

Molding Your Own Watershed



SAN DIEGO
COASTKEEPER



think **BLUE**
SAN DIEGO



OVERVIEW

Students learn about the parts of a watershed by creating their own 3D clay model.

SCIENCE QUESTION

What is a watershed and how does it work?

GRADE

2nd

TIME

25 minutes

STANDARDS

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

Objectives

At the end of the lesson, students will be able to:

- Define watershed
- Identify common landforms and water bodies in a watershed

Materials

- Modeling clay or homemade salt dough (recipe below)
- Blue marker
- Rolling pin

Salt Dough Recipe

2 cups all purpose flour

2 tablespoons vegetable oil

0.5 cup salt

2 tablespoons cream of tartar

1.5 cups water

- In a large bowl, mix the flour, salt, cream of tartar, and oil.
- Boil water. Once water has boiled, add slowly into flour mixture. Stir continuously until it combines to become a sticky dough.
- Allow the dough to cool down, then knead it vigorously for about 5 minutes of until dough is no longer sticky.
- If needed, add a tablespoon of flour at a time until dough is no longer sticky.
- When dough has reached desired texture, form into a ball. Cover or store in an airtight container until ready to use.

Instructions

1. View the complementary 2nd grade video lesson on San Diego Coastkeeper's website.

2. Gather materials and clear out a flat space for working. The activity can get messy, so working on top of a cutting board or tray is recommended.

- If needed, make the salt dough recipe.

3. Use your hands and the rolling pin to flatten the main ball of dough to about 1/2 inch thickness. The flattened area of dough will represent the land in your watershed.

4. Make your watershed into a rough oval shape by cutting away excess dough. Save the excess dough to create the watershed features.

5. Create the features of the watershed.

- Mountains: with extra clay, create 3-5 cone shapes to represent mountains. Add the mountains along one edge of the watershed. Mountains form the natural boundaries of a watershed.
- Using your blue marker, add rivers and creeks into your watershed by drawing curvy lines from the base of your mountains to the ocean. Creeks can be drawn as branches that connect to the main river.
- Ocean: Many of San Diego's watersheds drain into the ocean. On the side opposite your

mountains, lightly color in the edge to represent the place where your watershed drains to. Remember, not all watersheds drain to the ocean— some drain to a bay, lake, or river!

- Houses: Since everyone lives in a watershed, we should represent the places we live. Create squares with your extra clay and place them all over your watershed. These can represent houses, schools, supermarkets, etc.

5. If you like, you can add additional details to your watershed:

- Roads- draw black lines connecting cities/houses
- Hills- create mounds out of clay
- Valleys or canyons- use your fingers or the back of a pen to press indentations into the clay
- Forests- draw green triangles to represent trees
- Parks, nature reserves, or open space- draw green squares
- Lakes- draw a blue circle
- Wetlands- draw green ovals next to bodies of water (rivers, creeks, lakes, the ocean)

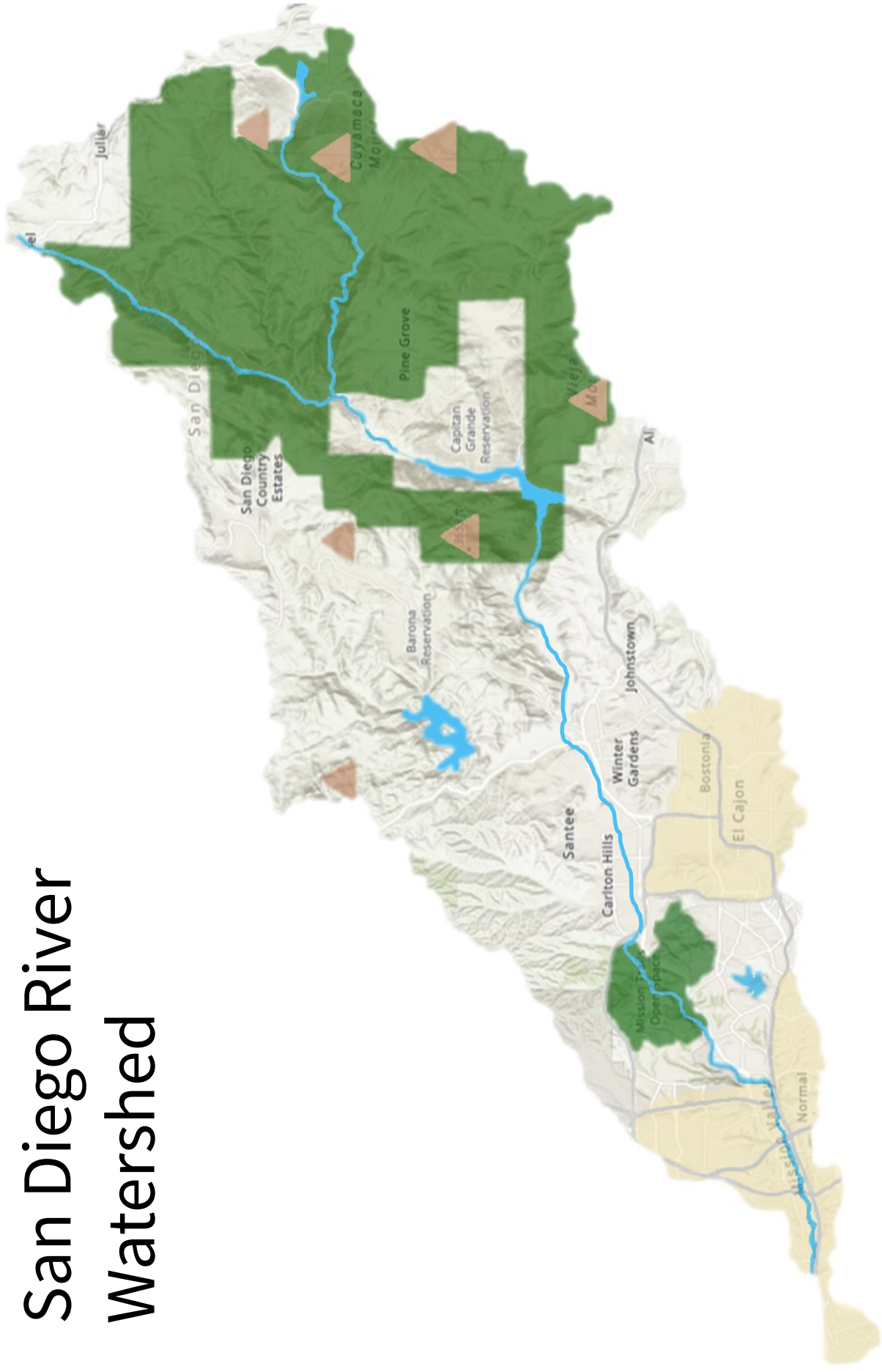
6. Optional Extension: This activity models a hypothetical example of a watershed. To extend the activity, you can try modeling the watershed you live in. The activity video walks through a sample model of the San Diego River Watershed. At the end of this document, we have included printable watershed templates and a list of key landmarks to model.

- Not sure which watershed you live in? Go to our interactive map at www.sdcoastkeeper.org/watersheds and search your home or school address.
- Print the page for your watershed map. Cut around the edges to get a template of your watershed.
- Note: If you live in the Pueblo San Diego, Sweetwater, or Otay watersheds, print the map for the San Diego Bay Watershed. These three are sometimes combined into the San Diego Bay Watershed they all drain to the bay.
- Continue following along with the “Molding Your Watershed” video activity for directions on what to do next!

7. Conclude the activity with the following guided questions:

- Why do we care about watersheds?
- Do you think it is easy to keep the rivers, creeks, or ocean clean when the land is dirty? Why or why not?

San Diego River Watershed



Peñasquitos Watershed



San Diego Bay Watershed

(From left to right: Pueblo San Diego, Sweetwater, and Otay Watersheds)

