LESSON PLAN 3

CLASS : 6 **TEACHER'S NAME :**

NAME OF THE UNIT	SUB-TOPICS	NO OF PERIODS REQUIRED			Time line for teaching	
		Teaching	Practice	TOTAL	From	To
PLAYING WITH NUMBERS	3.1 INTRODUCTION 3.2 FACTORS AND MULTIPLES	1	3	4		
	3.3 PRIME AND COMPOSITE NUMBERS	1	3	4		
	3.4 TESTS FOR DIVISIBILITY OF NUMBERS	1	6	7		
	3.5 COMMON FACTORS AND COMMON MULTIPLES 3.6 PRIME FACTORISATION	1	5	6		
	3.7 HIGHEST COMMON FACTOR (HCF) 3.8 LOWEST COMMON MULTIPLE (LCM) 3.9 SOME PROBLEMS ON HCF AND LCM	1	6	7		
	TOTAL	5	23	28		

PRE-REQUISITES	KEY CONEPTS	KEY VOCABULARY	
	Every Pupil is expected to have basic knowledge in # Natural Numbers and Whole Numbers # Place Values of Numbers # Multiplication tables upto 20 # four basic operations like +,-,x and ÷	# Factors & Multiples # Prime Factorisation # Finite & Infinite # Perfect Number # Even and Odd Numbers # Composite Numbers	# Prime Number # Divisor # Multiplication # Division # HCF & LCM

Learning Outcomes

After Completion of this lesson every student will be able to

 # write multiples and factors of any given number and saggregate Prime and composite numbers

 # prime factorise in different methods

 # check whether a number is divisible by 2,3,4,5,6,8,9,10,11 or not by using various divisibility rules

 # apply divisibility rules while solving real life sums

 # find the HCF and LCM of numbers using different methods

 # utilize the HCF and LCM concept in real life sums

 # appreciates the importance of different stratagies with numbers in real life situations
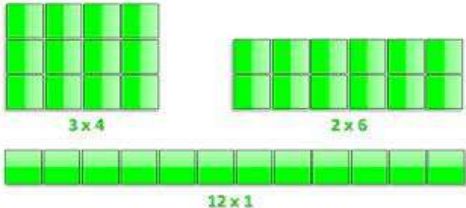
Teaching Learning Process

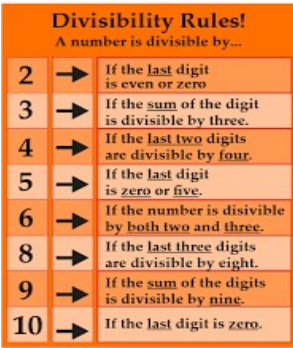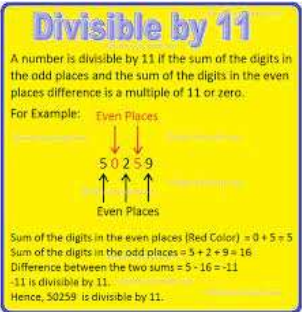| MIND MAPPING	Experience & Reflection
	# Pupils will recollect the knowledge on Natural Numbers and whole numbers and their operations and reflect it in learning new concepts like Prime, composite Numbers,Divisibility Rules, Factorisation, HCF and LCM # Students will experience the stratagies of playing with numbers in real life situations.

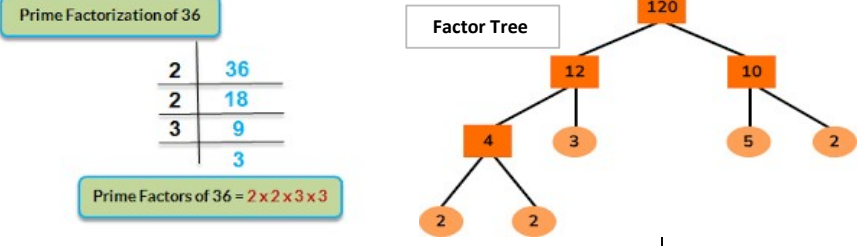| TEACHING PERIOD : 1	INTRODUCTION, FACTORS AND MULTIPLES		
CONCEPTS/STEPS	TEACHER ACTIVITY (I DO)	GROUP ACTIVITY (WE DO)	INDIVIDUAL ACTIVITY (YOU DO)
KEY WORDS & PRE REQUISITES	Brain storming session invoving children with pre-requisites vocabulary and concepts related to previous knowledge. Introduction of new vocabulary and key words associated with the concept * Arrangement * Factor * Multiple * Divisior * Quotient * Remainder	* 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 " Playing with Numbers" on the black board and will elict 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 knowing our numbers
CONCEPTUAL UNDERSTANDING	Teacher conducts an activity by grouping children into hetrogeneous groups where 12 colour cards are given to each group and are asked to arrange them either in rectangular form or square form by placing them in rows and columns. Teacher introduces the concept of factors of any number with this illustration as pupils will arrange 12 cards in 3 different possible ways. Here teacher concludes 1,2,3,4,6,12 are all factors of 12 By the way teacher introduces the concept of multiples of a number say for example 3 it's multiples are 3, 6,9,12,15.... In this explanatory part teacher makes it clear to children that factors of any number will be finite in count but multiples will be infinite in count.	Whole class pariticipates in the activity and ascertains learning of the conceptof finding factors and multiples of any given number	every child learns the concept through the learning acitivity.
LEARNING ACTIVITY			
SUMMARY	Techer writes the summary of the concept of factors and multiples and their important characterstics and asks children to read write and note	pupils will note down and read in groups	every individual reads the summary and notes it down
ASSESSMENT	Teacher gives some questions of exercise 3.1 along with sums under Try these section	every group will do the sums by discussion among each other	every individual solves the sums on their own

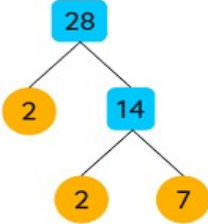| PRACTICE PERIOD: 1,2,3	INTRODUCTION, FACTORS AND MULTIPLES		
CONCEPTS/STEPS	TEACHER ACTIVITY (I DO)	GROUP ACTIVITY (WE DO)	INDIVIDUAL ACTIVITY (YOU DO)
KEY WORDS READING	Teacher writes the key words from previous class's teaching period and asks children to read and write them in note books * Arrangement * Factor * Multiple * Divisior * Quotient * Remainder	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 writes factors and multiples of a few numbers and asks children to write factors and multiples of some more numbers factors of 36 = 1,2,3,4,6,9,12,18,36 factors of 24 = 1,2,3,4,6,8,12,24 factors of 14 = 1,2,7,14 Multiples of 4 are 4,8,12,16,20,24,28,32,........... Multiples of 7 are 7,14,21,28,35,42,49,56,63,....... Multiples of 5 are 5,10,15,20,25,30,35,40,................	Each group will read the similar lines and will frame some more by discussion	Every Individual says a few numbers on their own and writes the factors and multiples for them in similar lines
SUMMARY/ SYNOPSIS	Teacheronce again writes important key words and procedure of finding factors and multiples and asks children to spell, read,note down and practice.	pupils will note down and read the numbers in groups	every individual spells and reads the summary and notes it down
WRITING/ EDITING	Teacher gives some sums related to exercise 3.1 and asks children to write them and checks the writings of children	One group will check the writings of the other and vice versa	Slow learners are focused and teacher will ascertain that every individual knows how to write numbers without mistakes

TEACHING PERIOD : 2	PRIME AND COMPOSITE NUMBERS		
CONCEPTS/STEPS	TEACHER ACTIVITY (I DO)	GROUP ACTIVITY (WE DO)	INDIVIDUAL ACTIVITY (YOU DO)
KEY WORDS	Brain storming session invoving children with key words * Prime Numbers * composite numbers * factorisation	* 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 illustrates the concept of prime numbers are those which have 1 and itself as the only factors and Composite Numbers are those which have more than 2 factors by eratosthenes sieve activity 	Each group will understand the concept of Prime and Composite Numbers	every child learns the concept through the learning acitivity.
LEARNING ACTIVITY			
SUMMARY	Teacher once again writes important key words and step wise procedure adopted in saggregating Prime Numbers and composite numbers in eratosthenes sieve 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 sums of exercise 3.2 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: 4,5,6	PRIME AND COMPOSITE NUMBERS		
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 * Prime Numbers * composite numbers * factorisation	Whole class activity : one child comes to the board and reads the key words loudly and the	Every child comes to the board and reads the key words and notes them down
SIMILAR LINES READING	Teacher Writes some Prime Numbers and Composite Numbers along with their factors and asks children to write some more in the same way under each category 5 is a prime as since 5 has 1 and 5 as the only factors 7 is a prime as since 7 has 1 and 7 as the only factors 6 is a composite because 6 has 1,2,3,6 as the factors 9 is a composite because 9 has 1,3,9 as the factors	Each group will read the similar lines and will frame some more by discussion	Every Individual will do operations on a few more whole numbers
SUMMARY/ SYNOPSIS	Teacher once again writes important key words and step wise procedure adopted in finding prime and composites 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 write and identify prime and composite numbers in successive upcoming practice sessions
WRITING/ EDITING	Teacher gives some questions from Exercise 3.2 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	

TEACHING PERIOD : 3	TESTS FOR DIVISIBILITY OF NUMBERS		
CONCEPTS/STEPS	TEACHER ACTIVITY (I DO)	GROUP ACTIVITY (WE DO)	INDIVIDUAL ACTIVITY (
KEY WORDS	Brain storming session invoving children with key words * Divisibility tests * Multiples * One's Place * Divisibility rule * Pattern * even Places * Odd places	* 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 draws the attention of children towards various divisibility tests by guiding them to observe the one's places in the case of multiples of 10,5,2 and number formed by the digits in ten's and one's place in the case of multiples of 4, and number formed by the digits in Hundred's,ten's and one's place in the case of multiples of 8 and sum of the digits in the number in the case of multiples of 3 and 9. Later teacher guides them in finding divisibility rule of 6 by drawing their focus to test the divisibility of multiples of 6 with 2 & 3 simultaneouly.	Each group will understand the divisibily tests by participating in activity and through discussion	every child learns the concept through the learning acitivity.
LEARNING ACTIVITY	Finally teacher guides children in finding the divisibility test for 11 by finding the difference of sum of digits in odd places and even places. 		
SUMMARY	Teacher once again writes important key words and divisibility tests of 2,3,4,5,6,8,9,10,11 and asks children to note down and practice.	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 3.3 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: 7 TO 12	TESTS FOR DIVISIBILITY OF NUMBERS		
CONCEPTS/STEPS	TEACHER ACTIVITY (I DO)	GROUP ACTIVITY (WE DO)	INDIVIDUAL ACTIVITY (
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 * Divisibility tests * Multiples * One's Place * Divisibility rule * Pattern * even Places * Odd places	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 will do some operations on number line on the black board and asks children to do some more like these 2340 is divisible by 2,3,4,5,6,8,9 and 10 but not divisible by 11 814990 is divisible by 2,5,10 and 11 but not divisible by 3,4,6,8,9	Each group will read the similar lines and will frame some more by discussion	Every Individual will do operations on a few more whole numbers
SUMMARY/ SYNOPSIS	Teacher once again writes important key words and step wise procedure in different divisibility tests 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 understands and utilizes the divisibility tests in different sums in successive upcoming practice sessions
WRITING/ EDITING	Teacher gives some questions from Exercise 3.3 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	

TEACHING PERIOD : 4	COMMON FACTORS AND COMMON MULTIPLES, PRIME FACTORISATION		
CONCEPTS/STEPS	TEACHER ACTIVITY (I DO)	GROUP ACTIVITY (WE DO)	INDIVIDUAL ACTIVITY (YOU DO)
KEY WORDS	Brain storming session invoving children with key words * Factor * Multiple * Prime Factorisaton * Factor tree	* 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 demonstrates the concept of factorisation and finding common factors and explains prime factorisation and factor tree through different illustrations. Factors of 24 = 1,2,3,4,6,8,12,24 Factors of 36 = 1,2,3,4,6,9,12,18,36 common factors of 24,36 are = 1,2,3,4,6 and 12 Multiples of 4 = 4,8,12,16,20,24,......... Multiples of 6 = 6,12,18,24,30,36......... Common Multiples of 4 & 6 are =12,24,36.............	Each group will understand the concept of number line, addition, subtraction & Multiplication on number line by discussion	every child learns the concept through the learning acitivity.
LEARNING ACTIVITY			
SUMMARY	Teacher once again writes important key words and step wise procedure adopted in finding common factors and common multiples and writing a factor tree and asks children to note down and practice	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 Do This section as well as sums of exercise 3.5 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: 13 to 17	COMMON FACTORS AND COMMON MULTIPLES, PRIME FACTORISATION		
CONCEPTS/STEPS	TEACHER ACTIVITY (I DO)	GROUP ACTIVITY (WE DO)	INDIVIDUAL ACTIVITY (
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 * Factor * Multiple * Prime Factorisaton * Factor tree	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 will find common factors and multiples of a few numbers and displays factor tree and asks children to try some more Factors of 12 are = 1,2,3,4,6 and 12 Factors of 18 are = 1,2,3,6,9 and 18 Common Factors of 12 & 18 are = 1,2,3 and 6 Multiples of 5 are = 5,10,15,20,25,30,35,40......... Multiples of 8 are = 8,16,24,32,40,48,56,64,......... Common Multiples of 5 and 8 are = 40,80,160,............ **Factor Tree of 28 -->**	Each group will read the similar lines and will frame some more by discussion	Every Individual will do operations on a few more whole numbers
SUMMARY/ SYNOPSIS	Teacher once again writes important key words and step wise procedure adopted in finding common factors and multiples as well as writing factor tree and asks children to note down and practice	Pupil groups will read and adopt the procedure	Teacher focuses on every individual so that everyone learns factorising, pulling out common factors, writing multiples and common multiples and factor in the successive upcoming practice sessions
WRITING/ EDITING	Teacher gives some questions from Exercise 3.5 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 PERIOD : 5	HIGHEST COMMON FACTOR (HCF), LOWEST COMMON MULTIPLE (LCM), SOME PROBLEMS ON HCF AND LCM		
CONCEPTS/STEPS	TEACHER ACTIVITY (I DO)	GROUP ACTIVITY (WE DO)	INDIVIDUAL ACTIVITY (
KEY WORDS	Brain storming session invoving children with key words * Highest Common Factor (HCF) * Greatest Common Divisor (GCD) * Lowest 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	Teacher cites some real life situations where the student has a desperate need to find the HCF and through such activities teacher introduces HCF Concept. For Example teacher conducts an activity where a sheet of paper with 8 x 12 inch will be given along with square card tiles of different dimension such as 1, 2, 3, 4 inches etc., Now child is asked to place these tiles with a condition that whole number of tiles with minimum possible count must be placed and no tearing allowed.	Each group will understand the concept of number line, addition, subtraction & Multiplication on number line by discussion	every child learns the concept through the learning acitivity.
LEARNING ACTIVITY	Here each child tries with different sizes of square cards and finally gets the answer at 4 inch tile card as since it only fits in the paper with the minimum number of tiles with out tearing. By this teacher introduces HCF of 8 and 12 is 4. By citing 'Traffic Light signal timing' teacher teaches the concept of LCM.For example Say in a four road junction on an average In Road 'A' 60 vehicles come for 60 sec, in Road 'B' 60 Vehicles come in 30 seconds say, in Road 'C' 60 vehicles come in 45 seconds say and finally in road 'D' 60 Vehicles come in 90 sec. Then Traffic department is planning to operate traffic signal lights to maintain equal traffic from each road in the junction. So what could be the time to be set for the lights to hold the traffic in each road. Here pupil has to find the LCM of times taken in each case which comes to 180 seconds. Therefore traffic lights are to be hold for 3 min in each road inorder to maintain same traffic frequency in the junction		
SUMMARY	Teacher once again writes important key words and step wise procedure adopted in finding HCF and LCM 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 sums of exercise 3.6 & 3.7 and asks children to solve those sums	Every group will do the sums by discussion among each	Every individual solves the sums on their own

PRACTICE PERIODS: 18 to 23	HIGHEST COMMON FACTOR (HCF), LOWEST COMMON MULTIPLE (LCM), SOME PROBLEMS ON HCF AND LCM		
CONCEPTS/STEPS	TEACHER ACTIVITY (I DO)	GROUP ACTIVITY (WE DO)	INDIVIDUAL ACTIVITY (
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 * Highest Common Factor (HCF) * Greatest Common Divisor (GCD) * Lowest Common Multiple (LCM)	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 finds HCF and LCM of a few numbers and asks children to find HCF and LCM of Some more by watching the Similar lines. HCF of 20,28 is 4 HCF of 30,24 is 6 LCM of 30,40 is 120 LCM of 25,40 is 200	Each group will read the similar lines and will frame some more by discussion	Every Individual will do operations on a few more whole numbers
SUMMARY/ SYNOPSIS	Teacher once again writes important key words and step wise procedure adopted in finding HCF and LCM and asks children to note down and adopt.	Pupil groups will read and adopt the procedure	Teacher focuses on every individual so that each pupil is able to find HCF and LCM of any given set of numbers easily in successive upcoming practice sessions
WRITING/ EDITING	Teacher gives some questions from Exercise3.6 & 3.7 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	