Weathering Landforms

Summary
Students will create and color plaster landforms.

Main Core Tie
Science - 5th Grade
Standard 2 Objective 1

Additional Core Ties
Science - 5th Grade
Standard 2 Objective 3

Group Size
Individual

Materials
- Plaster of paris
- Water balloons
- Paper cups
- Colored markers or watercolor paints

Additional Resources
Books

Background for Teachers
There is a process called weathering that is constantly changing Earth’s surface. Chemical weathering, such as acid rain, eats away at certain types of rocks, creating cracks and holes. Physical weathering is usually caused by extreme hot and cold temperatures. Water seeps into cracks in rocks, freezes, and expands, causing further breakdown of rocks. Biological weathering is caused by plants and animals and also contributes to the breaking down of rocks and landforms. These weathering processes cause rocks and landforms to fragment, crack, and breakdown. Erosion carries away debris and soil.

Science language students should use:
earthquakes, erode, erosion, faults, uplift, volcanoes, weathering, buttes, arches, glaciers, geological, deposition

Intended Learning Outcomes
1. Use Science Process and Thinking Skills
3. Understand Science Concepts and Principles

Instructional Procedures
Invitation to Learn
Brainstorm all the ways the surface of Earth can change. Discuss weathering, erosion, wind, and the
effect that frozen water has on Earth’s surface.

Instructional Procedures
- Fill water balloons. (about 1 1/2” in diameter)
- Mix plaster of paris. (runny)
- Pour into cups. (small milk cartons work well)
- Quickly push balloon into plaster.
- Set aside to dry.
- When completely dry, peel off cup.
- Color plaster landforms with permanent markers, or paint with watercolors.
- See Family Connections.

Extensions
- Take students outside and look for evidence of weathering. Pay special attention to evidence of weathering in the sidewalks, blacktop, and in the form of a frost heave.
- Record discoveries in science journals.
- Pay special attention to students who need help smoothing the plaster during activity.
- Fill a plate with plaster of paris. Germinate seeds on the plaster to demonstrate biological weathering.

Family Connections
- Have students make predictions with families about what will happen to the plaster landform when placed overnight in freezer. Place in freezer and record the results the following day. Look for evidence of weathering around homes.

Assessment Plan
- Read science journals. Use Science Writing Rubric to evaluate student progress.
- Have classroom discussion of results. Students journal how they felt when they discovered their landforms were broken.

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