

6.E.2.3-6.E.2.4 - Rock Cycle/Weathering/Soil

Name: _____

Date: _____

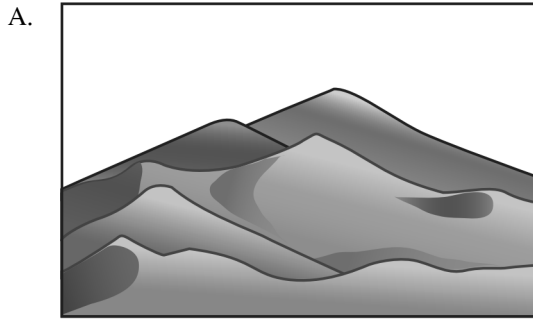
1. A lake is surrounded by hills covered with trees and shrubs. Which statement correctly describes how a change to the plants in this area will affect this environment?
 - A. Adding plants to the hillsides will increase sedimentation in the lake.
 - B. Adding plants to the edge of the lake will increase erosion by the lake.
 - C. Removing plants from the hillsides will increase erosion on the hills.
 - D. Removing plants from the edge of the lake will increase sedimentation on the hills.
2. Which of the following can cause erosion?
 - A. falling leaves
 - B. flowing water
 - C. growing grass
 - D. rising temperatures
3. How do plants *most* commonly break large rocks into smaller pieces?
 - A. Plant leaves insulate surrounding rocks from extreme temperatures.
 - B. Plant roots grow into cracks in rocks.
 - C. Seeds from plants fall onto rocks and release acidic compounds.
 - D. Stems of plants surround and squeeze rocks.
4. The freezing and thawing action of water affects a rock by
 - A. transforming the rock into igneous rock.
 - B. chemically changing the rock.
 - C. gradually breaking down the rock into smaller pieces.
 - D. leaving behind sedimentary particles from evaporated solutions.

5. The topsoil covering an area of land was washed away by rain. The land was *most likely*—
 - A. steep, without vegetation
 - B. steep, with vegetation
 - C. flat, without vegetation
 - D. flat, with vegetation
6. A rock is pushed deep underground in an area where mountain-building is occurring, and undergoes the following processes.
 - First, the rock experiences high pressure that causes its minerals to align themselves in bands.
 - Second, the rock is pushed further underground and completely melts, then erupts from a volcano and hardens.
 - Third, the rock is broken down by wind and water into small particles, which flow into a river and get compressed into rock.

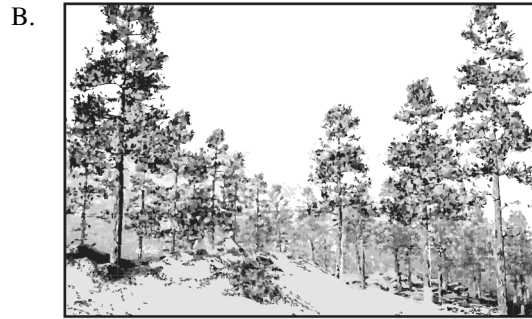
Which order correctly shows this progression of rock types?

- A. igneous → metamorphic → sedimentary
 - B. metamorphic → igneous → sedimentary
 - C. metamorphic → sedimentary → igneous
 - D. sedimentary → igneous → metamorphic
7. Which of the following is *most likely* to make a rock crack and crumble?
 - A. dew evaporating on the rock
 - B. leaves decaying on the rock
 - C. snow melting in a crack in the rock
 - D. water freezing in a crack in the rock

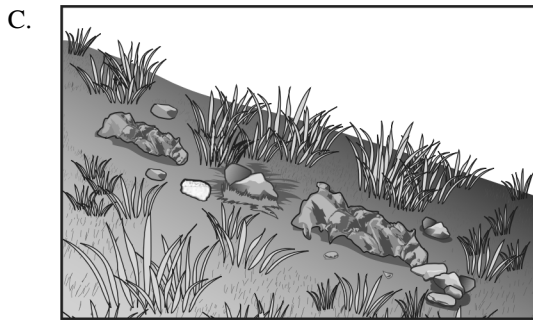
8. In which of the following locations is new soil likely to form at the *slowest* rate over time?



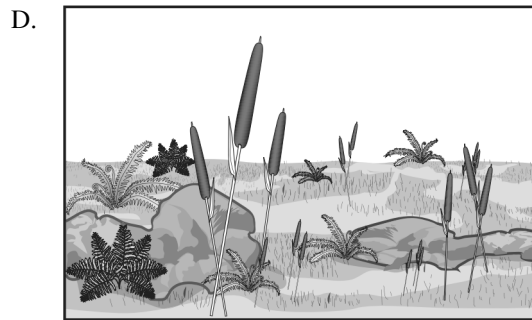
Desert



Forest



Hillside

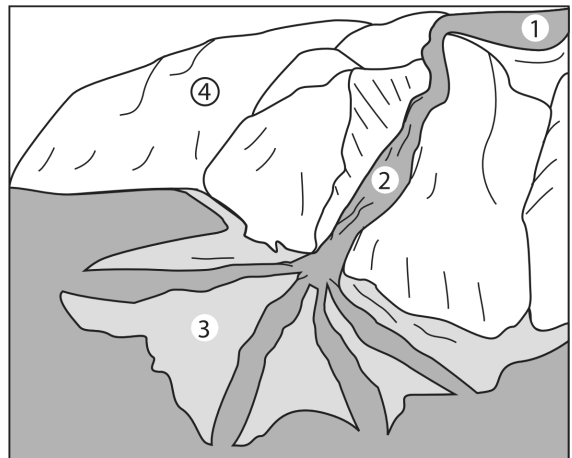


Marsh

9. Which of the following provides the *best* evidence that Earth has evolved over geologic time?

- A. coral reefs that slowly changed size
- B. desert sand dunes that were shaped by winds
- C. deposits of sediment found at the mouth of a river
- D. rock containing fossilized seashells found on a mountaintop

10. Erosion, transportation, and deposition change the surface of Earth.

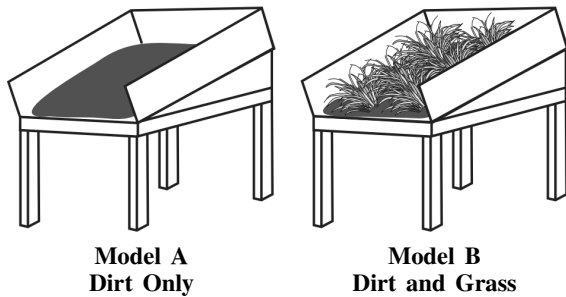


Which number in the diagram represents a landform made by the deposition of eroded sediment?

- A. 1
- B. 2
- C. 3
- D. 4

11. Which activity can cause the formation of mountains?
- A. weathering
 - B. tectonic plate collisions
 - C. earthquakes
 - D. water erosion

12. A science class built the models shown below to conduct a study.



Students poured the same amount of water over both models. They observed that most of the dirt emptied out of the container in Model A and that a small amount of dirt emptied out of the container in Model B. What were the students *most likely* studying?

- A. Volcanic eruptions
 - B. The rock cycle
 - C. Earthquakes
 - D. Erosion
13. Deep within Earth, rocks are crushed and melted. Which of the following *most likely* happens as this hot, melted rock comes to the surface of Earth?
- A. Mudslides
 - B. Earthquakes
 - C. Mountains form
 - D. Volcanoes erupt
14. How does lava affect the surface of Earth?
- A. Lava forms new land.
 - B. Lava helps plants grow.
 - C. Lava provides more food to animals.
 - D. Lava makes temperatures cooler on Earth.

15. Weathering of rock can occur in many ways. In the western United States, strong winds can erode huge rock formations by blowing millions of tiny grains of sand at these rocks. Which term accurately describes this type of weathering?

- A. Thermal
- B. Chemical
- C. Mechanical
- D. Meteorological

16. Which is an example of weathering?

- A. soil being carried downstream by fast-moving water
- B. rocks being formed by volcanoes
- C. rocks being broken apart by freezing water
- D. sand being moved by strong winds

17. Which process *best* explains how mountain ranges are worn down over time?

- A. asteroid impacts
- B. volcanic eruptions
- C. mechanical and chemical weathering
- D. continental drift and seafloor spreading

18. Soil in an empty field blows away during a strong wind.

Which activity slows the erosion of this field over time?

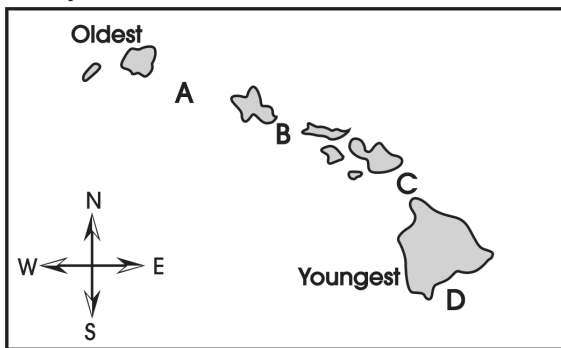
- A. watering the field
- B. plowing the field in rows
- C. planting grass in the field
- D. building an electric fence

19. Which kind of rock is produced by deposition and cementation?
- A. marble, a metamorphic rock
 - B. sandstone, a sedimentary rock
 - C. granite, an intrusive igneous rock
 - D. pumice, an extrusive igneous rock

20. *Chemical weathering* refers to processes that change the chemical composition of rocks, forming new minerals. *Physical weathering* refers to processes that break rocks down into smaller pieces without changing the chemical composition of the rocks. Which of the following processes is an example of chemical weathering?

- A. the widening of cracks in rocks by tree roots
- B. the rusting of iron-rich rocks
- C. the expansion and contraction of rocks as temperatures change
- D. the scouring of rocks by windblown sand

21. **Map of the Hawaiian Island Chain**



The Hawaiian Islands are riding on the Pacific Plate as it moves northwestward. They are being formed as the plate moves over a hot spot in the mantle.

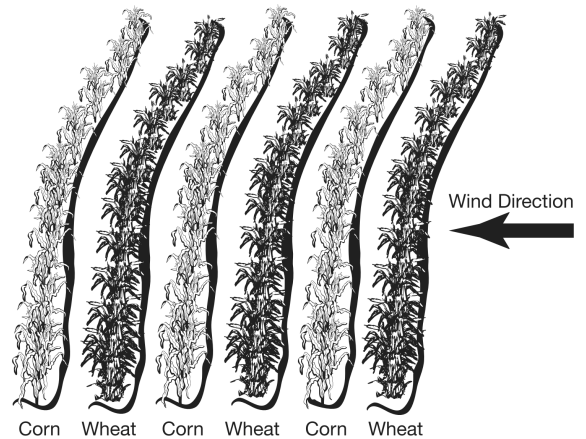
Where is the next volcano likely to form?

- A. A
- B. B
- C. C
- D. D

22. How does no-till farming help the environment?

- A. It decreases soil erosion.
- B. It increases soil removal.
- C. It increases fertilizer use.
- D. It decreases crop yield.

23. Strip cropping is a method of farming that plants two types of crops at the same time. The crops are planted in alternating sections across the slope of a field or at a right angle to the prevailing winds.



Why do farmers *most likely* use strip cropping?

- A. to provide shelter for animals
- B. to protect the soil from erosion
- C. to protect the crops from weeds
- D. to provide different types of food

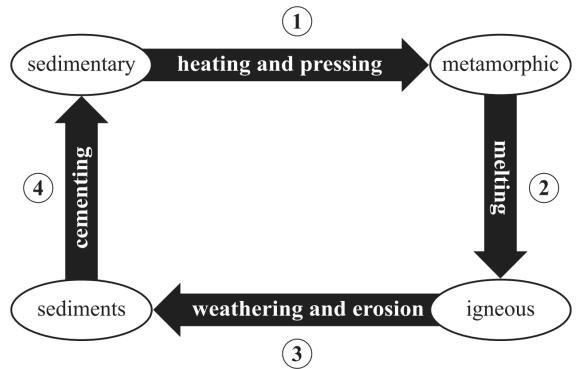
24. Sheila wants to improve the quality of the soil in her garden. The following table shows the two choices she is thinking about using and their effects on the soil.

| Methods to Improve Soil Quality | Effects of the Method |
|---------------------------------|--|
| Mix in grass clippings | Recycles nutrients and does not harm the environment |
| Put on fertilizer | Provides nutrients but can pollute the environment |

Which statement describes why Sheila would select mixing in grass clippings?

- A. This choice adds nutrients but will also destroy all the weeds in her garden.
- B. The nutrients added to the soil are stronger and work faster using this method.
- C. The soil loses nutrients over time, and this will help while not harming the environment.
- D. This is the only way to get rid of the grass clippings, and she can store fertilizer to use later.

25. The picture below shows a model of the rock cycle.



During which part of the rock cycle does water break rocks apart?

- A. part 1
- B. part 2
- C. part 3
- D. part 4