

# Cool Candy Weathering and Erosion

## Simple STEM Activities You Can Do at Home

<b>Purpose:</b>	The purpose of this activity is for students to investigate weathering and erosion using candy to model the breakdown and transport of rocky materials.
<b>Standard:</b>	<p><b>S3E1. Obtain, evaluate, and communicate information about the physical attributes of rocks and soils.</b></p> <p>c. Make observations of the local environment to construct an explanation of how water and/or wind have made changes to soil and/or rocks over time.</p> <p><b>S6E5. Obtain, evaluate, and communicate information to show how Earth's surface is formed.</b></p> <p>d. Ask questions to identify types of weathering, agents of erosion and transportation, and environments of deposition.</p>
<b>Materials:</b>	Disposable plate, cup of water, at least one kind colorful candy with a coating (Skittles, M&M's, gumballs, Spree, Gobstoppers all work well).
<b>Procedures:</b>	<ol style="list-style-type: none"> <li><b>Observe</b> the properties (features) of your candy rocks.</li> <li>Using your hands, scrape two candy rocks together to model the process of <b>mechanical weathering</b>.</li> <li>To model <b>chemical weathering</b>, use a dropper, sponge, or paper towel to drip repeated (4-5) squirts of vinegar (or water) on top of a piece of candy. Observe for evidence of weathering.</li> <li>To model <b>erosion</b>, place 5-6 pieces of candy around your plate (include different types if you can) and add water to cover the candy. Observe the movement (erosion) of tiny parts of your candy rock away from the rocks.</li> <li>Try modeling the action of wind and waves with another plate of candy.</li> </ol>
<b>Science Behind It:</b>	<p>Day after day, the rocks on the surface of the earth are worn down by water, ice, wind, and chemicals. The process of <b>weathering</b> breaks down rocks so that they can be carried away by agents of <b>erosion</b>. Weathering is either <b>mechanical</b>, in which rocks are broken down through an external force, or <b>chemical</b>, where rocks are broken down through a chemical reaction and change.</p> <p>As these rocks are broken down into smaller pieces, natural forces like eater, wind, ice, and gravity transport these smaller rocks and soil to other places. The movement of these earth materials is called <b>erosion</b>. Weathering and erosion occur constantly and they gradually cause mountain peaks to smooth, hills to flatten, and canyons to deepen. Every rock on the surface of the earth will be different tomorrow than it is today.</p> <p>Using candy to represent rocks, we can model the processes of weathering and erosion. Physical weathering can be modeled by scraping pieces of candy rocks against each other and observing the wear and tear on the surface of the rocks. Chemical weathering can be modeled by adding drops of vinegar to the surface of the candy rocks. Finally, erosion can be modeled by the dissolving and diffusion of the candy rocks when water is added to the bottom surface.</p>
<b>Questions to Ask:</b>	<ol style="list-style-type: none"> <li><b>Explain</b> what you think was realistic and unrealistic about this model.</li> <li>What are 1-2 ways you could change this experiment to make it make it a better model of how weathering and erosion occur on the earth?</li> </ol>