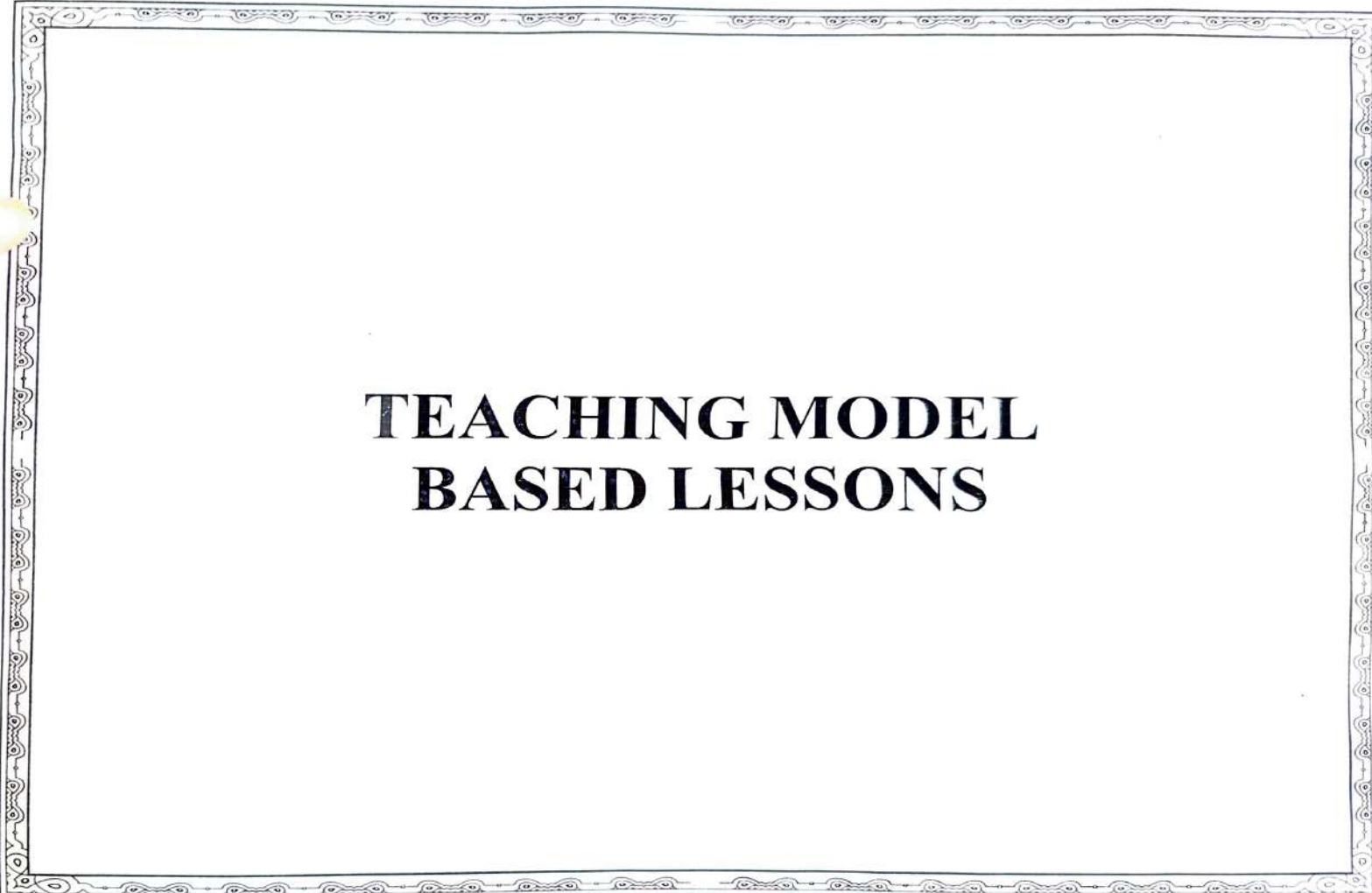
4. What is the relation between radius and diameter?

Home assignment:- 1. Draw a circle of radius 4 cm and mark its centre, diameter, chord, and arc.

2. If the radius of a circle is 7 cm, Find its diameter.

3. List five objects from your surroundings that are circular.



A decorative border with a repeating scroll and floral pattern surrounds the central text.

TEACHING MODEL BASED LESSONS

P.T. Roll No = 2025101

Class = 7th

Subject = Mathematics

Date =

Topic = Cube roots

Duration = 40 Mins

Instructional Objectives After the Completion of lesson Students will be able to :-
i) understand the meaning of cube root
ii) Identify perfect cube up to 10^3

Instructional Aids :-
• Blackboard and chalk
• Flash cards
• worksheets

Previous Knowledge Assumed :- Students already know :-
• cube of number
• prime factorization
• Exponents

PK Testing :-
1. what is square of 3?
2. what is cube of 2?

Announcement of Topic :- well students, Today we will learn about cube roots

Instructional Strategies :- lecture method, demonstration method, -Activity-Based method will be used.

Subject Matter

~~P.T. Activity~~

Defination:- The cube root of a number is the number which when multiplied by itself three times gives the given numbers.

• It is written as:

$$\sqrt[3]{x}$$

Example:

$$\sqrt[3]{27} = 3 \quad \text{because } 3 \times 3 \times 3 = 27$$

Method to Find Cube Root:

1. Prime Factorisation Root:
2. Estimation Method:

P.T. will ~~ex~~ write the definition of cube root on the board.

P.T. will show a chart of cubes ~~to~~ of number 1 to 10.

Pupil Activity

Pupil will observe the teacher's demonstration.

Students Find cube roots of perfect cubes individually or in groups.

Students Ask questions and clarify doubts.

Teaching aids

Cube Roots

$$\sqrt[3]{1} = 1$$

$$\sqrt[3]{8} = 2$$

$$\sqrt[3]{27} = 3$$

$$\sqrt[3]{64} = 4$$

$$\sqrt[3]{125} = 5$$

$$\sqrt[3]{216} = 6$$

$$\sqrt[3]{343} = 7$$

$$\sqrt[3]{512} = 8$$

Blackboard work

Cube Root

$$\sqrt[3]{27} = \sqrt[3]{3 \times 3 \times 3} \\ = 3$$

Method to find
Cube Root:

1. Prime factorization Root.
2. Estimation method.

Recapitulation - 1. What is cube root?
2. What is the cube root of 27?
3. What is the cube root of 125?
4. Which number has cube root 8?

Home assignment:- 1. Find the cube root of the following numbers:

a) 64

b) 343

c) 512

2. List the cubes of numbers from 11 to 15.

3. If the cube root of a number is 9, what is the number?

17

P.T. Roll No = 2025101

Subject = Mathematics

Topic = Simple Interest

Class = 7th

Date =

Duration = 40 Mins

Instructional After the completion of lesson

Objectives:- Students will be able to:-

- (i) understand the concept of interest, principal, rate and time.

Instructional • Chart showing formula for simple interest

Aids & • Flashcards showing terms.
• Blackboard & chalk.

Previous Knowledge Students already know &

Assumed & (i) Basic arithmetic operations

(ii) Conversion of year into months.

PK Testing &- 1. Have you ever heard of "interest" in banks?
2. What does it mean when we say "10% interest per year"?

Announcement of well students, Today we are going to learn about "Simple Interest".

Topic:-

Instructional Strategies

lec method, Activity Based method, Discussion method will be used.

Subject Matter

Meaning of Interest

When we borrow money from someone, we have to pay extra money for using that money.

- This extra money is called interest.

Formula

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

P → principal, R → Rate, T → Time

Amount :- Total money paid back after interest is added.

$$A = P + I$$

P.T. Activity

PT will explain meaning of interest.

PT will tell about formula.

PT will tell about amount.

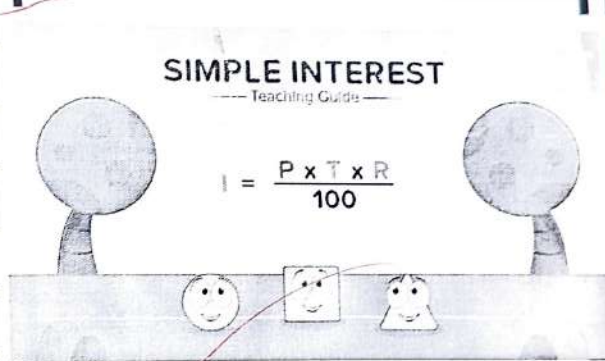
Pupil Activity

pupil will understand the concept.

pupil will maintain discipline

pupil will note on their notebooks.

Teaching Aids



Blackboard Work

Formula :-

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

P → principal

R → Rate

T → Time

$$A = P + I$$

- Recapitulation:-
1. what is meant by Simple Interest?
 2. what is formula for finding simple interest?
 3. what do the symbol P, R and T represent in the formula.

- Home assignment:-
1. Find the simple interest on ₹5000 at 8% per annum for 3 years?
 2. Calculate the amount if the principle is ₹2500, Rate is 5% per annum & Time is 4 years.

P.T. Roll No. = 2025101

Subject = Mathematics

Topic = Discount.

Class = 8th

Date =

Duration = 40 Min

Instructional objectives After the completion of lesson students will be able to:-

- Define term discount.
- Solve word problem related to discount.

Instructional → Blackboard and chalk.

Aids → Flashcards showing price & discount.

Previous Knowledge Students already know:-

Assumed

- The concept of percentage and profit and loss.
- Basic multiplication and subtraction.

PK Testing:-

1. What is selling price in profit & loss?
2. Have you seen "20% off" in shops?
What does it mean?

Announcement of Well Students, Today we are going
Topic :- to learn about "Discount"
Instructional lecture method, demonstration method,
Strategies :- Discussion method will be used.
Subject Matter P.T. Activity

Marked price :- The price at which article is marked. PT will Explain the marked price.

Selling price :- The price at which article is sold. PT will tell about selling price.

Discount :- Discount is the difference between the M.P and the S.P
Discount = M.P - S.P
PT will tell about discount and formula of discount.

$$\text{Discount \%} = \frac{\text{M.P} - \text{S.P}}{\text{M.P}} \times 100$$

Pupil Activity

Teaching Aids

Blackboard work

pupil will try
to understand
the definition

pupil will write
carefully on
their notebook

pupil will
maintain
discipline.

Discount Formula

$$\text{Discount} = \text{Listed Price} - \text{Selling Price}$$

$$\text{Discount} = \text{Listed Price} \times \text{Discount Rate}$$

$$\text{Rate of Discount} = \frac{\text{Discount}}{\text{Listed Price}} \times 100$$



Discount

$$D = M.P. - S.P$$

↙
Marked Price - Selling Price

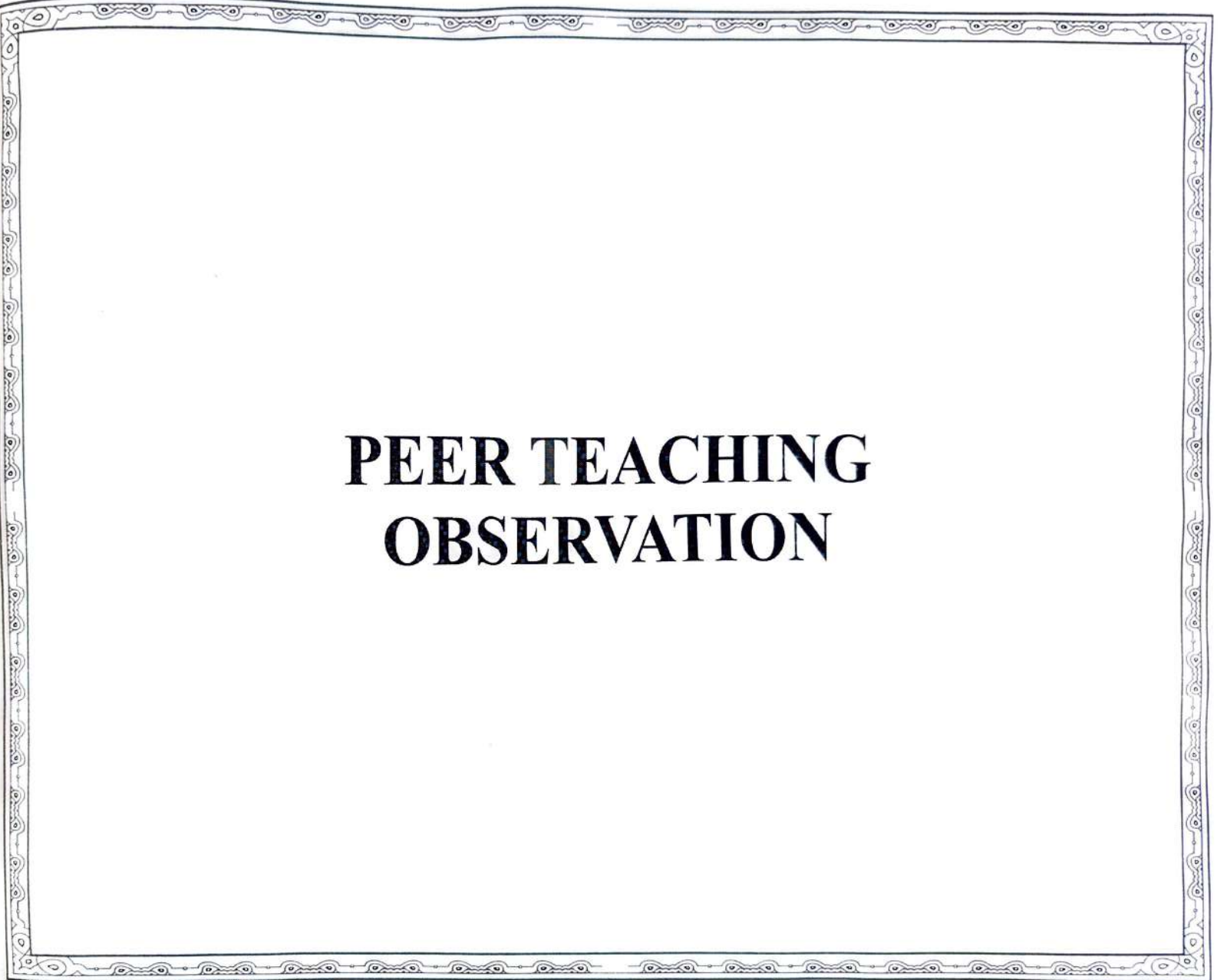
$$D\% = \frac{M.P. - S.P}{M.P} \times 100$$

Recapitulation =

1. If $M.P = ₹ 55$ and $S.P = ₹ 50$, find Discount.
2. If $M.P = ₹ 80$, $S.P = ₹ 70$, find Discount.

Home assignment:- Students try to solve Exercise of chapter Discount.

Q

A decorative border with a repeating geometric pattern of small circles and lines, framing the entire page.

PEER TEACHING OBSERVATION

Check list for Peer Teaching Observation

Pupil's Teacher's Name _____ Sub _____ Class _____

Roll No. _____ Topic _____ Dated _____

Instruction : Please tick Mark(✓) under 1,2,3 as applicable

	1 Good	2 Satisfactory	3 Needs Imp.
* INTRODUCING :			
Previous Knowledge Testing	✓		
(Announcement of the topic)	✓		
* PRESENTATION			
(i) Explanation		✓	
(ii) Questioning (Relevant, specific, concise, through provoking)		✓	
(iii) Black Board Summary (Properly develop, legible, Systematic)			✓
(iv) Demonstration (Relevant, Students involvement, visible & Systematic)		✓	
(v) Teaching (Preparation, display and proper use)	✓		
* RECAPITULATIONS (Section and at the end of the lesson) creative (motivational)	✓		
* CLASS ROOM MANAGEMENT		✓	
(i) (Discipline, creating original (motivation)		✓	
* HOME ASSIGNMENT		✓	
(i) (Summarised, objective and creative)		✓	
* PERSONALITY TRAIT		✓	
(i) (Personality (Confidence, natural expression)		✓	
(iii) Proper posture gestures & Audible Voice	✓		

General Remarks/Suggestions

GRADE

A

Signature of the Pupil Teacher

Check list for Peer Teaching Observation

Pupil's Teacher's Name _____ Sub _____ Class _____

Roll No. _____ Topic _____ Dated _____

Instruction : Please tick Mark(✓) under 1,2,3 as applicable

	1 Good	2 Satisfactory	3 Needs Imp.
* INTRODUCING :			
Previous Knowledge Testing	✓		
(Announcement of the topic)	✓		
* PRESENTATION			
(i) Explanation		✓	
(ii) Questioning (Relevant, specific, concise, through provoking)	✓		
(iii) Black Board Summary (Properly develop, legible, Systematic)	✓		
(iv) Demonstration (Relevant, Students involvement, visible & Systematic)	✓		
(v) Teaching (Preparation, display and proper use)		✓	
* RECAPITULATIONS (Section and at the end of the lesson) creative (motivational)		✓	
* CLASS ROOM MANAGEMENT		✓	
(i) (Discipline, creating original (motivation)		✓	
* HOME ASSIGNMENT			✓
(i) (Summarised, objective and creative)			✓
* PERSONALITY TRAIT	✓		
(i) (Personality (Confidence, natural expression)	✓		
(iii) Proper posture gestures & Audible Voice	✓		

General Remarks/Suggestions

GRADE

A+

Signature of the Pupil Teacher