



Weathering

Wind and Water

by Paul Nance and

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5th Grade Science/Dance

Strand 5.1: CHARACTERISTICS AND INTERACTIONS OF EARTH'S SYSTEMS

Standard 5.1.3 Ask questions to plan and carry out investigations that provide evidence for the effects of weathering and the rate of erosion on the geosphere. Emphasize weathering and erosion by water, ice, wind, gravity, or vegetation.

Dance Standard 5.D.P.2:

Integrate still and moving shapes and floor and air pathways into dance sequences.

Standard 5.D.R.1:

Use basic dance terminology to describe patterns of movement that create a style or theme.

Objective:

In a 60-minute class 4th or 5th grade students will explore weathering by creating movement sequences exploring locomotor steps and shapes.

Experiment One: Water freezing in the cracks of rock

Melting snow in the spring will often run into the cracks and rocks. At night the water freezes, expands and breaks the rock open.

Materials: ½ cup of plaster, 5" balloon with water in it not bigger than 1" in dia. Small Dixie Cup, and Popsicle stick

Music: Intro-Karagiozis by Dimitris Liatsos



Science Activity: Freeze a cup of plaster with a small balloon filled with water in the middle of it. (The balloon will expand and break the plaster and possibly break through the cup.)

Dance Activity: Have students find a partner. Decide partner #1 and partner #2. Partner #1 makes a twisted shape that has big holes, use arms, legs and back. Partner #2 will flow under, over, and around partner #1's shape for 16 counts. On count 16, partner #2 will stop, freeze, and expand, and #1 will crack his/her shape. Hold still for 8 counts and switch jobs.



Experiment Two: Rocks in rivers tumbling

Running water will carry rocks down hill. As the rocks are tumbling, they will hit against each other. This can break them down or round them off so they are smooth.

Materials: One Gatorade bottle with lid, 15 small rocks that fit into the bottle, Water, 2-liter bottles cut so the top acts as a funnel, and Coffee filter. Three or four pieces of painter's plastic.

Music: Bon'yeu by Les Colocs.



Science Activity: Put different rocks into a small Gatorade container. Put water in the container and put the lid on. Shake the container. (Sediments will begin to form at the bottom.)

Dance Activity: Have students spread out and make a shape that has many sharp edges. Have them decide which type of rock they represent. Igneous and Metamorphic rocks will become round in the river. Sedimentary rocks will break apart easier and maybe end up in sediments.

Choose four students that will skip around with the painter's plastic. As the plastic comes around (water) your shapes will change and move to different places. When we stop we will see that the shapes that are on the bottom were sedimentary rocks; igneous and metamorphic are more round then before.



Experiment Three: Sand blowing in the wind

The sand in the wind hits against existing rock and breaks them down causing unique rock formations.

Materials: Wedding cup, Salt, and Colored chalk. Small pieces of painter's plastic or scarves.

Music: Story of My Life by the Piano Guys.



Science Activity: Put salt into a low cup. With a piece of colored chalk, stir the salt. (The salt will turn the color of the chalk.)

Dance Activity: Students will find a partner. Decide Partner #1 and #2. Give partner #2 scarves or plastic. Partner #1 makes a shape. Partner # 2 gallops, leaps, runs, around all the shapes (this is erosion) when the teacher says weathering, stop by a shape and gently dance around that person. Partner #1 slowly changes his/her shape.

