

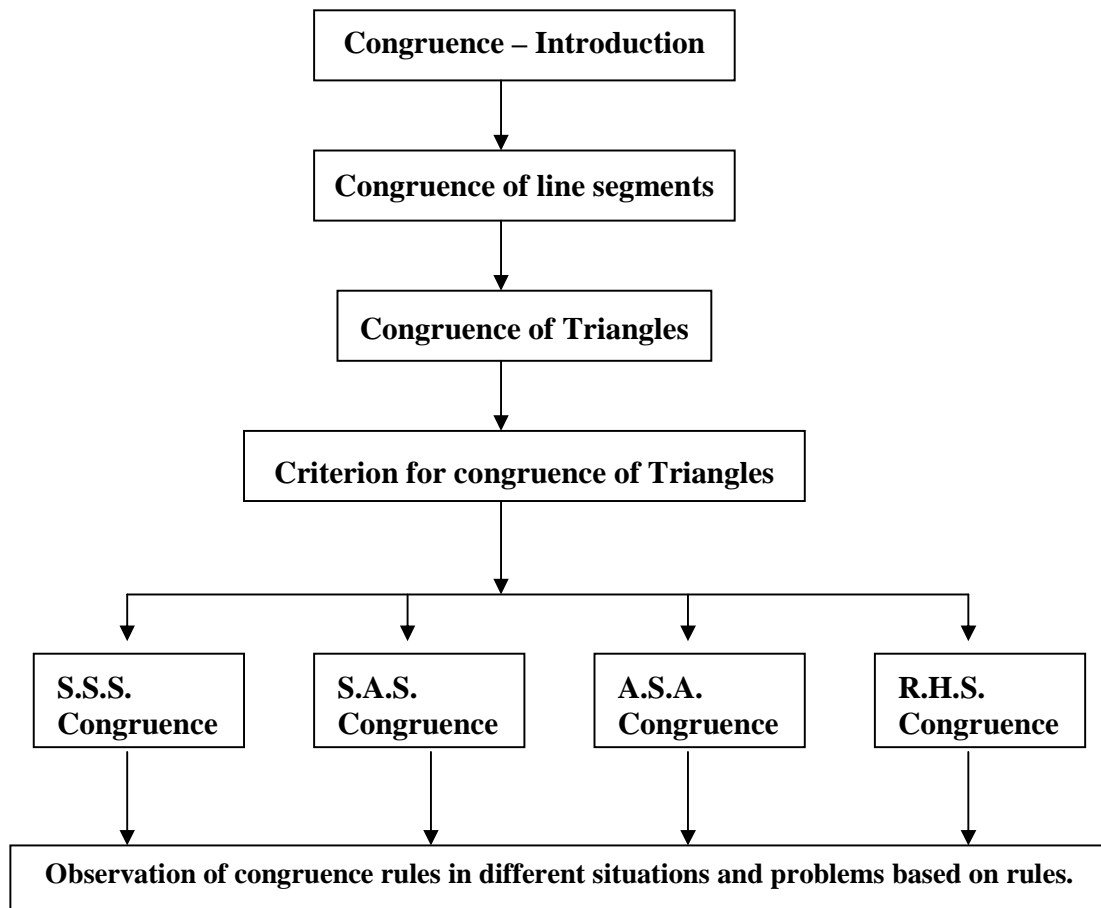
CONGRUENCY OF TRIANGLES

I. Chapter – Analysis:

This chapter consist of 19 pages 1) One activity, 2) Two Do this exercises, 3) Five Try this exercises, 4) 7 Examples, 5) Four Exercises 6) (19 Problems) are there. So more periods should be given for students practice. All problems in the exercises have to explain in ‘Discussion Method’ and encourage them to do the problems on their own. Do this (Individual), Try this (Group Activities) should be done in the class room.

II. Concept Mapping:

- (i) Notions :
 I] To able understand congruency.
 II] It is good that if they have knowledge in previous concepts like point, line, line segment, ray, Angle, vertex, Triangles, corresponding sides, corresponding sides etc.,
- (ii) Focusing Points:
 I] Children should know about
 S.S.S., S.A.S., A.S.A, R.H.S. Congruency Rules.



UNIT PLAN

- I. **Class :** VII
- II. **Chapter :** congruency of Triangles
- III. **No.of periods required :** T.P. [8] + P.P. [5] = 13 Periods
- IV. **Expected Learning out come / Academic Standards:**
 1. **Problem Solving:**
 - ☞ Using congruency rules identifies the congruent triangles.
 - ☞ Solves the problems related to congruency.
 2. **Reasoning Proof:**
 - ☞ Give reasons and proofs for triangles which are congruent using the congruency rules
 - ☞ Classify and compare the triangles, which are congruent with other triangles.
 3. **Communication:**
 - ☞ Appreciates the congruency in 2-D figures
 - ☞ Uses the \cong symbol.
 - ☞ Explains the congruency rules.
 4. **Connections:**
 - ☞ Observes the congruency shapes/ things in surroundings
 - ☞ Uses the congruency concept and congruency rules in his daily life.
 5. **Representation:**
 - ☞ Represent the congruent triangles using symbols, notation.

PERIOD WISE PLAN

Period Number	Topic	Teaching Learning Strategy	Teaching Learning Material [TLM]
1.	Introduction	<p>Whole class Activity Using coins, Rupee Notes text book pages to make children understand the 'Congruency'</p> <p>Individual Activity 1] Make children to do "Do this exercise in page No.164 2] Children has to show congruent shapes in the class room</p> <p>Discussion Method: Discussion on Primary geometrical concepts</p>	<p>Coins, Notes, Papers, Note books, Text books etc.,</p> <p>Chart showing geometrical figures</p>
2	Congruence of Line segments, congruence of Triangles	<p>Group work : Prepair some line segments and some triangles with paper then ask the children coincide the line segments and triangles</p> <p>Discussion: Make the children to express their openions about congruency</p> <p>Individual Activity: 'Do this' Exercise in page No.166.</p>	<p>Tracing paper scissor chart</p> <p>Flash cared with \cong symbol.</p>
3	S.S.S. Congruence	<p>Group work: Read Page No.167 Draw the different triangles with given one side, given two sides, and given three sides. Make them to observe the difference. Using their understanding, introduce S.S.S. rule.</p>	<p>S.S.S. Congruency triangles shapes.</p>
4.	Try this example Exercise about S.S.S.	<p>Group Activity : Try this 168 page whole class activity: explanation of example in discussion method. Whole class activity: All the four problems should discuss with children in friendly way. After clarifying doubts problems must be done by every child individually.</p>	

5.	S.A.S. Congruency	<p>Group Activity : Reading page No.169 and 170 construction of triangles with 1] One side and one angle 2] Two sides and angle between two sides 3] changing both sides mutually and included angle. And make them to observe all the above three cases</p> <p>Demonstration : Checking the congruency of triangle with coincidence</p>	<p>S.A.S. Congruency triangles shapes</p> <p>S.A.S. Chart.</p>
6	Try this examples Exercise –2 S.A.S.	<p>Group Activity : 170 page try this activity</p> <p>Whole class activity : Explanation of example 2 and example 3.</p> <p>Individual Activity: Exercise –2 problems explanation in discussion method.</p>	
7	A.S.A. Congruence	<p>Group activity : Read page No.173 Try to draw a triangle with given three angels construct triangles with two given angles and a side.</p> <p>What is your observation ASA congruency explanation.</p>	<p>A.S.A. Congruence rule Flash card.</p>
8	Try this examples A.S.A.	<p>Group Work: Try this page No:173,</p> <p>Whole class activity : Explanation of examples 4 and 5</p> <p>Group work: Try this page No.174</p> <p>Whole class activity : 3rd exercise problems discussion with children. Group discussion. Doubts clarification. Encourage them to do exercise in home as individual activity</p>	
9	R.H.S. Congruency	<p>Group work: Read page No.175 and 176 Draw the figures using activities [I] to [VI] in page 175 what is the specially of [VI] explanation of R.H.S.</p> <p>Whole class activity : explanation of example 6 and 7</p>	<p>R.H.S. Rule Flash card</p>

10.	Try this exercise R.H.S.	Group Work: Make the children to complete try this exercise in page 177 and 178 in groups and ask them to explain about R.H.S. Applications Whole class activity : 4 th exercise 1 st and 2 nd problems explanation in participatory, discussion method.	
11	Exercise –4	Whole class Activity : 4 th exercise 3-6 problems understanding and doubts clarification about how to solve.	
12	Exercise – 4	Whole class Activity : 4 th Exercise 7-9 problems explanation in participation method .	
13.	Review S.S.S., S.A.S, A.S.A, R.H.S.	Whole class Activity : Review all the concepts in participatory and discussion method and quiz.	

6. Teacher Notes:

Reference books VI Class text book (State) Ganitha Chandrika
VII (CBSE / ICSE Books) Mathematics Studio Magazine

Reference web sites

1. www.maths is fun.com
2. www.shyamsunder Gupta.com
3. www.be iitans.com
4. www.google.com
5. www.apmaths forum.com
6. www.wikipedia.congruency of triangles

Additional information :- Down load one page.

Note: Here leave 10 –15 pages to collect additional information every year visiting officers proficiency. So every year we have to add some information.

7. Teachers Reflections :

In this chapter many group activities are there. By discussing with each other they have done these problems so they have got awareness on S.S.S, S.A.S, A.S.A, rules.

Importance of R.H.S. rule and congruency of right angles have discussed in an elaborate way.

This topic, Upendra, Kiran, Vishnuvardan, Sravani, Mahalakshmi understand well I feel that, if we explain this chapter with the help of projector & computer it will be remained in their minds [Audio-Visual]

If we had used more TLM it would have understood by some more students those are Lokesh, Lakshmana, Rameswari, Venkata Lakshmi.

Here I feel difficult to make them understood angle between the sides, side between angles.

Note:

Leave some pages to write for teachers reflections based on classroom Interactions and experiences with children every year. This column useful will be used as a tool for formative Assessment.

PERIOD - PLAN

Class: VII,

Sub: Mathematics

I. Introduction: Congruency of Triangles period 1

i		How are you children who did not come to school yesterday? Why? Do you know children, If you come to school regularly you can learn the mathematics. [Try to mingle with the children by talking with them and asking about them].
ii	Observation of Pre concepts	Show them to various coins and currency. How are they? Keep one above the one. Which coins have same shape & what do call these type of things? What does triangle mean? What are the corresponding sides and corresponding angels. [If it needs, make children to know about the congruency with the situations discussions]
iii	Concept Introduction	What are the congruency things in the above topic? What do you know about the congruency? Do we have congruent things in our class? [Show them same text books & Note books etc.]
iv	Announcement of the Topic	Today, we are going to know about the congruency
v	Importance of the lesson:	He solves the problems in his daily life which he gets with the congruent things. He praises the advantages of congruent things such as books, Tiles, Stickers and Rocks.
	Aims:	He understands the congruency He can identify the congruent things
	TLM:	Various currency papers coins, text books shapes

II. Demonstration & Discussion:

1	Reading	Observe the pictures in 161-162 and read. Ask them to identify the difficult words and write on the board [1] Congruent [2] Trace [3] super impose – etc.
2	Discussion on Key words	Discuss on the important words and make them understand the words.
	Congruent :	Things which are same size and shape
	Trace:	Xerox and one more thing which is the same
	Super impose :	If we keep things one on the above they will be seen one. [Make them understand with the Examples Discussions
3	Activities / Discussions to understand the concept:	<ol style="list-style-type: none"> 1. How are the Rs.10/- and Rs.5/- notes in the 163 page. 2. Make them to do exercises 'Do this' individually in page No.164. 3. Ask them which are the congruent and which are not congruent and say difference between shape and size. 4. Teach them, congruent means which have the same size and same shape.

III. Problem solving :

1	Problem solving by the teacher on the Black board:	A] Draw the different shapes of figures on the blackboard and explain them which are congruent and why? B] Make them to get complete awareness on congruency by the super impose activity with Triangle, Rectangles and Squares.
2	Solving examples with the children	i. Like above ask them to cut various shapes and figures? ii. Cut the figures and super impose them and discuss about them iii. Make them to explain what congruent
3	Discussion on mistakes done by the children – doubts clarification:	i. Make them to sit in groups and discuss on the problem. ii. Ask them to clarify doubts with each other iii. Discuss on the mistakes by the children, which are observed by the teacher.

IV. Recapitulation

4	Recapitulation	Revise the topic what they have learnt that day Same size and different shapes of figures various shapes and same size of figures Same size and shape of figures Congruent maps and their properties
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V. Home work

	Home work	i. Tell them to bring the congruent figures which is given by the teacher ii. Tell them recognize congruent things in their home? iii. Tell them recognize the congruent things in the nature and bring them to school.
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Note:

This is a Model period plan

We have to organise a period using the above steps to Habinate this classroom Management we have to write our own period plan [Some]

PERIOD PLAN

6th Class Fraction – Decimals

Analysis of Chapter:

Chapter is developed in 22 pages with 6 activities 12 'do this' 4 'try these' 1 'think and discuss activities' 4 examples 5 exercises.

Exercise 7.1 consist of 5 problems

Exercise 7.2 consist of 3 problems

Exercise 7.3 consist of 13 problems

Exercise 7.4 consist of 7 problems

Exercise 7.5 consist of 4 problems

And 13 important points with the heading.

What we have discussed .

Notions: Number system, addition, subtraction, multiplication division of numbers, LCM.

Focussing points:

- Revision of what a fraction is
- Representation of fractions pictorially and on number line
- Fraction as a division proper, improper and mixed fraction.
- Equivalent fractions, like and unlike fractions comparison of fractions
- Word problems
- Estimation the degree of closeness of fraction
- Review of the idea of a decimal fractions.
- Place value in the context of decimal fractions
- Inter conversion of fraction and decimal fraction.
- Word problems involving addition and subtraction of decimals.

UNIT - PLAN

1	Class	VI
2	Name of the unit	Fractions and decimals
3	No.of periods	T.P [12]+ P.P. [8] = Total Periods 20.
4	Unit Objectives / Academic Standards	

1	Problem Solving	Children add, subtract, multiply like and unlike fractions. ➤ He converts fractions into decimal fractions ➤ Children solve problems & word problems involving +, - of decimals.
2	Reasoning & Proof	➤ Children able to identify proper & improper fractions, missed fractions; ➤ Able to write ascending & descending order of fractions; ➤ Able to identify unlike & like fractions.
3	Communication	➤ Children able to read pictures expressing them in fractions ➤ Able to write parts of objects in the form of fractions
4	Connections	➤ Children able to connect fraction decimal fraction, decimal numbers ➤ Able to connect fractions to daily life situations.
5	Representation & Visualisation	➤ Children able to represent fractions in the form of pictures and vice versa; able to represent fractions on number line

Period wise Teaching plan

Period	Topic	Teaching learning strategy	T.L.M.
1	Introduction fraction	By whole class activity cutting an apple into pieces Numerator & Denominator by whole class activity 'Try this' Group activity to represent fractions pictorially 'Do this' individual activity to represent fractions pictorially	T.L.M. Apple, Cutter B.B. B.B. T.B.
2	Improper fraction	Whole class activity by an example 'Do this' individual activity	T.B. & B.B. T.B.
3	Mixed fractions	By whole class activity using paper 'Do this' individual activity with seems	Paper, T.B.
4	Numerator & Denominator	An individual activity writing Numerator & Denominator and categoring proper & improper fractions Explaining 1 & 2 sums of exercise	T.B & B.B.
5	Fractions numbers on the number line	Whole class activity showing fractional numbers on number line Individual activity to solve 3,4,5 sums of exercise 7.1	T.B. & Gupli board
6	Equivalent fractions Lowest form of fractions	Whole class activity shown in page 39 By showing examples to identify standard form of fractions By a 'Try these' consisting of sums to do group By explaining 1&2 sums of exercise 7.2 to do at home	T.B & B.B. T.B. & B.B. T.B. T.B
7	Like fractions and unlike fractions	By comparing marks of two students in an exam to get like and unlike fractions as whole class activity. Explaining 3 sums of exercise 7.2 to do them at home	T.B. & B.B. B.B.
8	Ascending and descending order of fractions	By Comparing numbers and them fractions to write in Ascending & descending order. An individual 'do this' activity to identify smallest & biggest fractions Explaining 1,2 sums exercise 7.3 to do at home	B.B. T.B.

9	Comparison of unlike fractions Ascending and descending order of fractions	A whole class activity to compare unlike fractions write examples 'Do this' individual activity to do 4 sums at page 92 Writing numbers in order and then fractions A 'do this' individual activity to do 4 sums at page -92.	B.B. T.B. B.B.
10	Exercise -7.3	Explaining 3,4,5,6 sums to do at home	T.B.
11	Addition of fractions	Addition of fractions by using pictures as a whole class activity A 'do this' individual activity to do 4 sums [page no.93]	T.B, B.B., Flash Cards T.B.
12	Addition of unlike fractions	➤ A whole class activity to add unlike fractions with pictures. ➤ A 'do this' individual activity to do 4 sums given at page 94.	T.B. & B.B. T.B.
13	Addition of mixed fractions	A whole class activity to add mixed fractions with two examples given at page 95	T.B. & B.B.
14	Subtraction	➤ A whole class activity to subtract fractions with examples ➤ A 'do this' individual activity to do 2 sums given at page 96	T.B. & B.B. T.B.
15	Exercise 7.3	Explaining sums 7,8,9,10,11,12,13 to do at home	B.B. & T.B.
16	Decimals Place value in decimal number	An individual activity to measure objects like pencil, toy fish, etc. using scale to introduce decimals. A whole class activity to observe place values in 3 digit numbers and then place values in decimal number by examples and pictures given at page 99 ➤ A try these individual activity to complete the tables given at 100&101 ➤ A 'do this' individual activity to solve 3 sums given at page 101.	Pencil scale Toy fish. Chalkpices rubber T.B & B.B. T.B. T.B.
17	Exercise 7.4	Explaining 1-7 problems to do at home.	T.B.
18	Addition & subtraction of decimal fractions	A whole class activity to add & subtract decimal fractions with examples ➤ A 'do this' individual activity to do 4 sums at page 103	T.B. & B.B. T.B.
19	Exercise 7.5	Explaining 1,2,3,4 sums of 7.5 to do at home	T.B.
20	Recapitulation of unit	A whole class activity by discussing the 13 sums given under the heading 'what we have discussed'	T.B. & B.B

Teachers Note: -

Reference books : Maths Text book class V, VI
CBSE Text book [Maths]

Reference websites : www.wikipedia.fractons and decimal fractions
www.google.com (fractions and decimal fractions)

Additional information:

Teacher's reflections on children learning.

Period Plan

Class : VI
Subject: Mathematics

Topic : Fractions, Proper Fractions
Improper Fractions.
Duration: 45 Minutes

1. Introduction:-

1. Good morning children

2. Introducing the concept by asking questions.

	Expected answers
Children here is an apple. How is it	Round
I want share this apple with my	
One friend equally what to do?	Cut it into two equal pieces
I want share the same apple with	Again cut two half pieces
Three friends	into two equal parts.
Q : Four parts together make	are apple
Q : Each equal part represent	Fourth part of one apple
Q : When an apple is divided into	
Two equal parts each part is	Half of the one apple
Called by ?	

[If necessary put some more questions]

Q : How can you represent half of one apple.

3. Announcement of topic :

To day we are going learn how to represent the part of whole which is called 'Fraction'

4. Importance of Topic

Whenever objects are to be divided to represent the parts and in higher classes while doing sums of ratio, percentage. Loss and profit.

2. Presentation :

1. Reading: Read page No.85,86 of VI Mathematics. A fraction means a part of a group or of a whole $\frac{5}{12}$ is a fraction we read it as five twelfths.

What does 12 stands for.

It is the number of equal parts into which the whole had been divided.

What does 5 stands for? It is the number of equal parts which have been taken out or selected.

2. Key Words : Here 5 is called numerator and 12 is called denominator.

3. Activity to understand the concept (Whole class activity)

Representing $5/8$ pictorially

Draw a rectangle with sufficient length and breadth.

Draw lines to make 8 equal parts. And shade with colour for 5 parts shaded part represents $5/8$.

The fractions less than one and are parts of a whole are called proper fractions always numerator is less than denominator.

When denominator is less than numerator the fraction is called improper fraction.

For example $7/4$, here numerator is greater than denominator. So $7/4$ is improper fraction.

3. Solving a problem.

How will you represent the following pictorially

$3/4$, $2/8$, $1/3$, $7/4$, $5/3$, $7/6$.

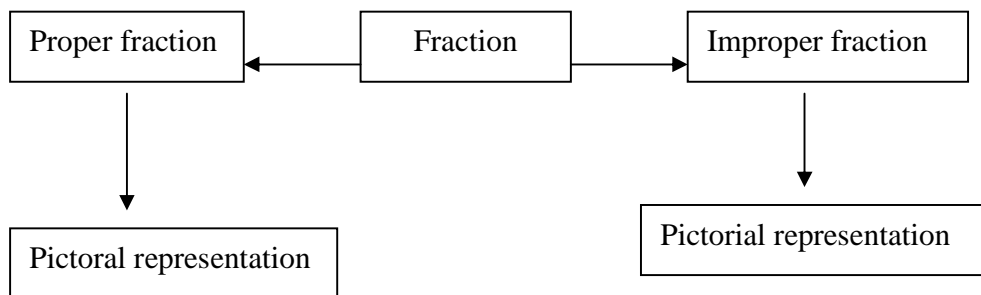
‘Try these’ : ‘do this’ at page 85 given for class work.

Children are allowed to solve the problem individually allow them to discuss in groups correct the mistakes.

4. Recapitulation:- Fraction, proper fraction, improper fraction definitions and pictorial

representation learnt.

Recapitulate through mind mapping



5. Home work:

Exercise 7.1 1,2 problems and ‘try these’ at page 87 given to do at home individually, Next day teacher observe the notes and identify the mistakes make necessary corrections.