Same Name, Any Way You Turn It

Teacher		**Class**	Kindergarten
Subject	Math	**Topic**	Naming 2D and 3D shapes
Date		**Room**	
Lesson length	60 minutes	**Country**	United Kingdom

Students learn that flat and solid shapes keep the same name in any size or turn. They feel, name, and sort shapes in games and partner work.

Curriculum links

- Correctly name shapes regardless of their orientations or overall size. [1]
- Identify shapes as two-dimensional (lying in a plane, "flat") or three-dimensional ("solid"). [1]
- Describe objects in the environment using names of shapes [1]

Learning objectives

- Students will correctly name familiar 2D and 3D shapes in any size or turn.
- Students will describe shapes as flat or solid and count sides and corners.

Success criteria

- I can say the shape name when it is big, small, or turned.
- I can tell if a shape is flat or solid and count sides and corners.

What students already know

Hold up a circle, square, and triangle upright and ask: What is this one called? Then tilt one and ask: Now what is it called?

Key words

circle	a round loop with no straight lines and no pointy places [3]
triangle	a shape with three straight edges and three pointy places [1][3]
square	a shape with four edges all just as long and four pointy places [1][3]
flat	thin like paper, not puffed out all around [1][2]
solid	puffed out all around like a ball you can pick up [1][2]
corner	a pointy place where two straight lines meet [1][3]

Materials

- box with hand holes
- wooden or foam 2D shapes in different sizes: circle, triangle, square, rectangle, hexagon
- solid objects: ball, small box, can-shaped cylinder
- paper circle and paper square
- blindfold scarf
- Slides 1-10, 12 with projector and speakers

Before the lesson

- Print one Worksheet page 1 per student and crayons for plenary
- Test Slide 6 Video clip 1 Name the Shape Game 0:00-3:49 with sound
- Set up feel box with hand holes and put one circle, triangle, square, rectangle inside set plus matching shapes for table

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- Worksheet page 1 copies
- crayons
- Clear rug space for freeze, feel-box pairs, and flat mat and solid mat areas

Lesson outline

0–5 min **Starter** 5 min · Whole class

Hook curiosity about the hidden shape and recall that turned shapes keep their name.

YOU DO

1. Show Slide 1 and shake the feel box without showing inside.
2. Say the hook and show Slide 2: big, small, turned - still triangle.
3. Hold up a big upside-down triangle and a tiny upright triangle side by side.
4. Ask class to chant both names together to hear it stays triangle.

STUDENTS DO

1. Listen, look at the two triangles, and chant triangle for both.
2. Give thumbs up if they think turning changes the name or not.

Say: Something is hiding in the box! Your hands can figure it out without your eyes. Ready to guess? Big or small, turned around, the name stays the same!

Ask: I turned this triangle upside down. Is it still a triangle? (Yes, still a triangle.) · This one is tiny and this one is big. Do they have the same name? (Yes, both triangle; size does not change name.)

Check understanding: Thumbs up or down: turned shape keeps same name? If many are unsure, turn the shape slowly and chant the name with each turn.

Support: Let the student hold the big and little triangle and match them to one upright triangle card. **Stretch:** Ask the student to name a tilted hexagon card and tell why it is still hexagon.

Use: Slides 1-2

5–15 min **Teaching** 10 min · Whole class

Teach shape names, flat or solid, and how to count sides and corners.

YOU DO

1. Show Slide 3 key words and point to circle, triangle, square while students trace in air.
2. Show Slide 4 steps and model: Look close, count sides and corners, say its name.
3. Model with a tilted large square and a small upright square, counting 4 sides and 4 corners for both [1][3].
4. Hold flat paper circle and solid ball to show 2D shapes are flat and 3D shapes are solid [1][2].

STUDENTS DO

1. Trace circle, triangle, square in the air and say round, no corners and 3 sides, 3 corners.
2. Count aloud with teacher and pat flat for paper or hug solid for ball.

Say: Look close. Count the straight sides. Count the pointy corners. Then say its name. Flat shapes lie flat like paper. Solid shapes puff out like a ball you can hold.

Worked example: Big tilted triangle: I count 1, 2, 3 straight sides. I count 1, 2, 3 pointy corners. So it is a triangle [3]. Little upright triangle: I count 3 sides and 3 corners too. Same name, still triangle regardless of size or turn [1].

Ask: How many sides and corners does a triangle have? (3 sides and 3 corners.) · Is this paper square flat or solid? (Flat, 2D, lies flat like paper [1][2].) · Is this ball flat or solid? What is it called? (Solid, 3D, called a sphere [2].)

Check understanding: Hold up fingers for sides when teacher shows tilted square: 4 means got it. Reteach counting slowly if many show 3 or 5.

Support: Start with only circle, square, and triangle upright, and let the student match to same-size cards first [3]. **Stretch:** Show a skinny tilted rhombus and ask the student to count sides and name it.

Use: Slides 3-4

15–27 min **Practice Together** 12 min · Whole class

Practice naming shapes together in different turns and sizes.

YOU DO

1. Show Slide 5 question Still a square if turned? and turn a square in four positions.
2. Think, pair, share: partners whisper answer, then two partners share out.
3. Play Slide 6 Video clip 1, pause after each shape for class to shout the name.
4. Repeat that the name stays the same regardless of orientation or size [1].

STUDENTS DO

1. Whisper with partner, then share if turned square is still square.
2. Watch the video, shout each shape name, and show round arms for circle or pointy arms for triangle.

Say: Talk with your partner. Is it still a square if I turn it? Watch the screen, look close, count if you need to, then shout its name together.

Worked example: Turned square: I turn it to a corner point. I count 4 sides all the same and 4 corners. It is still a square, not a new shape [1][2].

Ask: I tipped the square onto its corner. Is it still a square? (Yes, still a square; turning does not change the name [1].) · What did you count to know it was a triangle on the video? (3 sides and 3 corners [3].)

Check understanding: Freeze and shout: all shout same correct name means ready. If mixed, replay that shape, count sides together, and say name again.

Support: Keep the shape still and upright at first, then add just a small tilt once the student is sure. **Stretch:** Let the student be the caller and pick a tilted or tiny shape for the class to name fast.

Use: Slides 5-6; Video clip 1 (0:00–3:49)

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27–50 min **Main Activity** 23 min · Pairs

Feel hidden shapes by touch and name them by sides and corners.

YOU DO

1. Show Slide 7 flat and solid names and quick sort: paper circle flat, cube box solid, sphere ball solid [2].
2. Show Slide 9 steps and model: partner hides, guesser feels without peeking, counts sides, says name [3].
3. Send pairs to tables with feel box and table shapes; remind to look away while partner hides.
4. Circulate, ask guessers to say side and corner counts, confirm name stays same in any size or turn [1].

STUDENTS DO

1. Take turns: one student hides a shape while partner looks away, then partner feels inside without looking and names the shape [3].
2. Say the name, count sides and corners by touch, then switch roles and sort one flat and one solid shape.

Say: Your partner hides one shape in the box. Feel without peeking inside. Count the sides. Count the pointy corners. Then say its name out loud.

Worked example: My hand feels inside: straight, straight, straight, straight — 4 sides. I feel 4 pointy corners. All sides feel the same. It is a square. I check by looking. Yes, square even though it was turned sideways in the box [1][3].

Ask: You feel no straight sides and no corners. What could it be? (Circle; round, no corners.) · You feel 3 sides and 3 corners. Does big or turned change it? (No, still triangle; all triangles have three sides and three angles [3].) · Is the ball flat or solid? What solid name? (Solid, sphere; 3D shapes are solid [1][2].)

Check understanding: Each guesser says name plus side-corner count before pulling shape out. If unsure, feel again and compare to table shapes.

Support: Place two or three matching shapes on the table outside the box so the student can feel inside and point to the one they think it is [3]. **Stretch:** Play with eyes closed and no choices on the table, using only words like long side, short side, pointy corner to describe before naming.

Use: Slides 7, 9

50–60 min **Plenary** 10 min · Whole class

Check that everyone can name shapes in any size or turn and tell flat or solid.

YOU DO

1. Show Slide 10 big idea and lead chant: Big or small, turned around, name stays the same!
2. Hand out Worksheet page 1: Say the name of each flat shape; students point and whisper names.
3. Show Slide 12 true-or-false lines and vote thumbs up or down for each one.
4. Close by holding tiny tilted triangle and big triangle: both triangle [1].

STUDENTS DO

1. Chant big idea, complete Worksheet page 1 by saying each flat shape name aloud.
2. Vote true or false with thumbs and correct the false one: turned square is still a square.

Say: Big or small, turned around, name stays the same! Point to each shape on your sheet. Say its name. Size does not change the name. Turning does not change the name.

Ask: A big triangle is still a triangle. True or false? (True; size does not change name [1].) · A turned square is not a square. True or false? (False; turned shapes keep same name [1].) · A ball is called a sphere. Flat or solid? (True, solid sphere [2].)

Check understanding: Worksheet page 1 naming plus Slide 12 votes: if many miss turned square, turn a square live, count 4 and 4, and rename together.

Support: Let the student say only circle, square, triangle on Worksheet page 1 and match each to a shape from the box. **Stretch:** Ask the student to find two classroom objects with same shape name but very different sizes and name them.

Use: Slides 10, 12; Worksheet page 1

Common mistakes

Mistake	How to spot it	How to fix it
Thinking a square turned on its corner is a different shape, not a square.	Student calls tilted square a diamond and says it is not square.	Turn it slowly back upright, count 4 same sides and 4 corners together, and chant same name in every turn [1][2].
Thinking a big shape has a different name than a small same shape.	Student says big triangle is triangle but little one is not, or gives new name.	Hold big and small together, count sides and corners on both to show they match, since name stays same regardless of size [1].
Calling a solid ball a circle.	Student says ball is circle when sorting flat or solid.	Pat flat paper circle and hug solid ball to show 2D flat and 3D solid, then rename: flat circle, solid sphere [1][2].

Support

- Start with only circle, square, and triangle and match to same-size upright cards first [3].
- Offer table shapes to feel and point to while guessing in the box.

Stretch

- Name hexagon and rhombus in skinny, tilted versions.
- Describe hidden shapes with no choices using long side, short side, pointy corner before naming.

For the LSE or teaching assistant

Stay near feel-box pairs. Help guessers count sides slowly by touch, offer 2-3 table choices to point to, and check flat or solid sorting.

Check for understanding

Question	Answer
I turn a rectangle upside down. What is it called now?	Still a rectangle; turned shapes keep the same name.
A tiny square and a huge square — same name or different?	Same name, square; size does not change name.
Is a cube flat or solid?	Solid.

Sources

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