

Geometry

Unit 4: Polygons

Lesson 23: Symmetry

Objective

*Identify shapes that have lines of symmetry.

*Identify lines of symmetry in shapes.

*Draw shapes with a line of symmetry. [G4-9](#)

Complete all OR a selection of the following activities

Warm-up: Symmetry or Not?

Instructions:

- Show a variety of shapes (rectangle, heart, triangle, pentagon, irregular shape).
- Ask:
 - Can you fold this shape in half so both sides match?
 - Does it have a line of symmetry?
- Use thumbs-up for "Yes" and arms crossed for "No."

Extension:

- Fold actual paper shapes or trace lines of symmetry on whiteboard/projector images.
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Teaching Activity A: Symmetry Scavenger Hunt

Send learners to:

- Find 5 items that have a line of symmetry
- Find 2 that almost do but don't quite (e.g., an apple with a bite out)

Ask:

- What would happen if you folded it in half?
- Does it have more than one line of symmetry? (hello, circle!)

Document:

- Sketch the object
 - Draw in the line(s) of symmetry
 - Label it: 1 line, 2 lines, none, infinite
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Teaching Activity B: Make it Match**Materials:**

- Grid paper
- Scissors
- Pattern blocks or tangrams
- Mirrors if available

Two-part challenge:

1. Students draw half a shape → partner finishes it symmetrically
2. Teacher/parent gives a **half shape** and students complete the mirror image

Bonus challenge:

Can you create a shape with **two** lines of symmetry? What about **none**?

Invite metacognition (thinking about thinking): How do you *know* it's symmetrical? What helps you check?

Real-Life Anchoring: Symmetry in the World

Scenario: Look at everyday examples of symmetry:

- Butterflies
- Leaves

- Buildings
- Snowflakes
- Letters (like A, M, T)

Prompt: What do you see in the world that looks the same on both sides?

Student Task:

- Find 2 real-world symmetrical objects (in their classroom, house, or nature) and sketch or describe their lines of symmetry.
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Exploration Stations: Ready to Create

Symmetry Sort: Sort a collection of shape cards into "Symmetrical" or "Not Symmetrical" piles.

Mirror Match: Use a mirror along the edge of a shape to test for symmetry.

Half & Reflect: Given one half of a shape, draw the other side to make it symmetrical.

Symmetry Spin Art: Use symmetry to design simple geometric patterns using rotation or reflection.

Questions for Understanding: Perspective-taking and application

- ☐ If a square has 2 lines of symmetry, could it have 4? How do you know?
 - ☐ Can a shape be symmetrical if one side is bigger than the other?
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Wrap-Up Reflection: Learning into life

- ☐ What did you learn today about how shapes find balance?
 - ☐ How can we see symmetry not just in objects, but in feelings, friendships, routines?
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Extend Learning: Creative Invitation

Symmetry Art Challenge:

Draw or paint a picture (like a butterfly, mask, or face) where both sides are symmetrical. Fold paper in half and paint on one side, then press to create a symmetrical design.

JUMP Math 4.1 Lessons

[G4-9](#)

Identify shapes that have lines of symmetry. Identify lines of symmetry in shapes. Draw shapes with a line of symmetry.

Lesson co-created by Open AI (2025), [Aiden Cinnamon Tea, Chat GPT 4.5], Jump Math Teacher Resources, Meghan McMillen and Laura Mann @ NIDES, August 2025.