

LESSON: Landforms at Home & Beyond GRADE: 2**OBJECTIVES:****Earth's Systems**

- **2-ESS2-2.** Develop a model to represent the shapes and kinds of land and bodies of water in an area.

MATERIALS & RESOURCES:

- National Geographic and other travel or geography magazines
- Pictures of landforms torn or cut from magazines or printed from internet
- Books about landforms
- Map or word cloud of descriptive words related to landforms
- Internet sites which have good examples of landforms
- 3-5 maps of your state and a globe or world map
- Recipes for modeling clay found at the end of this lesson- use the one you prefer
- Ingredients for clay once recipe has been chosen
- Paint and/or markers, paint brushes
- Cardboard or other base on which to build model

PRESENTATION:

We are going to take a pretend trip. This is a landform trip. We are going to use pictures, in addition to our imaginations and descriptive words, to visit various landforms of Iowa and beyond. After we have become familiar with landforms, we will build a model of the landforms we visited. We will share our models with each other because it's fun to travel with friends and we learn by teaching each other.

DIRECTIONS:

1. As a group, talk about the definitions of landforms and look at examples. Study the examples from magazines, books, photos, the internet, etc.. until the group is familiar with the different landforms. (The vocabulary included in this lesson is divided into a list of some primary landforms and a list of more landforms. Use as many of the terms as the children can understand)
2. Encourage discussion (using descriptive words) about favorite landforms, experiences the kids may have to share, questions about landforms, etc...
3. Divide into small groups. Each small group should have example pictures of land forms. Each group should decide which landforms are found in their home state and which landforms they will find elsewhere in the world.
4. Come back together as a group. Review the concept of maps and explain a state map.
5. With a few large maps of the state in which you live allow some time for the kids to explore the maps and become familiar with the key. Then have them match the pictures to the symbols on the maps. (Example: a picture of a river would be matched to a river on the map.)
6. Some features are not on road maps. Hills or valleys aren't usually illustrated. Have the children talk in small groups about the landforms that are near their homes, school, and in the community in which they live. Which ones are on the map? (Children who walk or bike will have a different sense of landforms than those who travel exclusively by auto or bus. This might make interesting discussion also.)
7. After the children are familiar with landforms and maps. Have them use the modeling clay to create examples of the landforms. This model can be based on a variety of themes; vacations, imaginary lands, making a map into a 3D model. A theme which includes a variety of landforms might be most interesting.
8. Hold a show in which the children have the opportunity to share their model and tell about the landforms they constructed.

TIME:**90-120 min**

Additional Activity

1. Write Vocabulary words on the board with pictures as each landform and body of water is introduced.
2. Have the children do the following actions to demonstrate the landforms:
 - MOUNTAIN – stand up high on your toes, reach hands up to form a peak
 - MOUNTAIN RANGE– several children connected in the same manner as MOUNTAIN
 - HILL – round your back as you stretch over and touch hands to the ground
 - PLATEAU – two children face each other, meet outstretched arms into flat-topped hill
 - PLAIN – move arms around yourself to cover a broad, flat expanse
 - RIVER VALLEY – two children sit facing each other, knees up, feet meeting to form v-shaped valley
 - ISLAND – one child stands in middle, several other children surround with hands connected to form body of water
 - OCEAN – make wave-like motions with arms all around body; whole class links hands and makes wave-like motions to define largest expanse of water
 - LAKE – several children link hands and form smaller body of water; children can move to form round or long lake shapes
 - RIVER – move hand and arm in flowing path; lay down and move whole body in flowing motion

Descriptive Words

- Tall, High
- Short, Low
- Under, Over
- Long
- Wide
- Narrow
- Deep, Shallow
- Colors- green, brown, gray, white...
- Round, Square, Triangle
- Pointed
- Flat
- V-shaped, U-shaped...
- Wavy
- Huge, Big, Immense
- Small, Tiny, Little

Recipes for Modeling Clay

Ultimate Paper Mache Clay Recipe

<http://www.ultimatepapermache.com/new-air-dry-clay-recipe>

First, mix together -

1/2 cup toilet paper (24 grams dry, 110 grams wet)

1/2 cup Joint Compound (200 grams)

1/2 cup Elmer's glue (130 grams)

1/2 cup corn starch (70 grams)

3 tablespoons mineral oil (or use linseed oil or any vegetable oil)

1/2 cup all-purpose flour (70 grams) to start

Then, add up to 3/4 cup (100 grams) all-purpose flour and mix.

No Bake Modeling Clay

<http://www.kinderart.com/kitchen/nobake.shtml>

3/4 cup flour

1/2 cup salt

1/2 cup cornstarch

Some warm water and a bowl to mix in.

Mix the flour, salt and cornstarch in bowl. Gently add warm water until the mixture becomes slightly hard. Knead the mixture and create small sculptures.

Once dry, you can paint your creations.

Modeling Clay

<http://www.wikihow.com/Make-Modelling-Clay-at-Home>

1 1/4 cup flour

1 1/4 cup salt

1 tablespoon cream of tartar

3/4 cup warm water

1 tablespoon cooking oil

Mix the ingredients. Put the flour, salt, and cream of tartar in a bowl. Use a spoon to mix the ingredients well.

Add a little warm water. Pour a bit of the warm water and start mixing the mixture with a spoon. It should start clumping together as you mix.

Continue pouring a small stream of water. Keep pouring the water in as you mix the mixture. Soon the ingredients will form a sticky dough.

Add the oil. When the mixture gets too tough to mix, add cooking oil to make it softer. Don't add too much, or it will affect the consistency of the dough and make it harder to mold.

If your clay is too watery, add a little more flour. Add it in very small measures and knead the dough a little. Repeat the process until you think your clay has the right consistency.

Refrigerate the clay, then start playing. Put it in the fridge without top for an hour. Store in an airtight container.

If desired- Bake Sculptures: Since the clay you made is basically a dough, it can be baked in the oven until it becomes very hard. Baking the sculptures you molded will preserve them for years.

Preheat the oven to 350°F (175°C). Place the sculptures on a baking sheet. Make sure none of them are touching or they might fuse.

Place the baking sheet in the oven. Bake for 20 minutes, or until the dough is hard. Remove the sculptures from the oven and let them cool completely.

Paint or use markers to color the landforms. You can seal with a coat of clear varnish once the paint has dried. This adds a shiny finish to your clay objects.

Tips-

If it is too watery, add more flour; if it's too dry, add more water. It's easy to adjust the consistency.

Make sure you don't add too much oil, it will cause the dough to be too soft and greasy.

This clay is completely non-toxic, thus it is an appropriate craft material for young children. (this statement is from WikiHow website)

Be sure to store the clay in an airtight container in the fridge.

Landform Vocabulary

Continent - one of the seven largest bodies of land on earth

Island - an are of land completely surrounded by water

Peninsula - piece of land that extends into a body of water and is surrounded on three sides by water

Ocean - largest body of salt water; these cover 3/4 of the earth's surface.

Lake - a large body of water surrounded by land

River - a large stream of water flowing through the land into a lake, ocean, or other body of water

More Vocabulary

Branch - (tributary) a river or stream that flows into a larger river or stream

Canyon - narrow valley with steep sides; usually created by erosion

Cliff - a high, steep slope of rock or soil

Coast - land along the sea or ocean

Desert - barren region usually sandy and without trees, little rainfall or practical use of land unless irrigated

Forest - a large tract of land covered with trees and underbrush; extensive wooded area

Fork - the place where a stream or tributary joins a river

Glacier - a large body of slow moving ice which alters the land around it through displacement

Gulf - part of a sea or ocean that reaches into land; usually larger than a bay

Hemisphere - half of the earth usually referred to as eastern or western; northern or southern

Hill - a raised part of the earth's surface with sloping sides; old mountain which because of erosion has become rounder and shorter

Equator - parallel lines running east and west

Mountain - high, rocky land, usually with steep sides and a pointed or rounded top, higher than a hill

Mountain range - a long chain of mountains; a row of connected mountains

Plain - a broad, flat or gently rolling area; usually low in elevation

Plateau - flat highland area with one steep face; elevated plain

Prairie - a large plains region with tall grass

Valley - low land between hills or mountains