

LESSON PLAN CLASS 9 [2019-2020]



Class	Subject	Time Slot	Lesson	Topic
IX	MATHS	35Min+35Min P1+P2	Triangles	1. INTRODUCTION 2. Basic terms and definition Congruence of Triangle

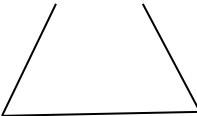
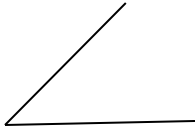
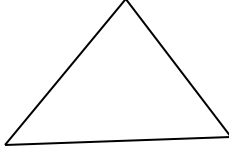
Expected Learning Outcome: The learners will be able to :

1. Define the concept of congruence of different objects and extend it to the congruence of triangles.
2. Identify the SAS and ASA congruence criteria.

Expected skill development:

- Developing connections of different properties of triangles.
- Logical thinking while proving two triangles congruent.
- Visual and spatial ability to identify the type of congruency being used.
- Procedural thinking while finding the corresponding sides and angles.
- Problem solving while doing HOTS based questions.

FLOW OF LESSON WITH RESPECT TO TIME (Introduction/warm-up, Content, Think Line, Closure)

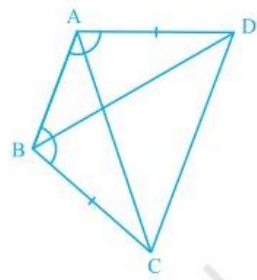
Pedagogy	Content
(5 Min) Warm Up <u>Interactive method</u>	 Fig.1  Fig.2  Fig.3 Facilitator will ask some general questions in the beginning like: 1. Which of the figure represent triangle(s) and Why? 2. Define Triangle. 3. What are the elements of a triangle? 4. What do you mean by congruency? How is it different from equality? 5. Give some examples of congruent figures from your surrounding.

(20 Mins) Demonstration by facilitator on board. <u>(Demonstration / Discussion method)</u> Facilitator will show its proof on the board and verify it with the help of examples.	6. What are the criteria of congruency of a triangle? The facilitator discuss two important congruency criteria SAS and ASA. (SAS Congruence Rule) – Two triangles are congruent if two sides and the included angle of one triangle are equal to the two sides and the included angle of the other triangle. (ASA Congruence Rule) – Two triangles are congruent if two angles and the included side of one triangle are equal to two angles and the included side of the other triangle.
(5 Minutes) Closure:	In two triangles ABC and DEF, $AB=DE$ and $AC=EF$. Name two angles from the two triangles that must be equal so that the two triangles are congruent. Give reasons for your answer. Solution : The required two angles are Angle A and Angle E when Angle A = Angle E, Triangle ABC is congruent to triangle EDF by SAS criterion.

- a) Proposed Questions (must include the questions asked in the classroom and the ones given as class-work in the notebook)

ABCD is a quadrilateral in which $AD = BC$ and $\angle DAB = \angle CBA$ (see Fig). Prove that

- (i) $\triangle ABD \cong \triangle BAC$
- (ii) $BD = AC$
- (iii) $\angle ABD = \angle BAC$.



Ans : In $\angle ABD$ and $\angle BAC$, $AD = BC$ (Given) $\angle DAB = \angle CBA$ (Given) $AB = BA$ (Common) $\therefore \triangle ABD = \triangle BAC$ (By SAS congruence rule) $\therefore BD = AC$ (By CPCT) $\therefore \triangle ABD = \triangle BAC$ (By SAS congruence rule) $\therefore BD = AC$ (By CPCT) And, $\angle ABD = \angle BAC$ (By CPCT)	
b) Evaluation/Assessment: Peer discussion will be done. Teacher will assess the children randomly and also through student teacher interaction.	
Learners on the way In $\triangle ABC \cong \triangle PQR$ and $\triangle ABC$ is not Congruent to $\triangle RPQ$, then which of the following is not true: a. $BC=PQ$ b. $AC=PR$ c. $QR=BC$ d. $AB=PQ$ Ans : a	Advanced Learners $\triangle ABC$ and $\triangle DEF$, $AB=FD$ and Angle A = Angle D. The two triangle will be congruent by SAS Axiom if a. $BC=EF$ b. $AC=DE$ c. $AC=EF$ d. $BC=DE$
Materials needed/Resources: NCERT Text book.	
Common Misconceptions: SAS is axiom and ASA is a theorem which is proved by using the axiom SAS.	Addressing the Misconceptions: Explanation by taking various mathematical statements by showing them.

HOME ASSIGNMENTS:

Revise proof of ASA theorem.

Teaching Methodology :

- Discussion/ interaction method.
- Lecture
- Demonstration.