

Shape Mosaic Designer

5th Grade Math Project · Art & Design

Grade 5 · Advanced

Name: _____ Date: _____ Class: _____

The Challenge

The art teacher needs a mosaic for the school entrance, and your team is the design studio! Every tile must be named correctly.

You will make: Mosaic with Shape Key

What you will learn

- Classify triangles by sides and angles
- Classify quadrilaterals by properties
- Explain the shape hierarchy
- Identify regular polygons

Materials

- Pencil
- Ruler
- Colored paper or pencils

How to do it

1. Part 1: Triangle Tiles
2. Part 2: Four-Sided Tiles
3. Part 3: Family Tree
4. Part 4: Mosaic Design
5. Check your work and share your mosaic with shape key.

Part 1: Triangle Tiles

Classify each triangle by its sides AND its angles.

1. Triangle A: all three sides 5 cm; angles 60°, 60°, 60°

2. Triangle B: exactly two sides equal; angles 70°, 70°, 40°

3. Triangle C: no sides equal; angles 90°, 40°, 50°

4. Triangle D: exactly two sides equal; angles 30°, 30°, 120°

Part 2: Four-Sided Tiles

Give the most specific name for each tile.

5. Tile 1: 4 equal sides, 4 right angles

6. Tile 2: 2 pairs of parallel sides, 4 right angles, sides 6 and 3

7. Tile 3: 4 equal sides, no right angles

8. Tile 4: exactly 1 pair of parallel sides

Part 3: Family Tree

Use the shape hierarchy.

9. Is every square a rectangle? Explain.

10. Is every rectangle a square? Explain.

11. Name every category a square belongs to.

Part 4: Mosaic Design

Design a mosaic using at least 6 different shapes. Make a key that names each shape and one property.

12. Shape key:

⭐ Extension Challenge

A regular hexagon has a perimeter of 42 cm. How long is each side? Is a regular hexagon's angle acute or obtuse?

How your project will be scored

Category	4 Excellent	3 Good	2 Developing	1 Beginning
Math accuracy	All answers correct	Most answers correct	Some answers correct	Few answers correct
Shows work	Clear work for every step	Work for most steps	Some work shown	Little work shown
Explains thinking	Clear, complete explanations	Mostly clear explanations	Some explanation	Little explanation
Final product	Complete, neat and creative	Complete and neat	Partly complete	Not complete