

Water and the World: A View from Colorado
Gail Farrell

Lesson Title: *Mountains and Water Flow*

Grade Level: **K -2**

Time Frame: **30 – 40 minutes**

Standards Connection: Standard 3: Physical processes shaped the earth.
Benchmark G3A: Students know the . . . processes that shaped earth's surface.

National Geography Standards	State/District Geography Standards
Standard 7. The physical processes that shape the patterns of Earth's surface.	G3 Physical process shaped the earth's surfaces.
Standard 15: How physical systems affect human systems.	Benchmark G3A: Students know the physical processes that shaped earth's surface patterns.

Objectives: Students will

- Understand that water flows downward.
- Demonstrate the downward flow of water on mountain terrain.
- Draw and/or write about snowmelt from the mountains.

Essential Questions:

- How does water flow?
- Where does water come from?

Materials:

- Pictures of mountains
- Lunch size paper bag
- Brown and green construction paper (one each per student)
- Cotton balls (one per student)
- Glue bottles
- Blue markers

Teacher Background/Student Preparation:

This lesson could be taught as an introduction to the water cycle. It can also be used in first grade in combination with studies on the geography of Japan and how the island formations compare to mountains.

Assessment for this lesson can be informal observation of student understanding and demonstration of stated objectives.

Getting Started:

1. Show students the paper bag (with mountain pictures inside) and tell them you have pictures inside of something that begins with a letter that is after L and before letter N. Students will say the letter M and begin guessing things that begin with the /m/ sound. As the students begin to name things, give them hints such as: “the thing I am thinking of is bigger than our classroom.” “It is bigger than our whole school!” “It is bigger than our playground!” “What I am thinking of is bigger than the whole block in this neighborhood where our school is located!!” Eventually, and perhaps with more clues, the students will guess that the answer is a mountain.
2. Show the pictures of mountains from the bag and ask if students can name any mountains. If possible, have students look out of a nearby window or go outside to look for Pikes Peak and Cheyenne Mountain.

Activities:

1. Tell students that they are going to make their own mountains. Using a sheet of brown construction paper, model how to wad up the paper into a ball and then unfold the sheet to form a mountain shape. Glue this onto a flat piece of green construction paper. Then look at the creases in the paper with the students and ask what those creases might represent on a real mountain. Glue a cotton ball onto the top of the mountain and tell the students that this represents snow. Discuss with the students that the snow on the mountains will melt into water as the seasons change and the weather gets warmer. Have one or two students come and show with one finger where they think the water from the snow will go. Help the students understand that the water will flow downward along the creases forming rivers and streams.
2. Pass out student materials and have each student create their own mountains as modeled. Ask students to demonstrate with their fingers that the snowmelt will follow along the creases in the paper. Students can then use blue markers to draw the paths where the water flows

Closure: Ask students to talk about what they have learned with a partner and to trace the flow of water with their fingers on each other’s mountains. Let students display their mountains in the classroom and then take them home to show parents.

Assessment:

1. Assessment should include observation of student’s demonstration with their fingers and markers of the downward flow of water on their mountains.
2. Students can draw and write about what they have learned about snowmelt, mountains and downward water flow.

Extending the Lesson:

1. Students can add drawings of people, buildings, and trees and flowers to the base of their mountain project.
2. Students can compare mountain formations in the Pikes Peak region with volcanic formations of mountain in Japan.
3. Students can look at a topographical map with mountain ranges to compare with the mountains they have created.