LESSON PLAN 12

TEACHER'S NAME : **SUBJECT: MATHEMATICS**

CLASS: 6 **UNIT : RATIO & PROPORTION** **No.of Periods: 11+11=22**

PERIOD ALLOTMENT

NAME OF THE UNIT	SUB-TOPICS	NO OF PERIODS REQUIRED			Time line for teaching	
		Teaching	Practice	TOTAL	From	To
RATIO & PROPORTION	12.1 INTRODUCTION	1	1	2		
	12.2 RATIO	4	4	8		
	12.3 PROPORTION 12.4 UNITARY METHOD	6	6	12		
	TOTAL	11	11	22		

PRE-REQUISITES OF THE LESSION

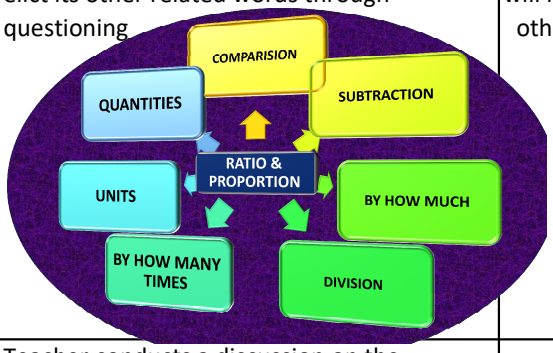
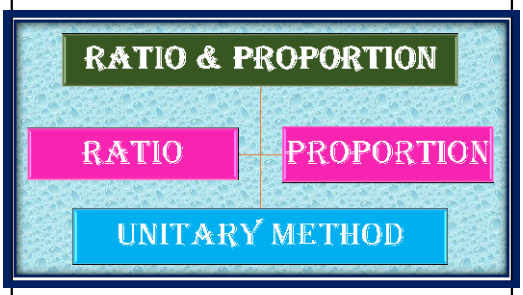
Every Pupil is expected to have basic knowledge in

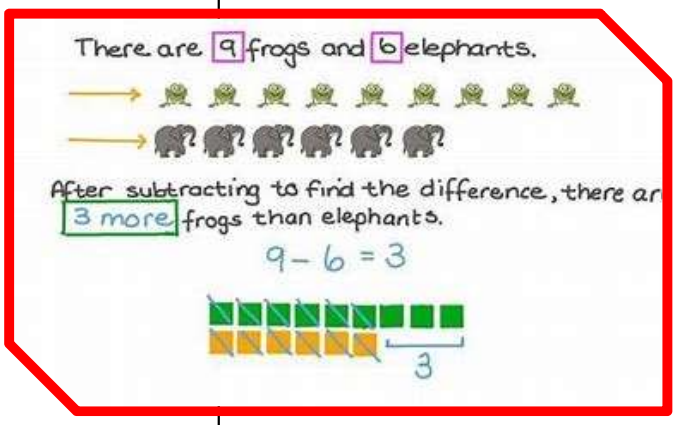
- # comparing different quantities with their measuring unit,
- # arithmetic and its related calculations
- # comparing quantities with difference as well as with division whereever necessary
- # measuring units of length, weight,capacity etc., with their respective units of measurement
- # four basic operations +,-,x,÷

LEARNING OUTCOMES

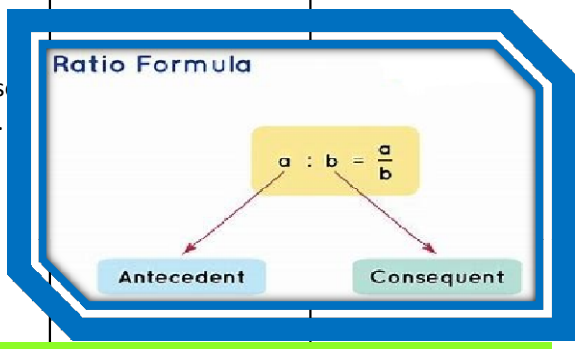
After Completion of this lesson every student will be able to

- # explore different ways of comparing quantities
- # apprehend that ratio is nothing but the way of comparing two quantities through division
- # understand that proportion is nothing but the equality between ratios.
- # compare different quantities using ratios
- # utilize the concept of ratio and proportion in real life situations
- # appreciate the utility of "Ratio & Proportion" in real life sums

TEACHING PERIOD : 1 (PRE - REQUISITES & INTRODUCTION)			
CONCEPTS/STEPS	**TEACHER ACTIVITY (I DO)**	**GROUP ACTIVITY (WE DO)**	**INDIVIDUAL ACTIVITY (YOU DO)**
PRE REQUISITES	Brain storming session invoving children with pre-requisites vocabulary and concepts related to previous knowledge. Introduction of new vocabulary and key words associated with the concept through questioning # RATIO # Proportion # Subtraction # By How much # Division # By how many times # Units # Quantities # Comparision	* 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 " RATION & PROPORTION " on the black board and will elict its other related words through questioning 	Hetrogeneous groups are created. One group will read the words and other will explain the meaning	Pupils individually read the keywords associated with the lesson
RELEVANCE OF THE LESSON	Teacher conducts a discussion on the importance of the lesson through questioning 1.If you want to compare the winner and looser of a cricket match what type of parameter we use in saying "winner won by how much"? 2.Give a few examples where we use how many times of one quantity is to another? 3. If your mom gives 5 chocolates to you and 4 to your younger sibling, How will you compare these two quantities?	Students participate in the discussion and ask questions	Pupils individually write their responses to the questions asked
CONCEPT MAP	Teacher displays the concept map depicting various concepts that pupil are going to learn in this lesson 	Whole class read the concept map	
ASSESSMENT	Teacher gives chilren some real life situations which involve Ratio and asks children to try and express them in numerical form	every group will do the task by discussion among each other	every individual solves the task on their own

PRACTICE PERIOD: 1			
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 # RATIO # Proportion # Subtraction # By How much # Division # By how many times # Units # Quantities # Comparision	Students read these key words in groups and will try to give examples to each key word	Every child comes to the board and reads the key words and notes them down in their note books
SIMILAR LINES READING	Teacher quotes some real life examples where we compare quantities using subtraction as well as division and asks children to cite some more by watching similar lines	Each group will observe the similar lines and will frame some more by discussion	Every Individual will frame some more using similar lines
		#VALUE!	
SUMMARY/ SYNOPSIS	Teacher writes synopsis on the board and asks children to read,write 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 condcuts a dictation on key words ,pre-requisites and similar lines and asks children to exchange books for editing after writing is finished.	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

TEACHING PERIODS : 2 to 5	RATIO		
CONCEPTS/STEPS	**TEACHER ACTIVITY (I DO)**	**GROUP ACTIVITY (WE DO)**	**INDIVIDUAL ACTIVITY (YOU DO)**
KEY WORDS	Brain storming session invoving children with key words # Comparision # Ratio # By how many times # Symbol of Ratio :	* 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	Teacher expalins the concept of ratio as a comparision between two quantities of the same unit and conducts an activity of measuring the length and breadth of the classroom and compate their lengths using ratio. Here teacher accentuates the concept in children that to compare two quantities using a ratio, thos two quantities should be in the same unit.	Each group will understand the concepts by participation in the activity	every child learns the concept through the learning acitivity and observation of TLM
LEARNING ACTIVITY	Later teacher gives some illustrations depicting how some quantity can be distributed between two in a ratio with the help of examples		
SUMMARY	Teacher once again writes important key words and procedures 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 Try These sections as well as some examples and asks children to solve those sums	Every group will do the sums by discussion among each other	Every individual solves the sums on their own



EXAMPLE SUM ON RATIO

There are 45 members working in an office, If the number of females is 25, find the ratio of
a) No of females to the no.of males
b) No of males to no of females
c) No of males to total no of members

Solution:

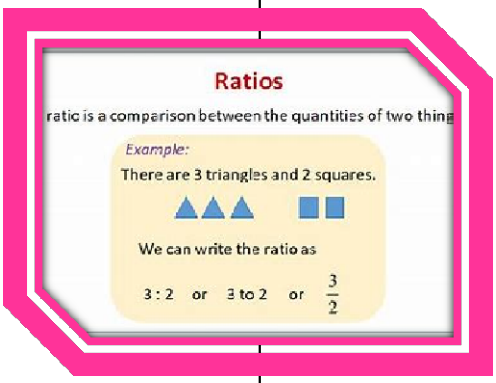
Total no.of members working in the office = 45
No.of females = 25
No.of males = 45-25
= 20

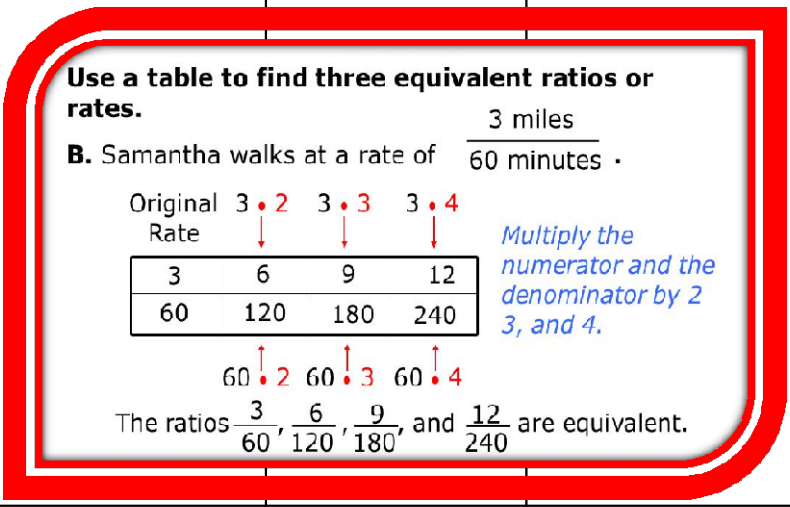
a) Ratio between no.of females to the males = 25:20
= 5:4

b) Ratio between no.of males to females = 20:25
= 4:5

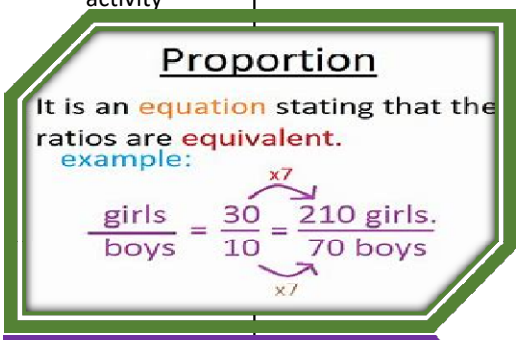
c) Ratio between males to the total members = 20:45
= 4:9

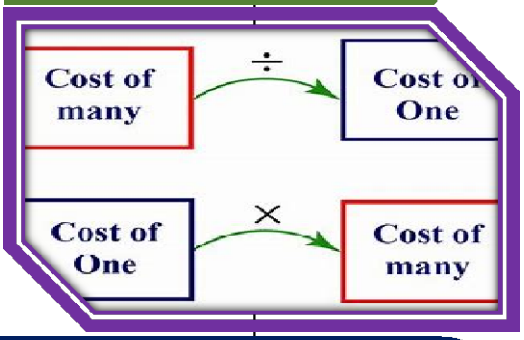
PRACTICE PERIODS : 2 to 5	RATIO		
CONCEPTS/STEPS	**TEACHER ACTIVITY (I DO)**	**GROUP ACTIVITY (WE DO)**	**INDIVIDUAL ACTIVITY (YOU DO)**
KEY WORDS READING	Teacher writes the key words from previous class's teaching period and asks children to read and write them in note books # Comparision # Ratio # By how many times # Symbol of Ratio :	Whole class activity : one child comes to the board and reads the key words loudly and the remaining class follows.	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 sums on ratios and asks children to solve some more by watching similar lines	Each group will read the similar lines and will frame some more by discussion	Every Individual will do a few more by watcing similar lines
SUMMARY/ SYNOPSIS	Teacher once again writes important key words and definitions and asks children to note down and adopt.	Pupil groups will read and adopt the procedure	Teacher focuses on every individual so that every child is able to learn the concept in successive upcoming practice sessions
WRITING/ EDITING	Teacher gives some questions from Exercise 12.1 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	

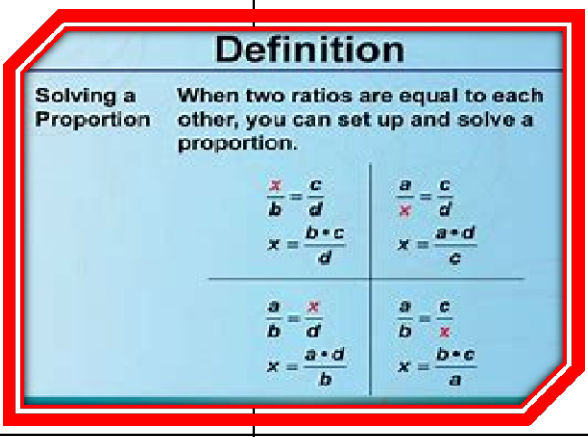


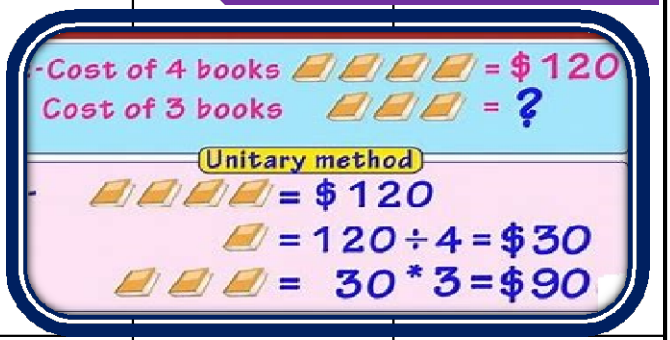


TEACHING PERIODS : 6 to 11	PROPORTION UNITARY METHOD		
CONCEPTS/STEPS	**TEACHER ACTIVITY (I DO)**	**GROUP ACTIVITY (WE DO)**	**INDIVIDUAL ACTIVITY (YOU DO)**
KEY WORDS	Brain storming session invoving children with key words # Proportion # Equal ratios # distribution # Is as # symbol of proportion ∶∶ # extremes # middle terms or means	* 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	Teacher introduces the concept of proportion by asking some real life questions and gives some exempleray illustrations and ascertains that every child apprehends the concept of proportion as nothing but equality of ratios. If two ratios are equal then we say that they are in proportion and will use the sign ∶∶ or = between them to symbolize their equality. Here teacher equates the product of extremes with the product of means in a proportion.	Each group will understand the concepts by participation in the activity	every child learns the concept through the learning acitivity and observation of TLM
LEARNING ACTIVITY	Later teacher gives some more illustrations in the forth coming teaching periods showing how unitary method is adopted in solving sums and explains that unitary method is nothing but the usage of the concept of proportion in a different way.		
SUMMARY	Teacher once again writes important key words and procedures 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
ASSESSMENT	Teacher gives some questions from Try These sections as well as some examples and asks children to solve those sums	Every group will do the sums by discussion among each other	Every individual solves the sums on their own









PRACTICE PERIODS: 6 to 11	PROPORTION UNITARY METHOD		
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 # Proportion # Equal ratios # distribution # Is as # symbol of proportion ∶∶ # extremes # middle terms or means	Whole class activity : one child comes to the board and reads the key words loudly and the remaining class follows.	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 sums related to proportion and unitary method and asks children to solve some more by watching similar lines in the worksheet provided to them	Each group will read the similar lines and will frame some more by discussion	Every Individual will do a few more by watcing similar lines
SUMMARY/ SYNOPSIS	Teacher once again writes important key words and definitions and asks children to note down and adopt.	Pupil groups will read and adopt the procedure	Teacher focuses on every individual so that every child is able to learn the concept in successive upcoming practice sessions
WRITING/ EDITING	Teacher gives some questions from Exercise 12.2 & 12.3 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