



# UNIT 3 Key

## Grade 6 Science EOG Quiz Answer Key

Geology - (S6E5.d.) Processes That Change Rocks, (S6E5.h.) Describe Soil, (S6E5.i.) Human Activity And Erosion

Student Name: \_\_\_\_\_

Date: \_\_\_\_\_

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Score: \_\_\_\_\_

1)



All mass movements on Earth, landslides, slumps, creep, and avalanches for example, are caused by what action force?

- A) **gravity**
- B) inertia
- C) friction
- D) centripetal force

**Explanation:**

**gravity** A force is a push or a pull. On Earth, the force of gravity pulls all objects, rocks, dirt, water, buildings, down towards Earth's center. Friction would slow the movement; greater inertia would require greater force to move or stop an object.

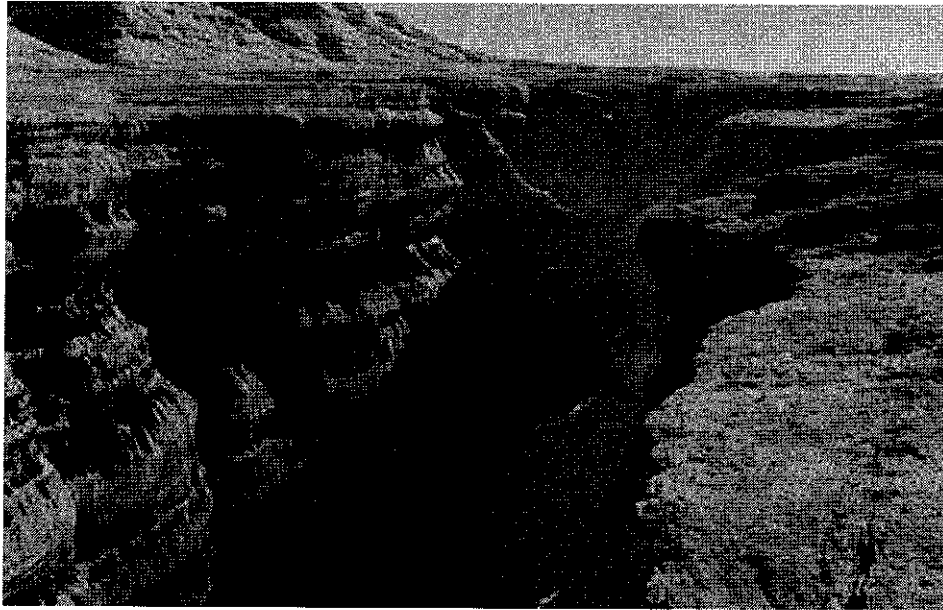
2) Virginia's Blue Ridge Mountains were once among the tallest in the world, similar in altitude to the Himalayas of today. This would still be the case if not for the process of

- A) **erosion.**
- B) folding.
- C) volcanism.
- D) metamorphism.

**Explanation:**

The process of **erosion** gradually wore down the Blue Ridge Mountains to their current size.

3)



It took thousands of years to form this canyon. What MOST LIKELY caused the formation of the canyon?

- A) a volcano
- B) an earthquake
- C) **a rushing river**
- D) a tectonic shift

**Explanation:**

The canyon was formed by **a rushing river** that flowed through a mountain for thousands of years. The weathering of the mountain eventually formed the canyon, which will continue to form as long as the river is present.

4) Weathering is a process that helps make soil. All but one statement describes how rocks may be *weathered*. That is:

- A) Water fills tiny spaces inside a rock.
- B) **Rock pieces are moved from place to place.**
- C) Strong winds can blow small grains from the surface of rocks.
- D) Living things, like moss and lichens, chemically break down rocks.

**Explanation:**

Rocks change because of the effects of natural forces like wind, water, as well as moss and lichens. This process takes place over a long period of time. Weathering does not include moving rocks. That is erosion. So the answer choice that does not describe weathering is **rock pieces are moved from place to place.**

5)



What has MOST LIKELY caused a change in the soil in the wheat field shown?

- A) crystallization
- B) erosion**
- C) sedimentation
- D) weathering

**Explanation:**

The soil in this wheat field was most likely damaged by **erosion**, which is the washing away of soil. Heavy rain can cause soil to erode.

6)



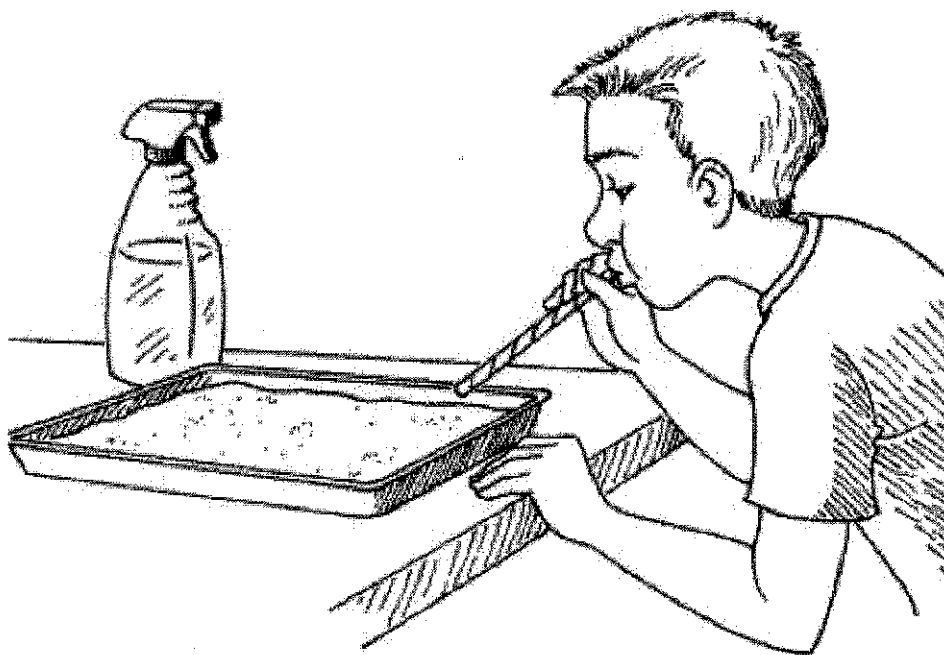
The limestone caves shown here were MOST LIKELY formed by

- A) earthquakes
- B) wind erosion
- C) small volcanoes
- D) **acidic groundwater**

**Explanation:**

Limestone caves are usually formed by **acidic groundwater** which dissolves the limestone, forming a cave.

7)



Sam blew out through a straw and directed his breath at a pan of sand.

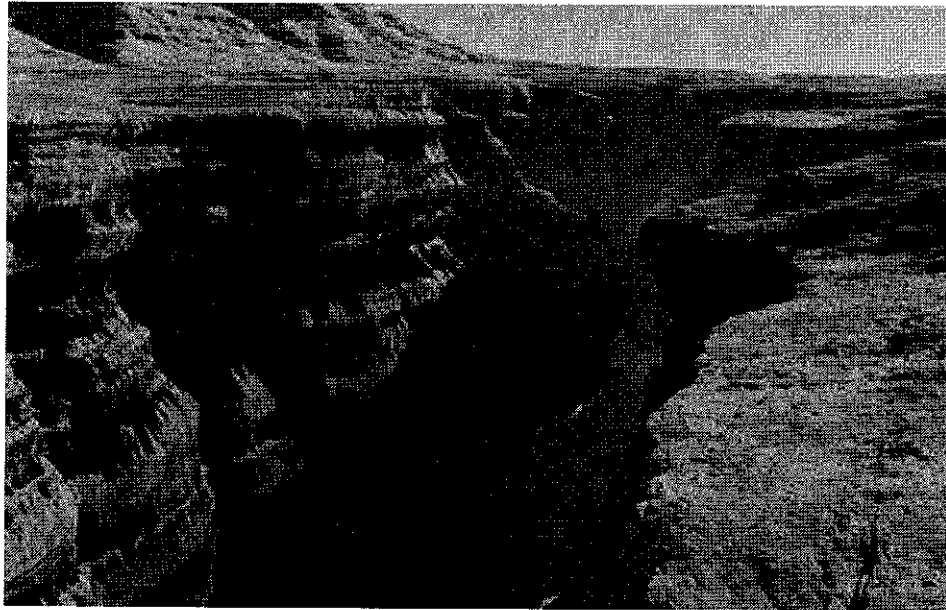
Sam is showing the rest of his class how the wind \_\_\_\_\_ the land.

- A) **erodes**
- B) weathers
- C) forms soil from
- D) deposits rocks on

**Explanation:**

Wind is the main cause of erosion on bare land, like deserts and unplanted farmland. It can move soil and sand and reshape landforms. When Sam blows air through the straw over sand, he is modeling **erosion**.

8)



Bobbie took this picture of the Grand Canyon. How was this canyon *most likely* formed?

- A) lava
- B) deposition
- C) wind erosion
- D) **water erosion**

**Explanation:**

Scientists believe that **water erosion** was the cause of the formations we see to day in the Grand Canyon.

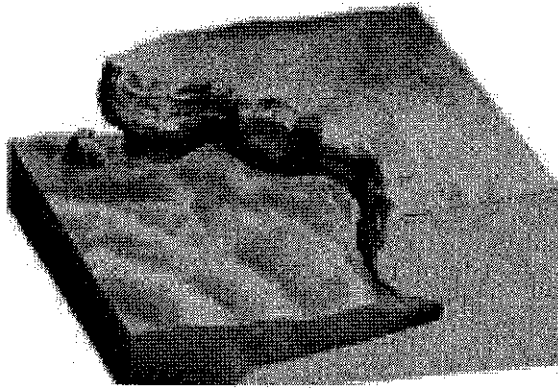
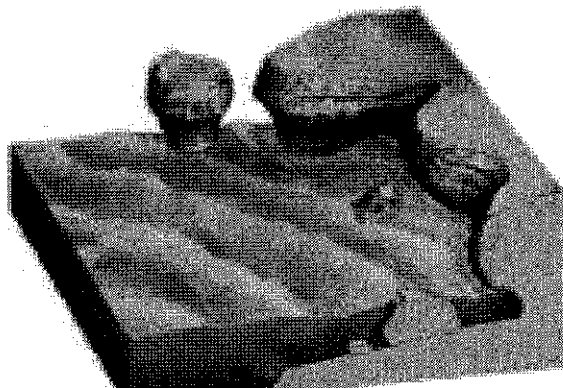
9) Oceans erode the land along the shore, forming tall cliffs and jagged coastlines. Which statement explains the type of weathering involved in this process?

- A) Seawater is acidic in nature and reacts with the rocks to form oxides.
- B) The salt in seawater reacts with the minerals in rocks, forming new minerals.
- C) **The abrasive nature of seawater causes the rocks to erode over a period of time.**
- D) Seawater deposits layers of salts on the rocks, forming tall cliffs over a period of time.

**Explanation:**

In physical erosion, the properties of the materials remain unchanged. **The abrasive nature of seawater causes the rocks to erode over a period of time** forming cliffs and jagged coastlines.

10)

**Picture A****Picture B**

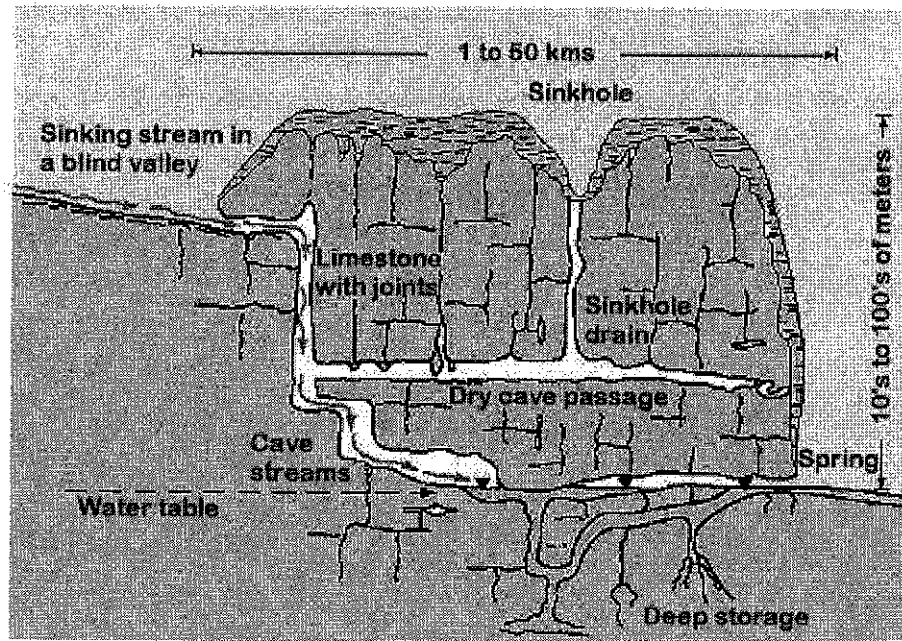
Scientists have tracked the changes in this land for many years. Picture A shows how the land looked to start with. Many years later, the land looked like Picture B. What MOST LIKELY caused the change in the land?

- A) a coastal glacier
- B) water cutting the rocks**
- C) wind blowing in circles
- D) earthquakes along the shore

**Explanation:**

Water is one of the most powerful causes of erosion. The change in the coastline is caused by **water cutting the rocks**.

11)



The formations seen here are a result of

- A) repeated flooding.
- B) alternate freezing and thawing.
- C) **acid rain dissolving soluble limestone bedrock.**
- D) sea water mixing with ground water to dissolve bedrock.

**Explanation:**

The formations or Karst topography are the result of **acid rain dissolving soluble limestone bedrock**. Rainwater can become slightly acidic by combining with carbon dioxide in the air. Other air pollutants can contribute to acid rain and speed the dissolving process. The acidic solution reacts with the calcium carbonate (limestone) and a replacement reaction occurs.

12) A huge, jagged rock sits atop a windy cliffside.

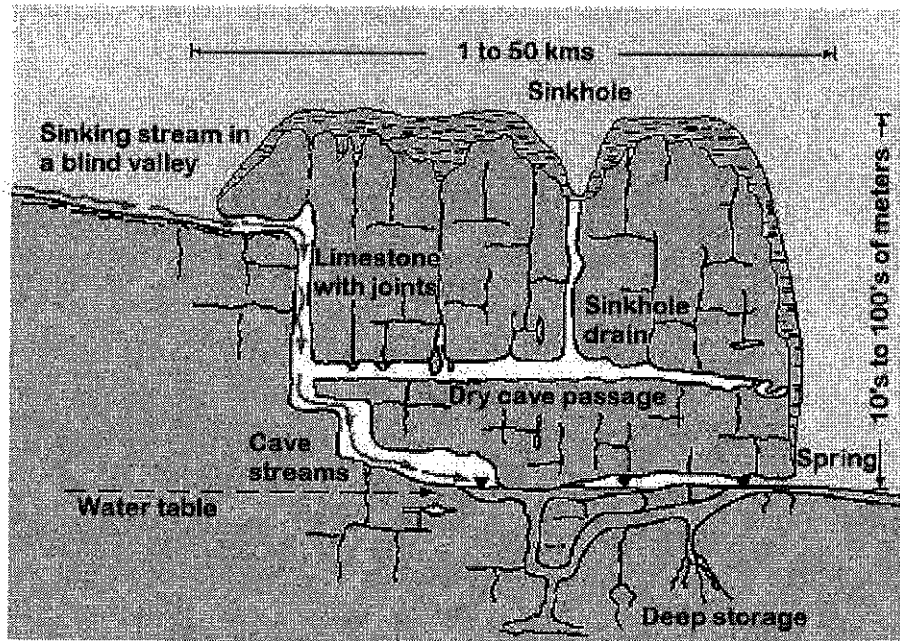
Over a period of many years, how will the rock MOST LIKELY change?

- A) It will become larger and smoother.
- B) **It will become smaller and smoother.**
- C) It will become bigger and less smooth.
- D) It will become smaller and less smooth.

**Explanation:**

**It will become smaller and smoother.** The wind will blow particles on the rock that smooth the surface over time.

13)



This land feature is formed when soil and rock move downward. It can occur naturally due to erosion. Acid rain or groundwater can cause limestone to change chemically. This features can also occur due to human activities such as pumping groundwater and mining. Usually, this downward movement occurs over a very long period of time, but sometimes it happens quickly. Not long ago, in Florida, a man sleeping in his bed disappeared into a hole that appeared in the ground and could not be rescued.

The land feature described above is a

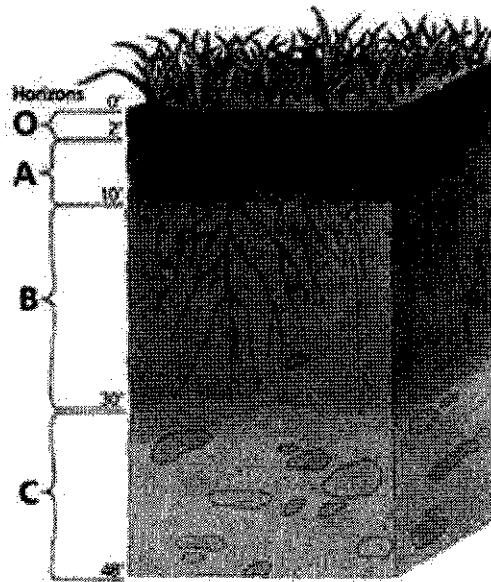
- A) cave,
- B) lake.
- C) **sinkhole.**
- D) valley.

**Explanation:**

The land feature described is a **sinkhole**.



14)



The top layer of the soil in the diagram is composed MAINLY of

- A) sand and clay.
- B) solid bedrock.
- C) many types of minerals.
- D) decaying organic material.**

**Explanation:**

The top layer of soil is composed of **decaying organic material** that is recycled into the ground by decomposers like bacteria.

15) The decayed organic material that gives soil its dark brown or black color is called

- A) clay.
- B) humus.**
- C) loam.
- D) silt.

**Explanation:**

**Humus** is the term used to describe the decayed organic material found in the top layer of soil. Leaves, dead animals, and other organic material form this rich, nutrient-filled material.

16) The most productive soils contain

- A) pesticides.
- B) fresh water.
- C) a large supply of producers.
- D) decomposers to recycle organic matter.**

**Explanation:**

The most productive soils contain **decomposers to recycle organic matter**. The recyclers help supply needed nutrients to plants and the organic matter also helps the soils hold water.

17)



This soil is made up equal parts of clay, sand, and silt. It is called

- A) clay.
- B) humus.
- C) **loam.**
- D) topsoil.

**Explanation:**

This soil is **loam**, which is made up of equal parts of clay, sand, and silt. Loam is an ideal type of soil for agriculture.

18)



Parts of the rock in the picture are breaking down and mixing into the soil. This process is referred to as

- A) eroding.
- B) **weathering.**
- C) fracturing.
- D) decomposing.

**Explanation:**

The breakdown of rocks from wind and rain is called **weathering**. Weathering affects rocks near the Earth's surface and pieces of these rocks mix with and become part of soil.

19) It is better to grow plants in soil than in sand because soil

- A) **has more nutrients.**
- B) retains less heat than sand.
- C) retains less water than sand.
- D) has larger spaces between particles.

**Explanation:**

Soil is better for growing plants because it **has more nutrients**. The difference between soil and sand is that soil has organic matter, as well as small mineral particles. That organic matter supplies nutrients to plants.

20) All but one of the following is an important component of soil.

- A) air
- B) water
- C) **fertilizer**
- D) mineral matter

**Explanation:**

Good soil has air, water, humus and mineral matter. However, it does not naturally contain **fertilizer**.

21) What could people do to DECREASE erosion of the Earth's surface?

- A) Cut down more trees.
- B) Use more land to plant crops.
- C) **Allow natural vegetation to grow.**
- D) Allow cattle to graze more often.

**Explanation:**

To decrease the erosion of the Earth's surface, people should **allow natural vegetation to grow**. Land used to grow crops experiences much more erosion than land with natural vegetation. Human interference with land frequently causes erosion.

22) In many areas of the United States the rate of soil erosion is greater than the rate of soil formation. If this is true, then soil should be considered a \_\_\_\_\_ resource.

- A) natural
- B) **non-renewable**
- C) recyclable
- D) renewable

**Explanation:**

In this case soil would be considered **non-renewable** because erosion is carrying the soil away quicker than it is being replaced.

23)



Clear-cut logging is a method of cutting down all the trees in a particular area. This type of logging is MOST LIKEY going to effect which earth process?

- A) **erosion**
- B) climate
- C) weathering
- D) mountain building

**Explanation:**

Clear-cut logging exposed a large amount of unprotected soil and will increase **erosion** in that area.

24) Which human activity increases beach erosion?

- A) storm waves
- B) planting vegetation
- C) swimming near the shore
- D) **building structures on sand dunes**

**Explanation:**

**Building structures on sand dunes** increases beach erosion. The use of heavy machinery on the beach, cleaning of river mouths, sand poaching, and removal of beach vegetation are also human activities that increase beach erosion.

25) A construction company is building a new neighborhood. Throughout the neighborhood there is exposed dirt. What will MOST LIKELY happen to the exposed dirt?

- A) It will start growing weeds.
- B) **It will be washed away by rain.**
- C) It will become contaminated by oil.
- D) Rocks will damage construction equipment.

**Explanation:**

The exposed dirt will most likely **be washed away by rain**. Without vegetation, the exposed dirt moves more freely.

26) What is the MAIN cause of increased erosion?

- A) strong winds
- B) flash floods
- C) **human activity**
- D) movement of glaciers

**Explanation:**

**Human activity** is the main cause of increased erosion. Whenever humans destroy the natural vegetation or alter the contour of the ground without providing some sort of surface protection, humans greatly increase the rate of erosion.

27)



A silt fence is shown in the picture. A silt fence operates by intercepting and filtering sediment-laden runoff. It allows the sediment in the water time to settle before the water flows into other areas.

The silt fence is also protecting against

- A) **erosion.**
- B) acid rain.
- C) radiation.
- D) weathering.

**Explanation:**

A silt fence helps prevent **erosion**. The fence shown in the picture is part of a river clean up and protection project.

28) There are several sources of land or soil degradation. All BUT \_\_\_\_\_ is a cause of soil or land degradation.

- A) overgrazing
- B) over farming
- C) water erosion
- D) **crop rotation**

**Explanation:**

**Crop rotation**, is the correct choice. The other choices all describe causes of land degradation, while crop rotation is a method used to conserve soil fertility.

29) Which scenario would probably NOT result in the loss of fertile farmland?

- A) Topsoil is eroded by incorrect irrigation practices.
- B) The soil is over-worked and becomes water-logged, reducing root aeration.
- C) **Crop rotation is practiced, with wheat, beans, and corn crops alternating.**
- D) The aquifer beneath them becomes depleted and excess salts build in the soil.

**Explanation:**

**Crop rotation is practiced, with wheat, beans, and corn crops alternating.** Crop rotation is recognized as a POSITIVE farming practice that allows the soil to re-condition and recover.

30) \_\_\_\_\_ DECREASES the erosion of agricultural lands.

- A) **Planting cover crops**
- B) Allowing the land lie fallow
- C) Alternating planting and grazing
- D) Plowing the land several months before planting

**Explanation:**

**Planting cover crops** decreases erosion by using continuous plant cover and the roots of the plants to help keep the soil in place.