

Name: _____ BL SH WI PE SJ Date: _____

Weathering and Climate

Click on the Weathering and Climate link. All the processes that break down rocks are called weathering. There are 2 main types of weathering- mechanical and chemical.

Mechanical Weathering tears apart rocks by breaking them, or physically destroying them. This fractures, or pulls apart, rocks in big and small ways. Whole outcrops or cliffs can break off, or just tiny mineral grains. Cold and wet climates promote mechanical weathering.

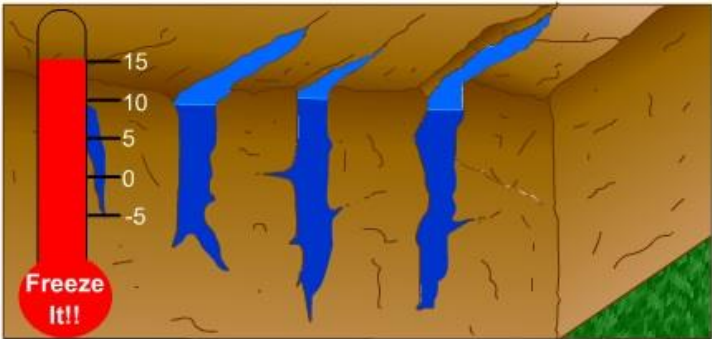
Chemical Weathering breaks down rocks atom by atom through chemical reactions. Water plays a BIG part here. Water carries the chemicals (like acid rain) which break down rocks. Hot and wet climates promote chemical weathering.

Hit the Next button.

Mechanical weathering breaks apart rocks by cracking and prying them, making smaller rocks with no change in their original makeup. This could include frost, heat expansion and contraction, crystal growth, and tree roots.

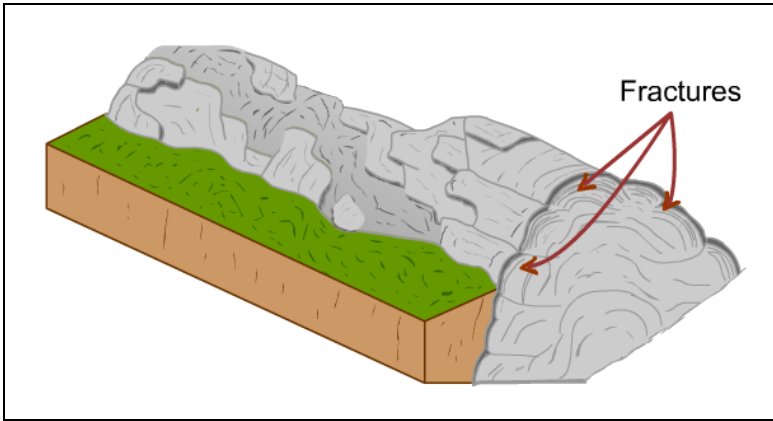
Hit the Next button.

Frost Wedging: when water freezes, it expands, or gets bigger. Freezing is one of the most effective processes of mechanical weathering.

 A diagram illustrating the process of frost wedging. On the left, a red thermometer shows a temperature scale from -5 to 15. A red circle at the bottom of the thermometer contains the text "Freeze It!!". To the right of the thermometer, a cross-section of a rock face is shown. Three vertical cracks are visible, each containing a blue wedge of ice. The ice wedges are shown expanding, pushing the rock fragments apart. The rock is brown, and there is a patch of green grass at the bottom right corner.	<p>Click the Freeze It!! button. Draw what the rock looks like after.</p>
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Hit the Next button.

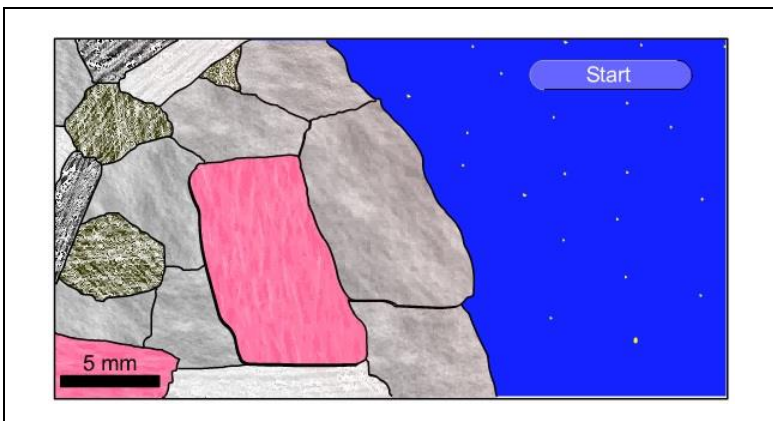
Exfoliation is when rock peels away in layers, or sheets. These sheets peel off rock faces, breaking loose and sliding down the rock face. This most often happens with igneous rock faces, like granite.



When the animation stops, draw what the rock looks like after.

Hit the Next button.

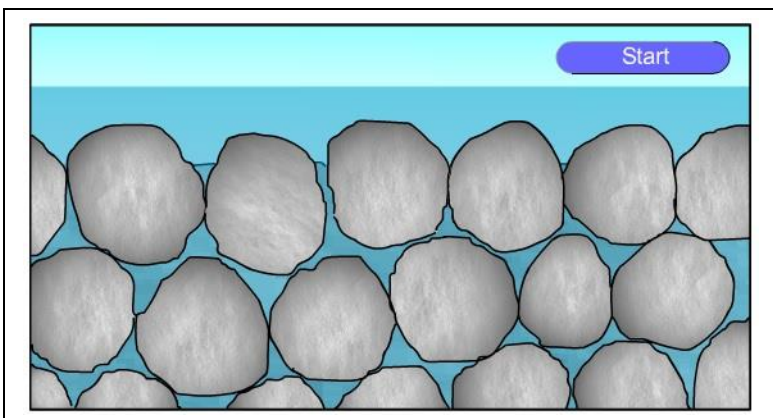
Thermal expansion is when rocks expand (enlarge) and contract (shrink) because of heating and cooling. This can happen in desert areas where the temperatures change from day to night. When the rocks heat and cook, the hot outer parts break off from the cooler inner layers. It could be very slow, breaking off only a few grains of sand at a time, making it a slow process.



When the animation stops, draw what the rock looks like after.

Hit the Next button.

Crystal Growth is when salt crystals grow in rock cracks or between grains of sand in sedimentary rocks. Usually this happens when salty water gets into cracks and later evaporates. This pushes the grains apart, causing them to break off. This might take place near salty ocean coastlines, but may also happen by putting too much salt on sidewalks and driveways.



When the animation stops, draw what the rock looks like after.

Hit the Next button.

Tree roots sometimes grow into the fine cracks in rocks. As the roots grow in size, they can break the rocks. This usually happens in warm areas where there are thick forests.



When the animation stops, draw what the rock looks like after.