



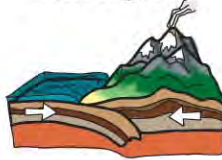
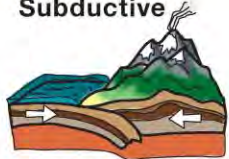


GEOLOGICAL PROCESSES

AND HOW THEY SHAPE OUR EARTH

There are many different types of geological processes; some slow, and some fast. They are constantly at work changing the face of our Earth, both destroying land, and creating new land.

<h3>EROSION</h3>	<h3>EXAMPLES</h3>		
<p>Erosion is the process of materials moving from their source to another location through weathering. There are several types of erosion, but the most common are erosion by wind, water, and ice.</p>	 <p>River Deltas: Water Erosion</p> <p>Rivers carry sediment from farther upstream, and it is deposited at the ocean.</p>	 <p>Glacial Valleys: Ice Erosion</p> <p>Glaciers move materials from the mountains downslope as they move.</p>	 <p>Sand Dunes: Wind Erosion</p> <p>Wind moves the sand to new locations, building new dunes.</p>
<h3>WEATHERING</h3>	<h3>EXAMPLES</h3>		
<p>Weathering is the breaking down of rock, soil, and minerals. The main types are physical (including freezing, abrasion, and thermal stress) and chemical (including dissolution, oxidation, and carbonation)</p>	<p>Example of Physical Weathering: Abrasion</p>  <p>Abrasion weathering can be caused by wind or water carrying particulate matter, and as it passes rocks or other materials, the material is worn down.</p>	<p>Example of Chemical Weathering: Oxidation</p>  <p>Oxidation is caused by the reaction of materials with oxygen. The most popular example of this is rust, which is oxidized iron. This can be seen in iron-rich rocks.</p>	
<h3>PLATE TECTONICS</h3>	<h3>EXAMPLES</h3>		
<p>Plate tectonics states that the Earth's crust is broken up into different "plates" that slowly move and interact with each other. Where these plates meet are often very geologically active. There are three types of plate boundaries.</p>	<p>Transform</p>  <p>Transform boundaries occur where two plates slide along each other. Powerful earthquakes are common along transform boundaries.</p>	<p>Convergent</p>  <p>Convergent boundaries can result in either subduction (shown above, volcanos are commonly found here) or collision (resulting in uplift).</p>	<p>Divergent</p>  <p>Divergent boundaries are the only constructive boundaries (resulting in newly created land). They occur where plates pull apart.</p>
<h3>VOLCANISM</h3>	<h3>EXAMPLES</h3>		
<p>Volcanism refers to the phenomenon of magma from the Earth's mantle coming to the surface through openings. Volcanos are most common along Divergent and Subductive plate boundaries, and hotspots.</p>	<p>Hotspots</p>  <p>Hotspot are places where magma comes up through the crust, and as the crust moves from continental drift, a string of volcanos or islands are formed.</p>	<p>Subductive</p>  <p>Subduction increases volcanism due to the crust being pushed into the mantle. Often the material will rise to the surface as a volcano.</p>	<p>Divergent</p>  <p>Divergent zones will often have magma coming to the surface due to the gap created by the plates pulling apart from each other.</p>

GEOLOGICAL PROCESSES REVIEW

HOW THEY SHAPE OUR EARTH!

On page two of this worksheet, you will answer questions based on the information you read on page one.

Circle the best answer.

1. Erosion is:

- A.** The process of moving materials from their source to another location through weathering.
- B.** The breaking down of rock soil and minerals.
- C.** Magma coming up from the Earth's mantle through openings in the crust.

2. Wind carrying abrasive materials blows against a rock formation, wearing it down over time. This is an example of:

- A.** Erosion
- B.** Weathering
- C.** Oxidation

3. In the Pacific Northwest in the United States, a small earthquake happens off the coast. This is caused by:

- A.** Volcanism
- B.** Weathering
- C.** Plate Tectonics

4. True or False? The Grand Canyon was probably formed through wind abrasion.

- True
- False

5. The San Andreas fault in California is where the North American plate and the Pacific plate rub against each other, north to south. This is an example of a:

- A.** Convergent Boundary
- B.** Transform Boundary
- C.** Volcanism

6. The Hawaiian island chain is volcanic in origin. As time passes, new islands are formed from erupting volcanoes as the Pacific plate slowly moves. What is causing the volcanoes?

- A.** Weathering
- B.** A Convergent Boundary
- C.** A Hotspot

7. Which one of the following is NOT one of the three types of plate boundaries?

- A.** Divergent
- B.** Hotspot
- C.** Convergent
- D.** Transform

8. True or False? Weathering is the breaking down of soil, rock, and minerals over time.

- True
- False