

LESSON PLAN 7

CLASS : 6 TEACHER'S NAME :

NAME OF THE UNIT	SUB-TOPICS	NO OF PERIODS REQUIRED			Time line for teaching		
		Teaching	Practice	TOTAL	From	To	
FRACTIONS	7.1 INTRODUCTION 7.2 A FRACTION 7.3 FRACTION ON THE NUMBER LINE 7.4 PROPER FRACTIONS 7.5 IMPROPER AND MIXED FRACTIONS	3	3	6			
	7.6 EQUIVALENT FRACTIONS 7.7 SIMPLEST FORM OF A FRACTION 7.8 LIKE FRACTION 7.9.1 COMPARING LIKE FRACTIONS 7.9.2 COMPARING UNLIKE FRACTIONS	3	4	7			
	7.10 ADDITION AND SUBTRACTION OF FRACTIONS 7.10.1 ADDING OR SUBTRACTING LIKE FRACTIONS 7.10.2 ADDING OR SUBTRACTING FRACTIONS	3	4	7			
	TOTAL	9	11	20			
	KEY CONCEPTS		KEY VOCABULARY				
	PRE-REQUISITES	Every Pupil is expected to have basic knowledge in 0 # Fractions, part of a whole # Natural Numbers and Whole Numbers and Integers # representing natural, whole numbers and Integers on number line # ordering of integers # addition and subtraction of integers # four basic operations $+, -, \times, \div$	# Portion, Part of Whole # fraction # Numerator # Denominator # Fraction bar, Vinculum # Proper fraction # Improper fraction # Mixed fraction # Combination, conversion			# Divisor, Dividend # Quotient # Remainder # Equivalent fraction # Simplest form # like fraction # unlike fraction # Comparison	

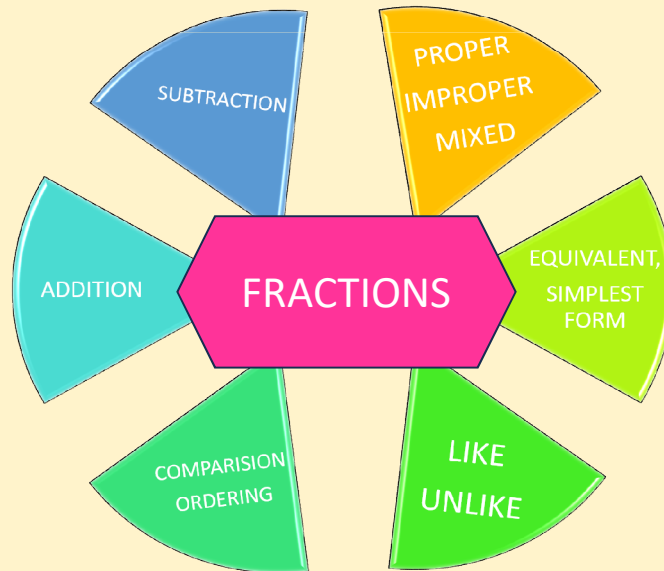
Learning Outcomes

After Completion of this lesson every student will be able to

- # recognize fractions and express part out of a whole as fraction
- # represent fractions on number line, discriminate among proper, improper and mixed fractions.
- # convert improper fractions into mixed fraction and vice versa
- # arrange and compare like as well as unlike fractions as per their order
- # perform addition and subtractions on like as well as unlike fractions.
- # appreciates the importance of fractions in real life situations

Teaching Learning Process

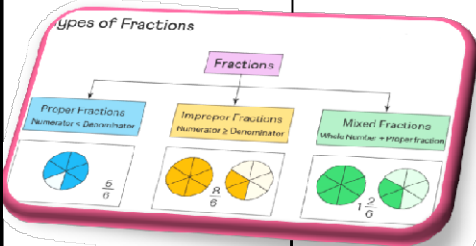
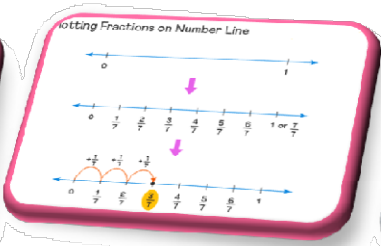
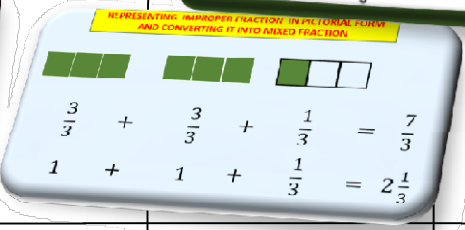
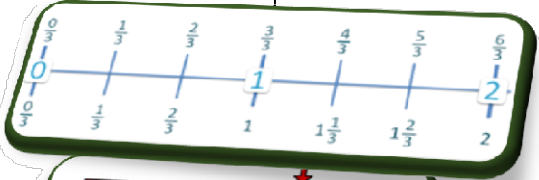
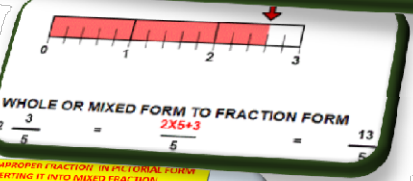
MIND MAPPING



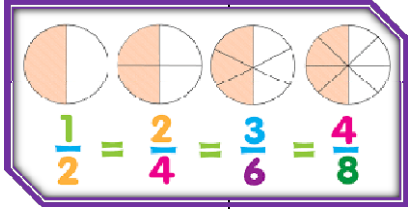
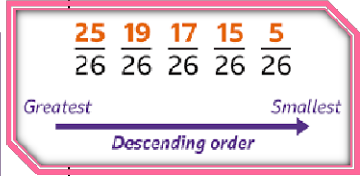
Experience & Reflection

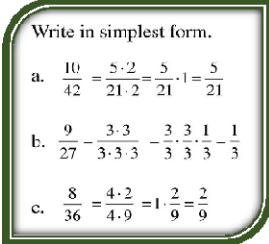
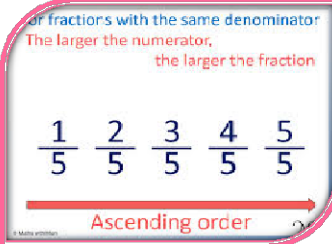
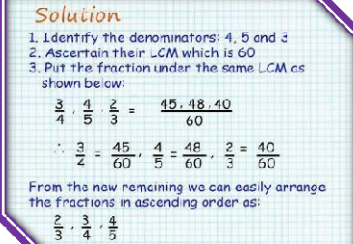
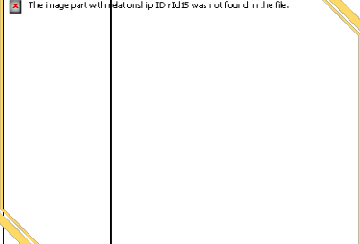
Pupils will recollect their knowledge on Integers as well as fraction concept which they were familiar with in their previous class and utilize this concept in exploring the chapter fractions and perform various mathematical operations in fractions

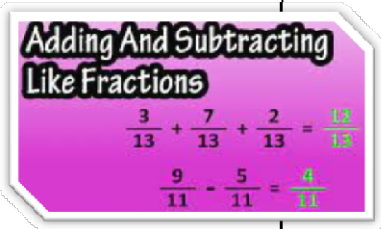
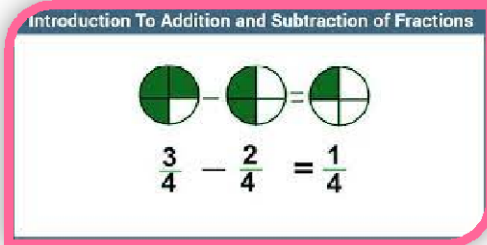
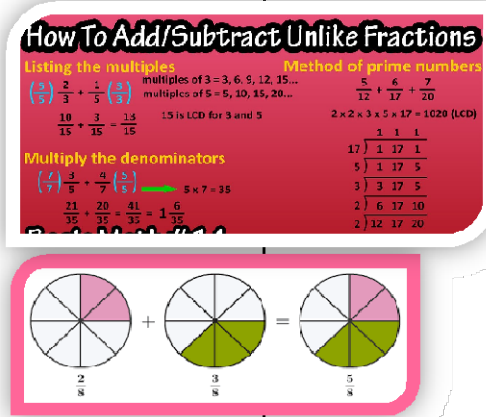
Students will experience usage of fractions in real life situations.

TEACHING PERIOD : 1,2,3	INTRODUCTION, A FRACTION, FRACTION ON THE NUMBER LINE, PROPER FRACTIONS, IMPROPER AND MIXED FRACTIONS		
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 # fraction # Portion # Part of a whole # Numerator # Denominator # Fraction Bar # vinculum # Proper fraction # Improper fraction # Mixed fraction # combination # conversion # Divisor # Quotient # dividend #	* 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 " FRACTIONS" on the black board and will elicit its other related words through questioning and will draw pupils' attention towards key concepts in the lesson	Heterogeneous 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 recalls children's knowledge on Integers and their representation on number line in their previous chapter along with fraction as a part of a whole in their previous classes. Teacher Once again illustrates and makes children familiar with all those terminology related with fractions through a number of examples for a proper fraction, improper fraction, mixed fraction etc., and further demonstrates the concept of converting improper into mixed and vice versa and representing them in pictorial form and on the number line too Later teacher conducts an activity involving different heterogeneous groups in which each group is provided with sets of all types of fractions and asks them to segregate, classify and represent on the number line	Whole class participates in the activity and ascertains learning of the concept	every child learns the concept through the learning activity.
LEARNING ACTIVITY	  	  <p>WHOLE OR MIXED FORM TO FRACTION FORM</p> $2\frac{3}{5} = \frac{2 \times 5 + 3}{5} = \frac{13}{5}$	
SUMMARY	Teacher writes the summary and procedure adopted in representing fractions on number line and converting mixed to improper and vice versa 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 under Try these section and exercise 7.1 and asks children to solve	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, A FRACTION, FRACTION ON THE NUMBER LINE, PROPER FRACTIONS, IMPROPER AND MIXED FRACTIONS		
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 # fraction # Portion # Part of a whole # Numerator # Denominator # Fraction Bar # vinculum # Proper fraction # Improper fraction # Mixed fraction # combination # conversion # Divisor # Quotient # dividend # 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 converts some improper fractions into mixed and vice versa, represents some fractions on number line and asks children to do some more by watching similar lines. <div data-bbox="233 873 625 1084" style="border: 2px solid pink; padding: 5px;"> <p>Conversion of Mixed Fraction to Improper Fraction</p> $2\frac{3}{4} = \frac{(4 \times 2) + 3}{4} = \frac{11}{4}$ <p>Add Multiply</p> </div> <div data-bbox="625 829 989 1003" style="border: 2px solid pink; padding: 5px; margin: 5px;"> <p>Number Line Model Fractions</p> <p>Representing Mixed Fraction on a Number Line</p> </div> <div data-bbox="961 915 1346 1084" style="border: 2px solid pink; padding: 5px; margin: 5px;"> </div> <div data-bbox="1346 862 1787 1084" style="border: 2px solid pink; padding: 5px; margin: 5px;"> $\frac{14}{3} \rightarrow 3\overline{)14} \begin{array}{r} 4 \\ -12 \\ \hline 2 \end{array} \rightarrow 4\frac{2}{3}$ <p>Improper Fraction Mixed Number</p> </div>	Each group will observe the similar lines and will frame some more by discussion	Every Individual will frame some more using similar lines
SUMMARY/ SYNOPSIS	Teacher once again writes important key words and procedures and asks children to spell, 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 gives some sums related to try these section and sums of exercise 7.1 & 7.2 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 learns the concept

TEACHING PERIOD : 4,5,6	EQUIVALENT FRACTIONS, SIMPLEST FORM OF A FRACTION, LIKE FRACTION, COMPARING LIKE FRACTIONS COMPARING UNLIKE FRACTIONS		
CONCEPTS/STEPS	TEACHER ACTIVITY (I DO)	GROUP ACTIVITY (WE DO)	INDIVIDUAL ACTIVITY (YOU DO)
KEY WORDS	Brain storming session involving children with key words # Equivalent fraction # Simplest form # Like fraction # Unlike fraction # Comparison	* 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 equivalent fractions by an activity involving children where pupil groups are given fraction cards displaying equivalent fractions but in disguised forms. By displaying each card teacher asks the fraction involved in it and finally draws the attention of children at all the cards in which irrespective of the fraction, the portion shaded in the card is equal. With this teacher concludes that equivalent fractions are developed out by multiplying both the numerator and denominator of a fraction with same number. Later teacher illustrates the concept of writing a fraction in its simplest form by dividing both the numerator and the denominator with their HCF.	Each group will understand the concepts by participation in the activity	every child learns the concept through the learning activity and observation of TLM
LEARNING ACTIVITY	Teacher explains children ordering the like fractions and guides them with a clue that in the given like fractions, the fraction with lowest numerator will be the smallest and so on. In the case of unlike fractions also teacher guides children with some clue where if all the numerators of the given unlike fractions are equal, then fraction with lowest denominator will be the greatest fraction and so on. Later teacher demonstrates ordering of other unlike fractions by finding LCM of all the denominators through some exemplary illustrations		
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 sums of exercise 7.3 & 7.4 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: 4.5.6,7	EQUIVALENT FRACTIONS, SIMPLEST FORM OF A FRACTION, LIKE FRACTION, COMPARING LIKE FRACTIONS COMPARING UNLIKE FRACTIONS		
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 # Equivalent fraction # Simplest form # Like fraction # Unlike fraction # Comparison	Whole class activity : one child comes to the board and reads the key words loudly and the remaining class	Every child comes to the board and reads the key words and notes them down in their note books
SIMILAR LINES READING	Teacher will arrange some like fractions and unlike fractions in ascending order and reduces some fractions to their simplest form and asks children to do 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 watching 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 7.3 & 7.4 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	

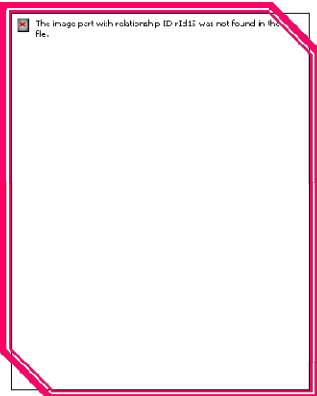
TEACHING PERIOD : 7,8,9	ADDITION AND SUBTRACTION OF FRACTIONS, ADDING OR SUBTRACTING LIKE FRACTIONS, ADDING OR SUBTRACTING FRACTIONS		
CONCEPTS/STEPS	TEACHER ACTIVITY (I DO)	GROUP ACTIVITY (WE DO)	INDIVIDUAL ACTIVITY (YOU DO)
KEY WORDS	Brain storming session involving children with key words #Addition of fractions # Subtraction of fractions	* 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 adding and subtracting like fractions both pictorially as well as mathematically. Here teacher guides children that addition or subtraction of like fractions is simple and easy as since the denominators are equal it is enough if we add or subtract numerators as the case may be. In the case of unlike fractions teacher illustrates some exemplary sums and demonstrates as to how we convert unlike fractions into like fractions by finding equivalent fractions through LCM and add or subtract accordingly as the case may be.	Each group will learn about the process of addition & subtraction of fractions through discussion	every child learns the concept through the learning activity.
LEARNING ACTIVITY	 <p>Adding And Subtracting Like Fractions</p> $\frac{3}{13} + \frac{7}{13} + \frac{2}{13} = \frac{12}{13}$ $\frac{9}{11} - \frac{5}{11} = \frac{4}{11}$	 <p>Introduction To Addition and Subtraction of Fractions</p> $\frac{3}{4} - \frac{2}{4} = \frac{1}{4}$	 <p>How To Add/Subtract Unlike Fractions</p> <p>Listing the multiples $(\frac{2}{3}) + (\frac{1}{5})$ multiples of 3 = 3, 6, 9, 12, 15... multiples of 5 = 5, 10, 15, 20... $\frac{10}{15} + \frac{3}{15} = \frac{13}{15}$ 15 is LCD for 3 and 5</p> <p>Method of prime numbers $\frac{5}{12} + \frac{6}{17} + \frac{7}{20}$ $2 \times 2 \times 3 \times 5 \times 17 = 1020$ (LCD) $\frac{1}{17} \frac{1}{17} \frac{1}{17}$ $17 \overline{) 1 \ 17 \ 1}$ $5 \overline{) 1 \ 17 \ 5}$ $3 \overline{) 3 \ 17 \ 5}$ $2 \overline{) 6 \ 17 \ 10}$ $2 \overline{) 12 \ 17 \ 20}$</p> <p>Multiply the denominators $(\frac{1}{3}) + (\frac{4}{7})$ $3 \times 7 = 21$ $\frac{7}{21} + \frac{12}{21} = \frac{19}{21}$</p>
SUMMARY	Teacher writes the key words and the procedure of addition & subtraction and asks children to note down the summary 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 7.5 & 7.6 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: 8,9,10,11	ADDITION AND SUBTRACTION OF FRACTIONS, ADDING OR SUBTRACTING LIKE FRACTIONS, ADDING OR SUBTRACTING FRACTIONS		
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 #Addition of fractions # Subtraction of fractions	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 perform different additions & subtractions of fractions and asks children to do 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 watching similar lines
SUMMARY/ SYNOPSIS	Teacher once again writes important key words and important summary of the concept learnt 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 concepts in successive upcoming practice sessions
WRITING/ EDITING	Teacher gives some questions from Exercise 7.5 & 7.6 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	

**How To Add/Subtract Unlike Fractions
By Multiplying Denominators**

$$\left(\frac{7}{7}\right)\frac{3}{5} + \frac{4}{7}\left(\frac{5}{5}\right)$$

→ $5 \times 7 = 35$

$$\frac{21}{35} + \frac{20}{35} = \frac{41}{35} = 1\frac{6}{35}$$


**ADDING & SUBTRACTING
FRACTIONS EXPLAINED!**

$$\frac{3 \times 7}{3 \times 9} - \frac{2 \times 9}{3 \times 9} \rightarrow \frac{3}{27}$$

Adding and Subtracting Fractions with Unlike Denominators

$\frac{1}{2} + \frac{2}{3} =$	$\frac{7}{10} - \frac{2}{5} =$	$\frac{5}{6} + \frac{1}{3} =$
$\frac{4}{6} - \frac{1}{4} =$	$\frac{3}{8} + \frac{1}{8} =$	$\frac{2}{6} + \frac{1}{10} =$
$\frac{4}{6} - \frac{9}{10} =$	$\frac{4}{6} - \frac{1}{3} =$	$\frac{3}{12} - \frac{2}{4} =$
$\frac{6}{15} - \frac{1}{3} =$	$\frac{6}{6} + \frac{8}{6} =$	$\frac{1}{4} - \frac{1}{8} =$
$\frac{5}{9} + \frac{2}{9} =$	$\frac{1}{2} - \frac{1}{7} =$	$\frac{7}{8} - \frac{4}{8} =$