

Science Virtual Learning

7th Grade Science Geo-processes and Human Activity April 27, 2020



7th/Science Lesson: Geo-processes and Human Activity

Objective/Learning Target: I can identify how human activity impacts geologic processes.



Warm Up

Look at the pictures below. Write down on paper what you see and describe what you think could be the cause for what has happened.





Warm Up

The 3 pictures are all examples of geological changes that took place as a result of human activity. In today's lesson we will explore some of the changes that take place as a result of human activity. ROCK FALLS LANDSLIDES RIVER AND STREAM DAMS





Glaciers, Rivers and Streams.

Click on the link below. Read about 7 negative impacts that humans can have on rivers. Disregard the 2nd page, and instead create a 1-pager on what you have read and learned about the 7 negative impacts. Include pictures. How Do Humans Affect Rivers?

Watch the following video for an explanation on how scientists research the river pollution caused by humans.

Research on River Pollution



Mass Movement (landslides, rock falls) <mark>Watch</mark> the video below and <mark>write answers down</mark> to the following

question?

What Causes a Landslide?

- 1. When do landslides occur?
- 2. List 4 causes of landslides?
- 3. Which of the 4 causes is a result of human activity?
- 4. How can unstable ground be supported from becoming a landslide?



Mass Movement (landslides, rock falls)

- 1. When do landslides occur? When gravity overcomes the frictional forces that keep layers in place.
 - 2. List 4 causes of landslides? Heavy Rain, Deforestation, Earthquakes, Coastal Erosion
- 3. Which of the 4 causes is a result of human activity? **Deforestation**
 - 4. How can unstable ground be supported from becoming a landslide? By drilling long metal bolts into the bedrock.



Weathering and Erosion

<u>Weathering</u> is the breaking down of materials into smaller and smaller pieces. Water, ice, acids, salts, plants, animals, and changes in temperature are all agents of weathering.

<u>Erosion</u> is the movement of those pieces from one place to another by ice, water, wind or gravity.

Weathering and erosion happen naturally all the time. These forces created the Grand Canyon, changed the flow of rivers, cause landslides, break down rock statues and gravestones and create new land.

Weathering is a natural process, but human activities can speed it up.



For each picture, <mark>write</mark> on a piece of paper how human activity has increased the natural occurrence of weathering and erosion.

Click on each picture for a larger view or more information.















POSSIBLE ANSWERS- For each picture, write on a piece of paper how human activity has increased the natural occurrence of weathering and erosion.

Deforestation-Cutting down trees causes more rainfall to wash away good soil, less trees to absorb carbon dioxide, less tree roots to hold water in the soil Farming- Breaks up soil, soil is blown away, Hiking/camping- destruction of plant life, breaking up rocks, Building cities- cutting down trees, replacing soil and grass with concrete, moving soil from one place to another Acid Rain-factories and cars put pollutants in the air which creates acid rain that breaks down rock Mining- cutting down trees means more carbon dioxide in the air, stripping the land of plants causes winds to carry soil away



Soil Formation and Deposition

Soil is the top layer of Earth's surface where plants and some animals live. <mark>Watch</mark> this <u>video</u> on how soil is formed. While watching, <mark>write</mark> down the components of soil on your paper.

Once rocks are broken down into soil through weathering, soil then is moved by wind and water during erosion. Soil and rocks then pile up in a new area in a process called deposition. Deposition looks like this:











Soil Formation-ANSWERS

Fine particles of rock Decaying plants and animals Minerals Air Water



Resources

Quiz for Weathering, Erosion, and Deposition Quiz for Mass Movement