

LESSON PLAN 2

CLASS : 8 **TEACHER'S NAME :**

NAME OF THE UNIT	SUB-TOPICS	NO OF PERIODS REQUIRED			Time line for teaching	
		Teaching	Practice	TOTAL	From	To
LINEAR EQUATIONS IN ONE VARIABLE	2.1 INTRODUCTION	1	9	10		
	2.2 SOLVING EQUATIONS HAVING VARIABLE ON BOTH SIDES					
	2.3 REDUCING EQUATIONS TO SIMPLER FORM	1	9	10		
	TOTAL	2	18	20		
	KEY CONEPTS	KEY VOCABULARY				
PRE-REQUISITES	Every Pupil is expected to have basic knowledge in # Constant, Variable, Algebraic Expression, Equation # LHS and RHS # Four basic operations like +,-,x and ÷ on Rational Numbers	# Constant # Variable # Algebraic Expression # Equation # Left Hand Side (LHS) # Right Hand Side(RHS)			# LCM # addition # Subtraction # Multiplication # Division	

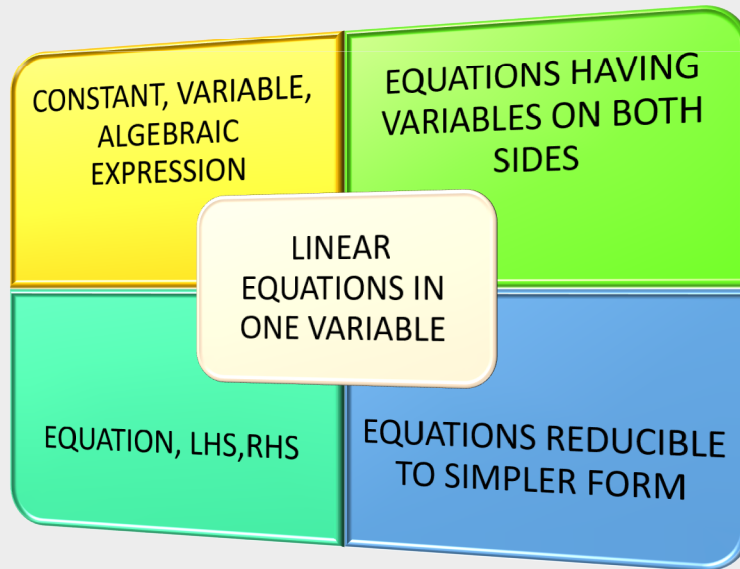
Learning Outcomes

After Completion of this lesson every student will be able to

- # solve any Linear Equation in one variable
- # Convert real life situations into linear equations
- # Solve the linear equations drawn out of real life situations
- # reduce the complex equations into simpler form and solve
- # appreciate the importance of Linear equations in real life applications

Teaching Learning Process

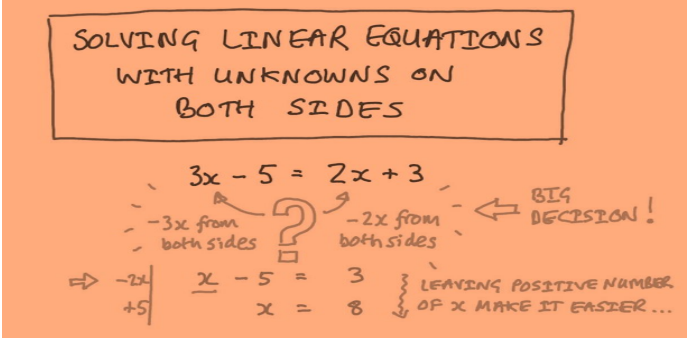
MIND MAPPING

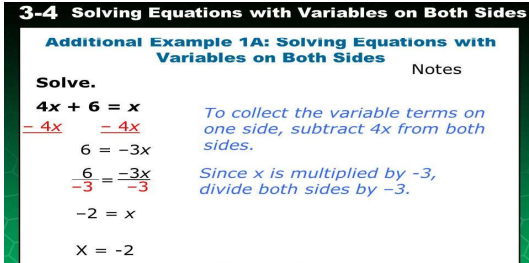


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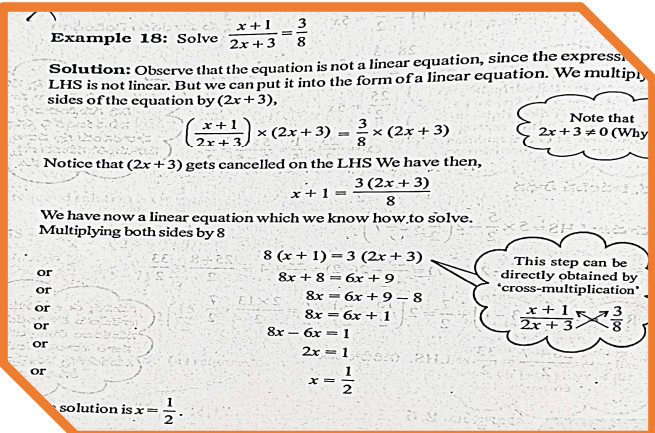
Pupils will recollect their knowledge on equations they have learnt in previous class along with Constant, Variable, Algebraic Expression etc., and utilize it in solving Linear Equations in 1 variable more easily

Students will experience the usage of Linear Equations in one variable in real life situations.

TEACHING PERIOD : 1	INTRODUCTION, SOLVING EQUATIONS HAVING VARIABLE ON BOTH SIDES		
CONCEPTS/STEPS	TEACHER ACTIVITY (I DO)	GROUP ACTIVITY (WE DO)	INDIVIDUAL ACTIVITY (YOU DO)
KEY WORDS & PRE REQUISITES	Brain storming session involving children with pre-requisites vocabulary and concepts related to previous knowledge. Introduction of new vocabulary and key words associated with the concept # Constant # Variable # Algebraic Expression # Equation # L.H.S # R.H.S	* Students read the pre-requisites and answer the questions to the teacher (whole class activity)	Every Pupil will read and write the key words in their note books
MIND MAPPING	Teacher writes the key word " LINEAR EQUATION IN ONE VARIABLE" on the black board and will elicit its other related words through questioning and will draw pupils' attention towards key concepts in the lesson	Hetrogeneous groups are created. One group will read the words and other will explain the meaning	Pupils individually read the keywords associated with Integers
CONCEPTUAL UNDERSTANDING	Teacher introduces the concept of L.E in one variable by citing some real life expleary situations where the student needs to find out an unknown thing for which student assumes the unknown thing as a variable and forms an equation and tries to find the solution.		
LEARNING ACTIVITY	<p>Teacher also gives out a number of examples involving linear equations in 1 varible having variable on both sides and illustrates the solution for 1 or 2 of them</p> 	Hetrogeneous groups are formed to participate in the activity and each group participates in the activity actively and learn the concept	Each student in the group participates in the activity and learns concept
SUMMARY	Teacher writes the summary of the concept i.e.,step wise procedure adopted in solving L.Es in 1 variable having unknowns on both sides and asks children to note and read	pupils will note down and read the summary in groups	every individual reads the summary and notes it down
ASSESSMENT	Teacher asks children to solve the example sums along with Exercise 2.1 sums	every group will do the sums by discussion among each other	every individual solves the sums on their own

PRACTICE PERIOD: 1 to 9	INTRODUCTION, SOLVING EQUATIONS HAVING VARIABLE ON BOTH SIDES		
CONCEPTS/STEPS	TEACHER ACTIVITY (I DO)	GROUP ACTIVITY (WE DO)	INDIVIDUAL ACTIVITY (YOU DO)
KEY WORDS READING	Teacher writes the key words from previous class's teaching period and asks children to read and write them in note books # Constant # Variable # Algebraic Expression # Equation # L.H.S # R.H.S	Whole class activity : one child comes to the board and reads the key words loudly and the remaining	Every child comes to the board and reads the key words and notes them down in their note books
SIMILAR LINES READING	Teacher solves some linear equations in 1 variable on bb and asks children to solve some more like this 	Each group will read the similar lines and will frame some more by discussion	Every Individual prepares their own similar lines using the lines prepared by the teacher
SUMMARY/ SYNOPSIS	Teacher once again writes important key words and step wise procedure adopted in solving Linear equations in 1 variable having variable on both sides and asks children to read,note down and practice.	pupils will note down and read the summary in groups	every individual spells and reads the summary and notes it down
WRITING/ EDITING	Teacher guides children in doing sums of exercise 2.1 on their own and checks their writings	One group will check the writings of the other and vice versa	Slow learners are focused and teacher will ascertain that every individual learns the concept in the forth coming practice sessions

TEACHING PERIOD : 2	REDUCING EQUATIONS TO SIMPLER FORM		
CONCEPTS/STEPS	TEACHER ACTIVITY (I DO)	GROUP ACTIVITY (WE DO)	INDIVIDUAL ACTIVITY (YOU DO)
KEY WORDS	Brain storming session involving children with key words * equation into simpler form * Cross Multiplication * Least Common Multiple (LCM)	* Students read the keywords answer the questions to the teacher (whole class activity)	Every Pupil will read and write the key words in their note books
CONCEPTUAL UNDERSTANDING	<p>Teacher demonstrates the procedure to reduce complex form equations into simpler form by finding LCM or Cross Multiplication through some illustrations and conducts an activity by involving children in groups and will provide some complex form equations and asks them to convert those into simpler form by discussion</p> <div data-bbox="590 719 1220 1170" style="border: 2px solid red; padding: 10px;"> <p>2.6 Reducing Equations to Simpler Form</p> <p>Example 16: Solve $\frac{6x+1}{3} + 1 = \frac{x-3}{6}$</p> <p>Solution: Multiplying both sides of the equation by 6,</p> $\frac{6(6x+1)}{3} + 6 \times 1 = \frac{6(x-3)}{6}$ <p>or $2(6x+1) + 6 = x-3$ or $12x+2+6 = x-3$ (opening the brackets) or $12x+8 = x-3$ or $12x-x+8 = -3$ or $11x+8 = -3$ or $11x = -3-8$ or $11x = -11$ or $x = -1$ (required solution)</p> <p>Check: LHS = $\frac{6(-1)+1}{3} + 1 = \frac{-6+1}{3} + 1 = \frac{-5}{3} + \frac{3}{3} = \frac{-5+3}{3} = \frac{-2}{3}$ RHS = $\frac{(-1)-3}{6} = \frac{-4}{6} = \frac{-2}{3}$ LHS = RHS. (as required)</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin-left: 20px;"> <p>Why 6? Because it is the smallest multiple (or LCM) of the given denominators.</p> </div> </div>	pupils are divided into heterogeneous groups and given different reducible equations and are asked to reduce them into simpler form by discussion	Each student in the group participates in the activity and learns the process of reducing equations into simpler form
SUMMARY	Teacher once again writes important key words and step wise procedure adopted in reducing equations into simpler form and asks children to note down and adopt.	Pupils will note down and read the summary in groups	Every individual reads the summary and notes it down and adopts the procedure
ASSESSMENT	Teacher gives some questions from exercise 2.2 and asks children to solve on their own	Every group will do the sums by discussion among each other	Every individual solves the sums on their own

PRACTICE PERIODS: 10 to 18	REDUCING EQUATIONS TO SIMPLER FORM		
CONCEPTS/STEPS	TEACHER ACTIVITY (I DO)	GROUP ACTIVITY (WE DO)	INDIVIDUAL ACTIVITY (YOU DO)
KEY WORDS READING	Teacher writes the key words from previous class's teaching period and asks children to read and write them in note books * equation into simpler form * Cross Multiplication * Least Common Multiple (LCM)	Whole class activity : one child comes to the board and reads the key words loudly and the remaining	Every child comes to the board and reads the key words and notes them down in their note books
SIMILAR LINES READING	<p>Teacher solves sum equations which are reducible into linear form and asks children to solve some more using these similar lines</p> 	Each group will observe the similar lines and will solve some more sums like this	Every individual will solve some more sums by observing similar lines
SUMMARY/ SYNOPSIS	Teacher once again writes important key words and step wise procedure adopted in reducing equations into simpler form and asks children to note down and adopt.	Pupil groups will read and adopt the procedure	Teacher focuses on every individual so that each one learns how to reduce equations
WRITING/ EDITING	Teacher gives some questions from exercise 2.2 and asks children to solve those sums and teacher checks the writings of children	One group will check the writings of the other and vice versa	into linear form and solve in successive upcoming practice sessions