Arizona Regions: Salt Dough Maps
Create a 3D physical map of the regions of Arizona.

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Grade Level | 4-5
Duration | 2 class periods

National Geography Standards

ELEMENT TWO: Places and Regions
4. The physical and human characteristics of places.

Arizona Geography Strand

CONCEPT 1
World in Spatial Terms
GRADE 4
PO 3 Construct maps using symbols to represent human and physical features.
GRADE 5
PO 6 Construct maps, charts, and graphs to display geographic information.

CONCEPT 2
Places and Regions
GRADE 4
PO 4 Compare the landform regions of Arizona according to their physical features, plants, and animals.

Other Arizona Standards

Mathematics Common Core Standards
Number and Operations—Fractions
4.NF.3. Understand a fraction \( \frac{a}{b} \) with \( a > 1 \) as a sum of fractions
   c. Add and subtract mixed numbers with like denominators, e.g., by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction.

Number and Operations in Base Ten
5.NBT.7. Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.

Overview
Maps show location and direction. A map that shows the shape or relief of the land is called a topographic map. A topographic map can help students visualize their state.

Purpose
In this lesson, students will gain a better understanding of the 3 regions of Arizona, mountain, plateau, and desert, by using a 3 to 1 ratio to build a 3D map of Arizona.

Materials
- 3D relief map of Arizona (optional)
- Flour, salt, water

- Paper cups or containers
- Tablespoons (4)
- Popsicle sticks
- Physical map of Arizona and/or Arizona’s Topography and Rivers map and/or Landform Regions of Arizona map
- Tempera Paints: orange, brown, yellow
- Small brushes or cotton swabs
- Arizona Regions: Salt Dough Maps Rubric
- Arizona Regions: Salt Dough Maps Assessment
- Newspaper to cover desks
- Arizona Regions: Salt Dough Maps Answer Key
- Flour – Salt – Water: Salt Dough Recipe
Arizona Regions: Salt Dough Maps

Objectives
The student will be able to:

1. Identify the 3 regions of Arizona on a map.
2. Practice measuring fractional parts then adding and subtracting.

Procedures
Prior knowledge: Students should have knowledge of landforms.

1. Using a physical map of Arizona, elicit the three regions of Arizona. Allow students to feel the “bumps” of the map (if it is 3D) and ask what they represent. Note the map colors and information on the legend. If no 3D map is available, have students compare Arizona’s Landforms and Rivers map to the Landform Regions of Arizona map and discuss the similarities and differences.

2. Explain how to make the map. Students will mix their own salt dough and apply it to the map. They should identify the plateau, mountain, and desert regions. Allow it to dry and then paint it.

3. Each student needs a small cup or container. Using the tablespoon, put 3 tablespoons of salt to 1 tablespoon of flour. Mix well with the popsicle stick. Add water a little at a time depending on what landform is being made. Note that 3 out of the 4 Tablespoons (3/4) and (1/4) equal one whole mix (In the interest of time, teacher could demonstrate a class batch using a cup of flour to 3 cups of salt).

4. Do the mountains first. Add just enough water to moisten salt dough. Apply to the paper and form peaks.

5. For the plateau, add a little more water. The plateau region should be high in elevation but flat.

6. Add water to make the salt dough runny. The desert will simply be a film on the paper.

7. Allow map to dry overnight.

8. Paint the regions using brown for mountains, orange for plateau, and yellow for desert. Have students follow the rest of the instructions on the Flour – Salt – Water: Salt Dough Recipe sheet.

Assessment
Geography: The final project will be measured using the included rubric. A score of 3 or higher is considered mastery.

Mathematics: Solve the recipe math worksheet. Mastery is considered a score of 80% or higher on the questions.

Extensions
The Flour-Salt Recipe can be used for all kinds of maps.