



## **OH, WHAT A RELIEF!**

### **DESCRIPTION:**

Students will be constructing a flour and salt relief map of an area they have studied such as a state, country, or continent. This will be a culminating activity and students should already be familiar with the major land masses of the area they are mapping.

### **GRADE LEVEL:**

Upper primary through high school

### **LEARNING OUTCOMES:**

When my students finish this activity they will be able to:

1. Understand maps.
  - TEKS Alignment - 113.15. & 113.16.b.6.A-B - uses geographic tools to collect, analyze, and interpret data;
2. Distinguish between how a relief map is different from a flat map.
  - TEKS Alignment - 112.36.c.11.D - interpret Earth surface features using a variety of methods such as satellite imagery, aerial photography, and topographic and geologic maps using appropriate technologies;
1. How a relief map helps us to understand more about an area.
  - TEKS Alignment - 112.20.b.9.C - interpret topographic maps and satellite views to identify land and erosional features and predict how these features may be reshaped by weathering;
4. Why most map makers use the same colors for elevation.

### **FUNDAMENTAL THEMES:**

Location

Place

Region

### **RELATED LEARNING OPPORTUNITIES:**

Art

Language Arts

Science

Math

\*Excerpted from:

Texas Alliance for Geographic Education. *Young Geographers Alliance: Program Guide*. (San Marcos, Texas: Southwest Texas State University, 1991), 91-94.

**MATERIALS:**

PER STUDENT:

- 1c. flour
- 1 /2c salt
- 1 /2c water
- 8 1/2" x 11" cardboard or large (bottoms of soft drink cases work well)
- Outline map that fits cardboard
- Bowl or large plastic milk container, cut down
- Tongue depressor (optional)
- Toothpicks
- Strips of masking tape

PER TABLE:

- Recipe/Instructions
- Glue and tape
- Measuring cups and spoons
- Butcher paper

PER CLASS:

- Sample relief maps
- Physical map of area duplicating

**DIRECTIONS FOR MAKING DOUGH:**

Recipe

Metric	Standard
250ml flour	1 cup flour
125ml salt	1/2 cup salt
125ml water, approximately	1/2 cup water, approximately

1. With your hands or a tongue depressor, mix the flour and salt in your bowl. Add a little of the water at a time until the mixture resembles play dough. You may not use all the water. **DO NOT MAKE THE MIXTURE RUNNY!**
2. Place the dough on your map which has been glued to cardboard and form your relief map. Use the maps in the room to guide you in placing the major physical features. Press toothpicks into each area you are going to label.
3. Put your map in the drying area. It will dry in about one week.
4. Clean up.

## CLASSROOM PROCEDURES:

- I. Management:
  - a. This lesson will take three or more sessions.
  - b. There are three stages to the lesson: the forming stage, painting stage, and the labeling stage.
  - c. Organize class into groups. Obtain salt and flour ahead of time 10 pounds of each per class of 30. One or two groups measure and mix dough while others complete assignments. When finished mixing, they take dough to their desk and begin the map. New groups start mixing. Repeat until everyone is done. Circulate between those mixing and those working on the maps.
  - d. Plan a "free time menu" or additional activity that students will do when they are finished with their maps.
  - e. Try to arrange to do the maps in another room, preferably one with tables (i.e., cafeteria). Cover all tables with butcher paper to ease clean-up.
  - f. Students may work on an individual map or may do a group map.
  - g. Put a copy of directions to "On, What a Relief!" in a transparent envelope or ziploc baggie. Place one copy on each table.
  - h. Set up an area where the maps can dry.

**HINT:** The key to a successful relief map making lesson is to be well organized and have everything set up in advance.

- II. Procedure:
  - a. On the day before the-lesson, send home the Oh, What a Relief Note.
  - b. Assemble all materials and prepare work area. (see management)
  - c. Assign students to their group leader
  - d. Gather in the work area. Review student behavior expectations and what students are to do when their maps are completed.
  - e. The students will:
    - Forming Stage*
      1. Glue their maps onto the cardboard bases.
      2. Mix the flour and salt in their bowls with tongue depressors or their fingers. Add water to the mixture to form the dough.
      3. Put the dough on their map and form the major physical features of the region. Place toothpicks in the places to be labeled.
      4. Clean up their areas.
      5. Put their maps in the drying area.
    - Painting Stage*
      1. Paint their maps using an elevation color key.
      2. Clean up their areas.
      3. Put maps in the drying areas.

### *Labeling Stage*

1. Label the major physical features of their maps, major cities, and major landmarks. Write on the gummed labels or strip of masking tape and fold it in half around the toothpick.

#### **EVALUATION:**

Determine if the groups followed directions on their maps.

Is the map accurate in physical features etc.

#### **EXTENSIONS:**

1. Have students mix their own colors using only the primary colors. Match the standard map legend elevation colors.
1. Discuss the benefits of maps vs. oral directions.
2. Have students make relief maps of their faces. Paint the maps to match standard elevation colors.
3. Create a country from the face maps. Write a fictional report about their country. Include imports, exports, favorite pastimes, flag, major features, places of interest, etc.
4. Compare old and new maps of the same area. The political boundaries and names may change, but the geography will likely remain the same.

**RELIEF NOTE!**

Dear Parent,

We have been studying \_\_\_\_\_ in geography. Our final activity of the unit will be the making of relief maps. Please have your child measure 250ml (1 cup) flour and 125ml (1/2 cup) salt into two separate plastic baggies. Make sure each baggie is sealed and send them to school on \_\_\_\_\_ Thank you for your support.

Sincerely,

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