

Session 37: Triangles

Session Title	Triangle
Objective	By the end of the lesson, students will be <ol style="list-style-type: none">1. Identify and name triangles based on sides and angles.2. Understand that a triangle has 3 sides and 3 angles.3. Discover and state that the sum of the interior angles of a triangle is 180°.4. Collaborate in groups and reflect on learning.
Concept	The world of triangles
Materials Required	<ol style="list-style-type: none">1. Pictures of triangle, square, rectangle2. Instruments box3. Board & Chalk4. A4 sheet & Crayons5. Work sheet
Methodology	Activity oriented
Session Duration	90 Minutes

Introduction Activity (15 minutes):

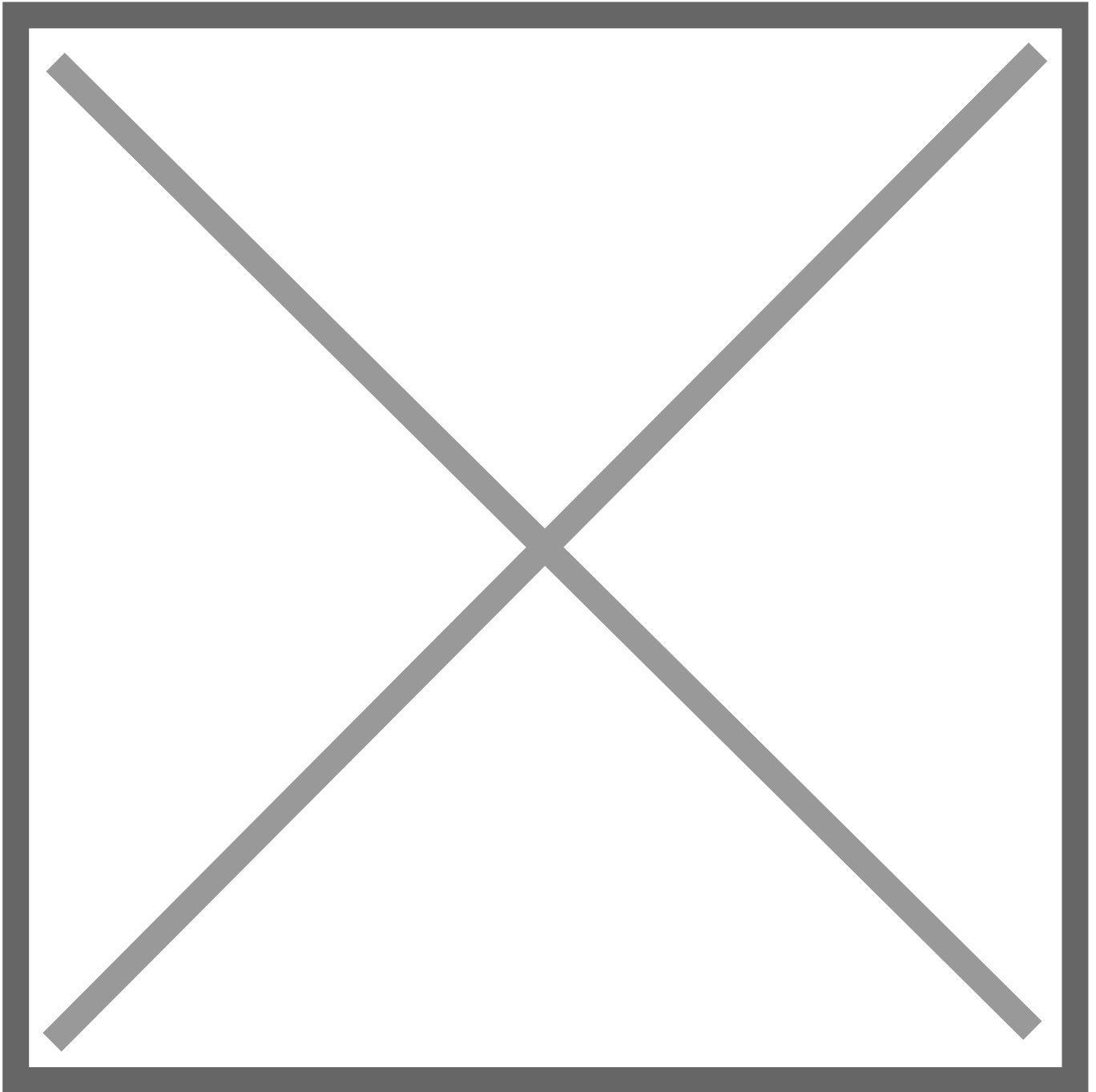
Mandala Patterns

- **Concepts:** Circles, radial symmetry, angles, pattern repetition

How:

- Students use compasses and protractors to make mandalas.
- Emphasizes symmetry and repeated geometric patterns.
- Can be colored for relaxing mindfulness activity too.

Example: (Draw the picture given below on a chart)



Main Activity (65 minutes):

What's a Triangle? Discussion (10 minutes):

- Show pictures of different shapes (triangle, square, rectangle, circle).
- Ask: Which one is a triangle? How do you know?
- Students share prior knowledge.
- Teacher highlights: A triangle has 3 sides and 3 angles. It's a closed shape.

Story Time (15 minutes):

In the Triangle Kingdom, every triangle has a secret code: its 3 angles must always work together to form a straight line (180°) to keep the kingdom safe!

Characters:-

- Prince Equi (Equilateral)
- Sir Righty (Right triangle)
- Lady Acuta (Acute triangle)
- General Obtusa (Obtuse triangle)

The sum of the interior angles of any triangle is always equal to 180 degrees.

In mathematical notation, for a triangle ABC with interior angles angle A, angle B, and angle C, the triangle sum theorem can be expressed as:

$$\angle A + \angle B + \angle C = 180^\circ$$

Ask: Can you guess how their angles work together?

Student Engagement (10 minutes):

Ask students to act out triangle characters (e.g., stretch arms to represent different angles).

Key Concept (10 minutes):

Definition of a triangle

- A closed figure with 3 sides and 3 angles.

Types of triangles by sides

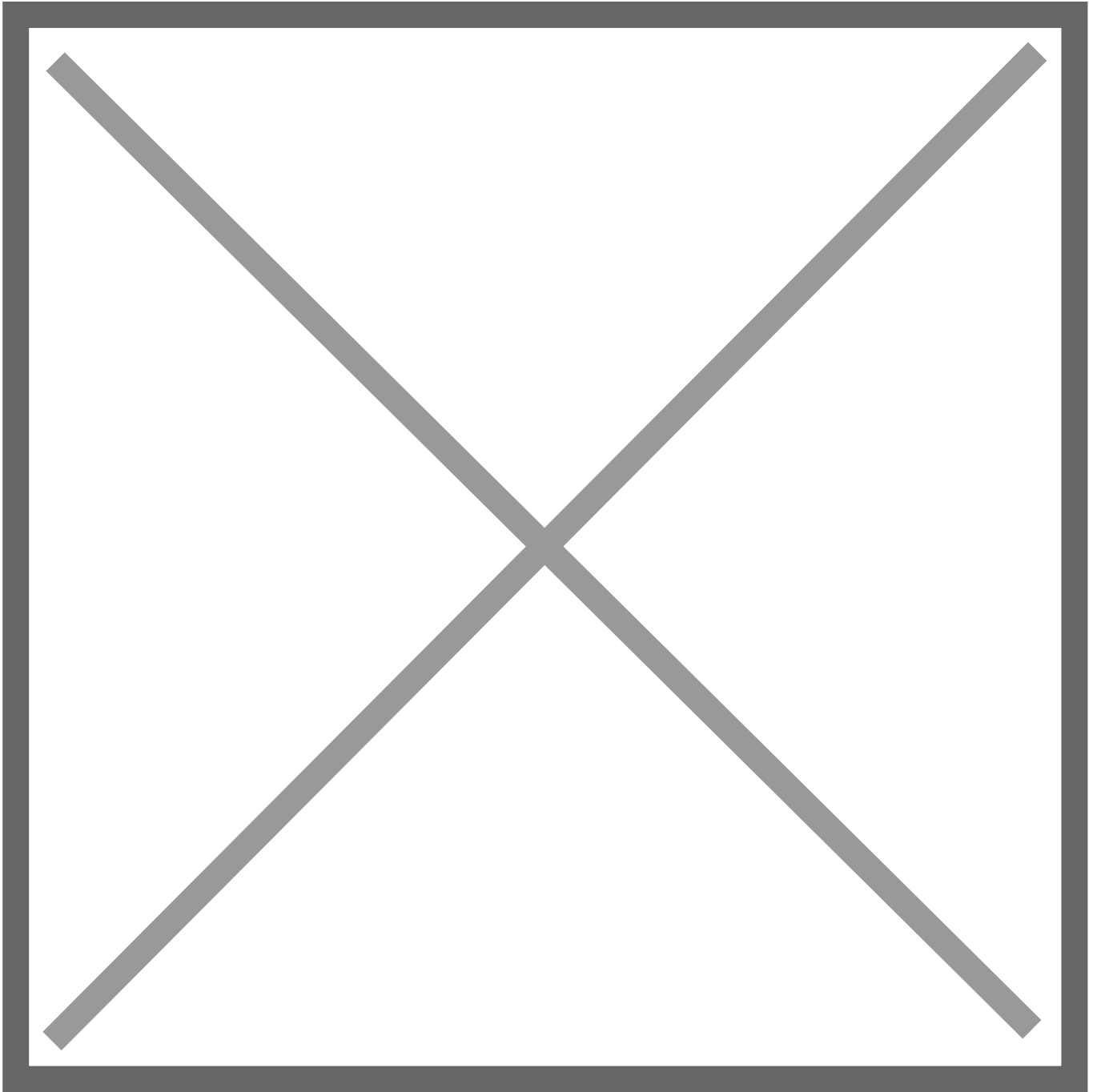
- Equilateral (3 equal sides)
- Isosceles (2 equal sides)
- Scalene (no equal sides)

Types of triangles by angles

- Acute triangle (all angles $< 90^\circ$)
- Right triangle (one angle = 90°)
- Obtuse triangle (one angle $> 90^\circ$)

Group Activity- Angle Detectives (20 minutes):

Make students into small groups(3 or 4)



- Give each group a work sheet of triangle with one missing angle.
- Students solve for the missing angle by subtracting from 180° .

Review Questions (5 minutes):

1. What is a triangle?
2. How many angles does a triangle have?

Follow up Task (5 minutes):

1. Name a real-life object or structure that uses a triangle shape. Why is it used?
2. Draw a triangle where one angle is 90° . What type of triangle is it?

Expected Learning Outcome:

Knowledge building:

- This focuses on conceptual understanding and facts. You help students understand what a triangle is, its types, and properties.

Skill building:

- Conceptual understanding
- Problem solving

Resources:

Missing triangles

Revision #10

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