What shape is it anyway?

Shapes

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Grade Level	Kindergarten	**Time Frame**	1-2 class period(s)
Subject	Mathematics	**Duration**	60 minutes
Course	Elementary Mathematics		

Essential Question

How do we describe different shapes?

Summary

In this lesson, students use their prior knowledge to identify shapes and their attributes. "What Shape is it Anyway?" provides students with ample group discussion as well as individual assessment. The end goal of this lesson is to have students correctly identify, sort, and explain their understanding of 2-D shapes in their community.

Snapshot

Engage

Students take a Picture Walk through the book "Skippyjon Jones Shape Up."

Explore

As a group, the class discusses the various shapes found in a picture of a familiar place and do a shape sort to discuss attributes of the shapes.

Explain

Students identify shapes in the classroom during a Shape Scavenger Hunt.

Extend

Students explore how 3-D shapes are related to 2-D shapes.

Evaluate

Students play a game where they are assigned an unknown shape and must sort themselves into shape groups.

Standards

Oklahoma Academic Standards for Mathematics (Grade K)

K.GM.1.1: Recognize squares, circles, triangles, and rectangles.
K.GM.1.2: Sort two-dimensional objects using characteristics such as shape, size, color, and thickness.
K.GM.1.3: Identify attributes of two-dimensional shapes using informal and formal geometric language interchangeably.
K.GM.1.6: Use basic shapes and spatial reasoning to represent objects in the real world.

Attachments

- Shape-Pictures.docx
- Shape-Pictures.pdf
- Shape-Signs.docx
- Shape-Signs.pdf

Materials

- Book "Skippyjon Jones Shape Up"
- Video reading of “Skippyjon Jones Shape Up” https://www.youtube.com/watch?v=PWc1oGl4bPA
- Shape manipulatives and pictures (2-D and 3-D) circle/cylinder, triangle/triangular prism, rectangle/rectangular prism, square/cube
- Sticky notes (4 per student)
- Real-world objects (or pictures) in the shape of squares, rectangles, circles, and triangles

Engage

As a class, take a picture walk through the book "Skippyjon Jones Shape Up" by Judy Schachner. If you do not have a physical copy of the book there is a video of the book being read aloud here Skippyjon Jones Shape Up by Judy Schachner read aloud. Focus on the pictures that tell the story.

Essential questions:

- What shapes do you see?
- What is familiar about each shape?
- Do the shapes you see have something in common with another shape?

Explore

Using the I Notice, I Wonder strategy, display a picture of a familiar place that features a variety of shapes (town center, playground, school building, etc.). Ask students, “What do you notice and wonder about the shapes in this picture?"

Badzo, B. [Onasill]. (2005, June 21). Salt Lake City ~ Downtown street view ~ Walker Center ~ Historic street clock [Image file]. Retrieved from https://www.flickr.com/photos/onasill/29011997530

Teacher's Note

Students should respond by noticing various shapes. Example responses might include: “I notice the stop sign is an octagon.” “I wonder, why the stop sign is shaped like that?" "Why isn’t it a circle?” "I noticed the windows are rectangles." "I wonder if windows can be other shapes."

At their tables, have students sort foam shapes into groups by their attributes (sides and angles). Students will talk in groups about the rules they used to sort the shapes. Ask one student from each group to share with the class how the group sorted its shapes. Ask students, “What is special about the shapes in this group?” “How are they similar?" "How are they different?”Create a visible list of student responses associated with each shape image. These responses might be posted and kept for students to refer back to later during the lesson. Also consider keeping a running list of vocabulary that students can refer to.

Teacher's Note

Developmentally, students will sort by color. If this happens, facilitate students back to the attributes of each shape--sides and angles.

Explain

Building off the student conversations, complete a teacher-led shape sort activity. As you organize by shape, talk about rules for each of these shapes:

- Square, 4 equal sides, 4 equal angles
- Rectangle, 2 long sides, 2 short sides, 4 equal angles
- Triangle - 3 sides, 3 angles
- Circle - no straight sides, no angles

Give students 4 sticky notes each and have them draw one shape (square, rectangle, triangle, or circle) per sticky note. Do a shape scavenger hunt and have the students find those shapes in the classroom. Once they find the shape, they can stick their sticky note to the shape. For example, students might find cubbies in the shape of a rectangle.

Extend

At different centers, have students compare a 2-D shape to its 3-D prism version (for example, circle/cylinder, triangle/triangular prism, rectangle/rectangular prism, square/cube). Using a Think-Pair-Share activity, have students answer the following: How are the "flat" (2-D) and the “big” (3-D) shape the same and different?

Optional Extension:

For a deeper understanding, use the nets of 3-D shapes. Students can discuss the various shapes used to construct that shape or 3-D net. Check here for a quick video about nets.

Home Extension:

Challenge students or families to identify shapes in their everyday lives.

Evaluate

Students will engage in a sorting game using a combination of the Kick Me and Four Corners strategies. To prepare, hang the four posters from the "Shape Signs" attachment in different corners of the room. Next, attach a picture of a real-life object with a particular shape (lunch tray, pizza, coin, etc.) to each student's back. You can use the pictures from the "Shape Pictures" attachment or create your own. Explain to students that they will sort into one of the "corners" of the room by shape. Students will ask questions and get hints from other students to identify the shape on their back.

Guiding Questions:

- Does my shape have 4 sides?
- Does my shape have any angles?
- Does my shape have round edges?

While giving hints, students might tell the shape while describing its attributes. To prevent such accidental revelations, students should be encouraged to describe the shapes using real-life attributes. (For example: “Your shape looks like a piece of pizza.” "Your shape has 4 sides.")

Students will then decide what kind of shape they have on their backs and what corner they should report to. When students get to their corner, they will discuss in their corner groups why they grouped the way they did. For example, members of the triangle group would discuss that their shape had 3 sides and 3 angles.

For evaluation purposes, take note of students who ended up in the wrong corner. Give the students a chance to correct their error by providing them with clues related to the shape on their back.

Resources

- Badzo, B. [Onasill]. (2005, June 21). Salt Lake City ~ Downtown street view ~ Walker Center ~ Historic street clock [Image file]. Retrieved from https://www.flickr.com/photos/onasill/29011997530
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- LearningMole (2017, March 22). 3D shape nets for kids - 3D shapes for kids - geometric nets [Video file]. Retrieved from https://www.youtube.com/watch?v=SwDjm6Ra1W4
- Schachner, J. (2008). Skippyjon Jones shape up. Scholastic.