This House is Made of Mud: Exploring the Shapes in Our Lives

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Grade Level	K-1
Duration	1 class period

National Geography Standards	Arizona Geography Strand	Other Arizona Standards
ELEMENT TWO: PLACES AND REGIONS 4 The physical and human characteristics of places. ELEMENT FIVE: ENVIRONMENT AND SOCIETY 14 How human actions modify the physical environment.	**CONCEPT 2 Places and Regions** **GRADE K** PO 1 Recognize through images how people live differently in other places and times. **GRADE 1** PO 1 Recognize through images of content studied that places have distinct characteristics. **CONCEPT 3 Physical Systems** **STRAND 6 Earth and Space Science** **CONCEPT 1 Properties of Earth Materials** **GRADE K** PO 1 Identify rocks, soil, and water as basic earth materials **GRADE 1** Identify basic properties and common uses of earth materials **CONCEPT 4 Human Systems** **GRADE K** PO 1 Discuss the food, clothing, housing, recreation, and celebrations practiced by cultural groups in the local community. **GRADE 1** PO 1 Discuss human features in the world. **CONCEPT 5 Environment and Society** **GRADE K** PO 1 Identify the origin of	**Mathematics Common Core Standards** **Geometry** K.G.1. Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as *above*, *below*, *beside*, *in front of*, *behind*, and *next to*. K.G.2. Correctly name shapes regardless of their orientations or overall size. K.G.5. Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes. 1.G.2. Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape.

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natural resources.
GRADE 1
PO 1 Identify ways humans adapt to their environment.

Overview

Our home is made of the Earth on which we live and is similar in shape to the shapes found in nature.

Purpose

In this lesson students will learn about our dependence on the earth's resources for materials. They will practice their knowledge of geometric shapes by recognizing them in the context of the story.

Materials

- *This House is Made of Mud* by Ken Buchanan
- Pieces of a brick, cement, stucco, and lumber or pictures of such building materials
- Bowl for mixing "mud"
- Dirt
- Straw
- Water
- Paper shapes of a circle, rectangle, triangle, square
- Flannel board, white or chalk board for reference

Objectives

The student will be able to:
1. Identify similar geometric shapes found within the classroom from the context of the story.

2. Students will understand that we use the earth for building our houses.

Procedures

Pre-requisite skills: geometric shape names

1. Before reading the story, explain that this is a story about the traditional housing of people living in the Arizona desert. Native American, Mexican and some Anglos live in these "mud" homes even today.

2. Show students a brick, a section of stucco or cement, and a piece of lumber. Look at the walls of the school. Talk about the fact these materials ALSO come from the earth. Emphasize that ALL of us build ALL of our houses from the earth in some way.

3. Read the book *This House is Made of Mud* to the class. Check for geometry understanding through the story by asking questions such as:

What shape is the_____ (sun, house, door, etc.)

What shape in this picture has four sides of equal length?

What shape has two long sides and two short sides?

The mountain peaks are like what shape? Students should respond with the appropriate geometric shapes.

4. Ask the students how the mud for the house is made? Let the students share their ideas. Then demonstrate how this type of housing can be built by making some "mud" for the class.

Introduce the word "adobe" as the Spanish word for this type of brick.
5. Use a small container to mix 2 cups of Arizona dirt, a handful of straw (available from Wal-Mart in the small animal bedding area or free from an animal feed store or a gift from someone who keeps livestock), and enough water to make a thick mixture – much like

brownie mix. Pat it into a rectangular shape. Have the students touch the mud. Ask what attributes does this mixture have.

Assessment

Math:
1. Students will look at and think of various items (for example, a book, an orange, the classroom clock, a slice of pizza) and name the geometric shape that is represented by the object. Recognition of 4 out of 5 shapes represents mastery of the math concept.
2. Or the students can draw their own house from the outside. They need to explain the geometric shapes that their house contains. Recognition of 4 out of 5 shapes represents master of the math concept.

Geography:
Students will be able to answer these questions:

- What can houses be made from?
- Where do the materials used in making a house come from?

Extensions

Modeling clay or regular pottery clay could be used to build hogans or mud houses.

Attribute blocks can be used to reinforce the concept shape + thickness and size comparison.

To introduce building materials, these books can be used:

- McGough, Kate. *Wood.* Windows on Literacy, National Geographic School Publishing, 2001.
- Lucca, Mario. *Bricks, Wood, and Stones.* Windows on Literacy, National Geographic School Publishing, 2001.

Read other books about the natural environment such as:

Desert Giant by Barbara Bash
Cactus Hotel by Brenda Z. Guiberson
Lizards for Lunch by Conrad J. Storad
Everybody Needs a Rock by Byrd Baylor
Soft Child, How Rattlesnake got its Fangs by Joe Hayes
Lizards on the Wall by Ken and Debby Buchanan

Sources

This House is Made of Mud/Esta Casa Esta Hecha De Lodo by Ken Buchanan, Libby Tracy (Illustrator), Patricia Hinton Davis (Translator), 1994, Rising Moon, Bilingual Edition (ISBN 087358501).