2023-2024 Gr4 Science Benchmark Unit 1

Question 1.
The _____ in the outermost layer of the Earth.

A. Crust

B. Mantle

C. Outer Core

D. Inner Core

Question 2.
Earth has four _____.

A. parts

B. layers

C. crusts

D. weathers

Question 3.
Earth's crust is made up of interlocking pieces called _____.

A. jigsaws

B. crusts

C. tectonic plates

D. pieces

Question 4.
What is the melted rock that sits inside the earth's surface?

A. magma

B. lava

C. fire

D. water

Question 5.
Rust is an example of _____.

A. physical weathering

B. chemical weathering

C. biological weathering

D. all of them

Question 6.
What type of erosion is shown in this photo?

A. wind erosion

B. ice erosion

C. water erosion

D. gravity erosion

Question 7.
Fossils are _____.

A. all the same age

B. found in the mantle

C. types of insects

D. the remains of living organisms

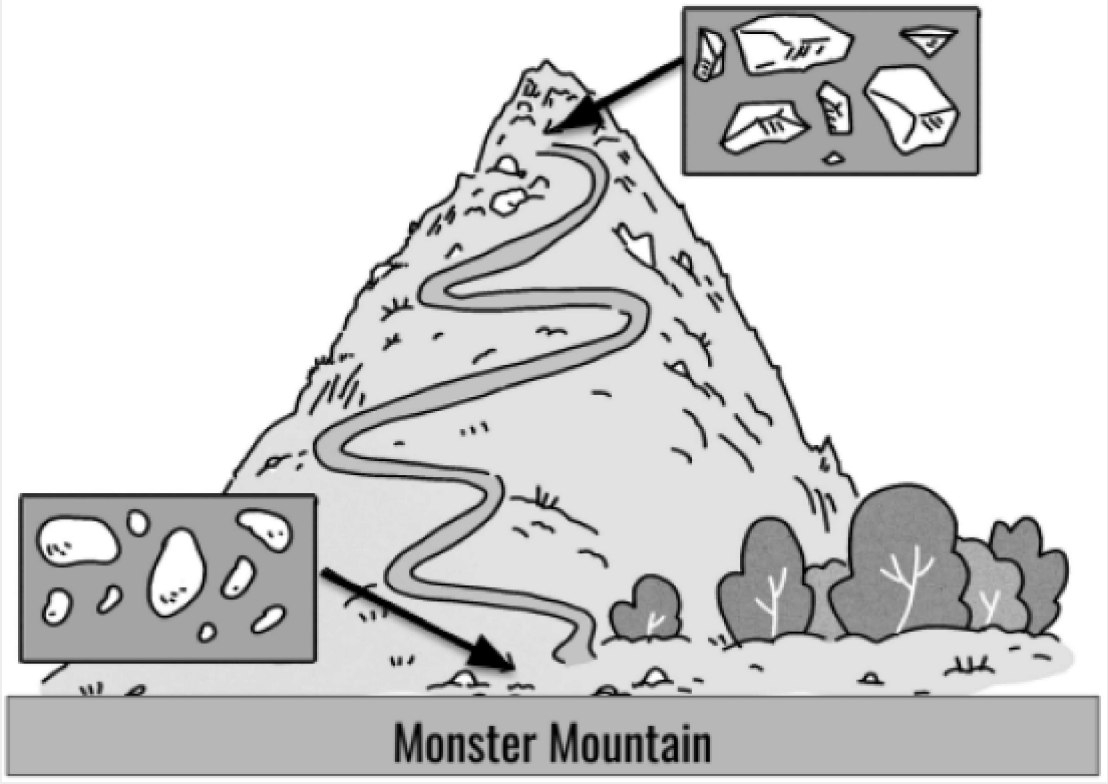
Question 8.
What information can we get from fossils? Check all that apply.

A. How an animal behaved.

B. What ancient environments were like.

C. How animals have changed over time.

D. What sound an animal made.


Monster Mountain

Question 9.

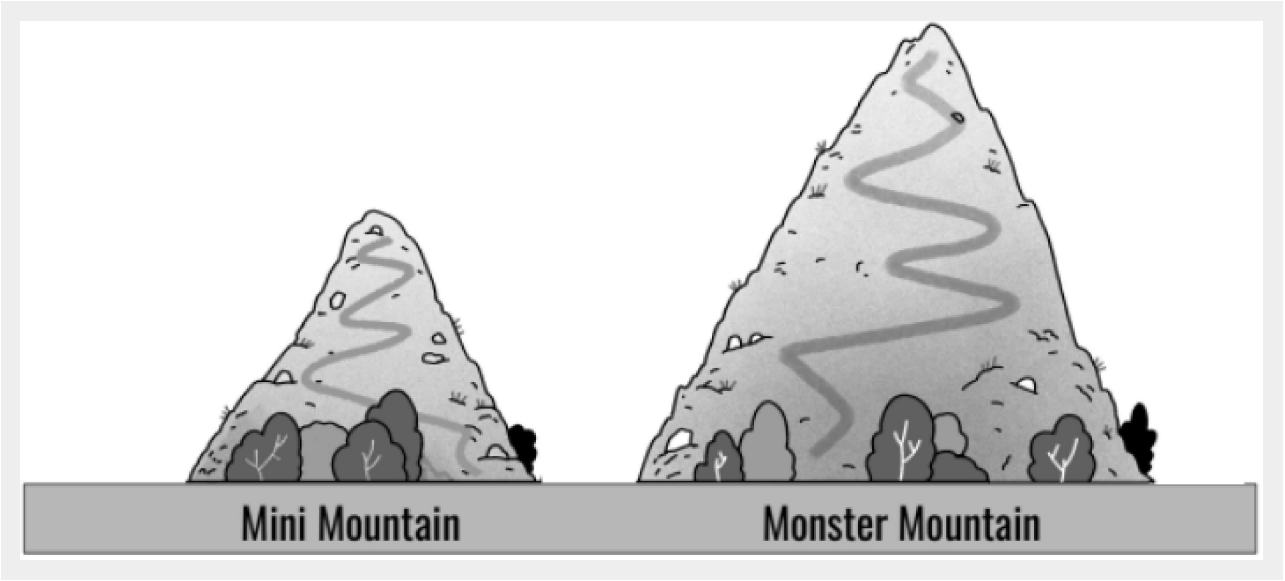
Alessandra recently learned that mountain rocks can break into smaller pieces (weathering) and can then be moved from one location to another by water, wind, or gravity (erosion). But she is curious if rocks continue to break down as they move from the top of mountains to the bottom. Alessandra takes photos of rocks at the top and at the bottom of Monster Mountain. Some of her photos are shown. What evidence do you see in Alessandra's photographs that the rocks have continued to break down as they moved from the top of Monster Mountain to the bottom of Monster Mountain? There may be more than 1 correct answer. Select all the correct answers.

A. The rocks at the bottom of the mountain have smoother edges compared to the rocks at the top of the mountain.

B. There are more trees at the bottom of the mountain compared to the top of the mountain.

C. There are more small rocks at the bottom of the mountain compared to the rocks at the top of the mountain.

D. The rocks at the bottom of the mountain are darker in color compared to the rocks at the top of the mountain.



Question 10.
In Alessandra's town there is another mountain called Mini Mountain. Mini Mountain is right next to Monster Mountain. What would **most likely** cause the rocks at the bottom of Mini Mountain to be less eroded than rocks at the bottom of Monster Mountain? Pick the best answer.

A. There are more rivers flowing down Monster Mountain compared to Mini Mountain.

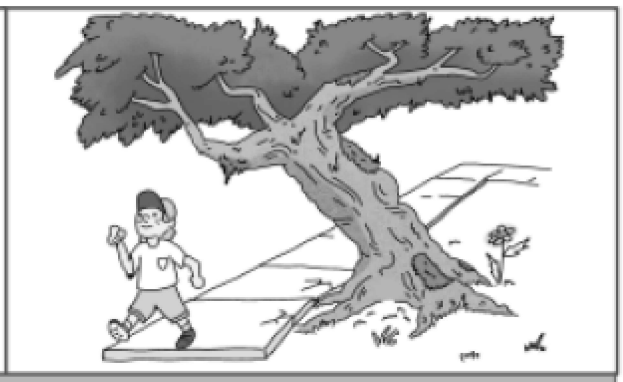
B. There is more distance for rocks to fall down Monster Mountain compared to Mini Mountain.

C. There is more wind blowing across Monster Mountain compared to Mini Mountain.

D. There are more trees on Monster Mountain compared to Mini Mountain.

New Jersey

Jayla lives in New Jersey. During the winter, snow and ice cover the ground. The sidewalks in Jayla's neighborhood have lots and lots of cracks.



Florida

Aiden lives in Florida. During the winter, it never snows. The sidewalks in Aiden's neighborhood have a few little cracks.

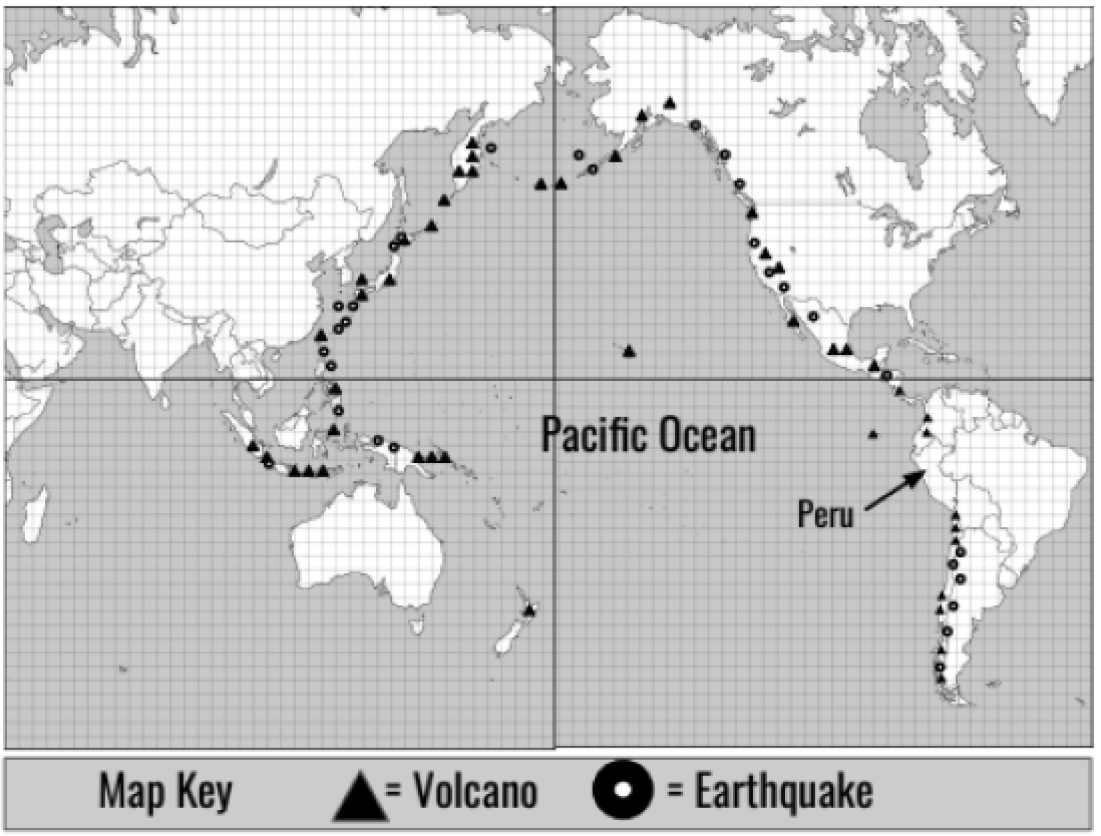
Question 11.
Aiden and Jayla recently learned that weathering (root wedging and ice wedging) breaks down rocks. They think that root wedging and ice wedging have caused the cracks in the sidewalks where they live. Why do sidewalks in New Jersey have so many more cracks than the sidewalks in Florida?

A. Only ice wedging is causing the sidewalk cracks in New Jersey. Both root wedging and ice wedging are causing the sidewalk cracks in Florida.

B. Only ice wedging is causing the sidewalk cracks in Florida. Both root wedging and ice wedging are causing the sidewalk cracks in New Jersey.

C. Only root wedging is causing the sidewalk cracks in New Jersey. Both root wedging and ice wedging are causing the sidewalk cracks in Florida.

D. Only root wedging is causing the sidewalk cracks in Florida. Both root wedging and ice wedging are causing the sidewalk cracks in New Jersey.



The map shows the location of active volcanoes and recent earthquakes. Use the information from this map to answer Questions #12 and #13.

Question 12.
Isabella lives in Peru. The arrow on the map shows where Peru is located. Do you think a volcano could pop up where Isabella lives?

A. No, I do not think a volcano could pop up where Isabella lives. The pattern of volcanoes on the map shows that it's not possible for a volcano to pop up in this location.

B. No, I do not think a volcano could pop up where Isabella lives. The map shows that there isn't a volcano where she lives so it could never happen.

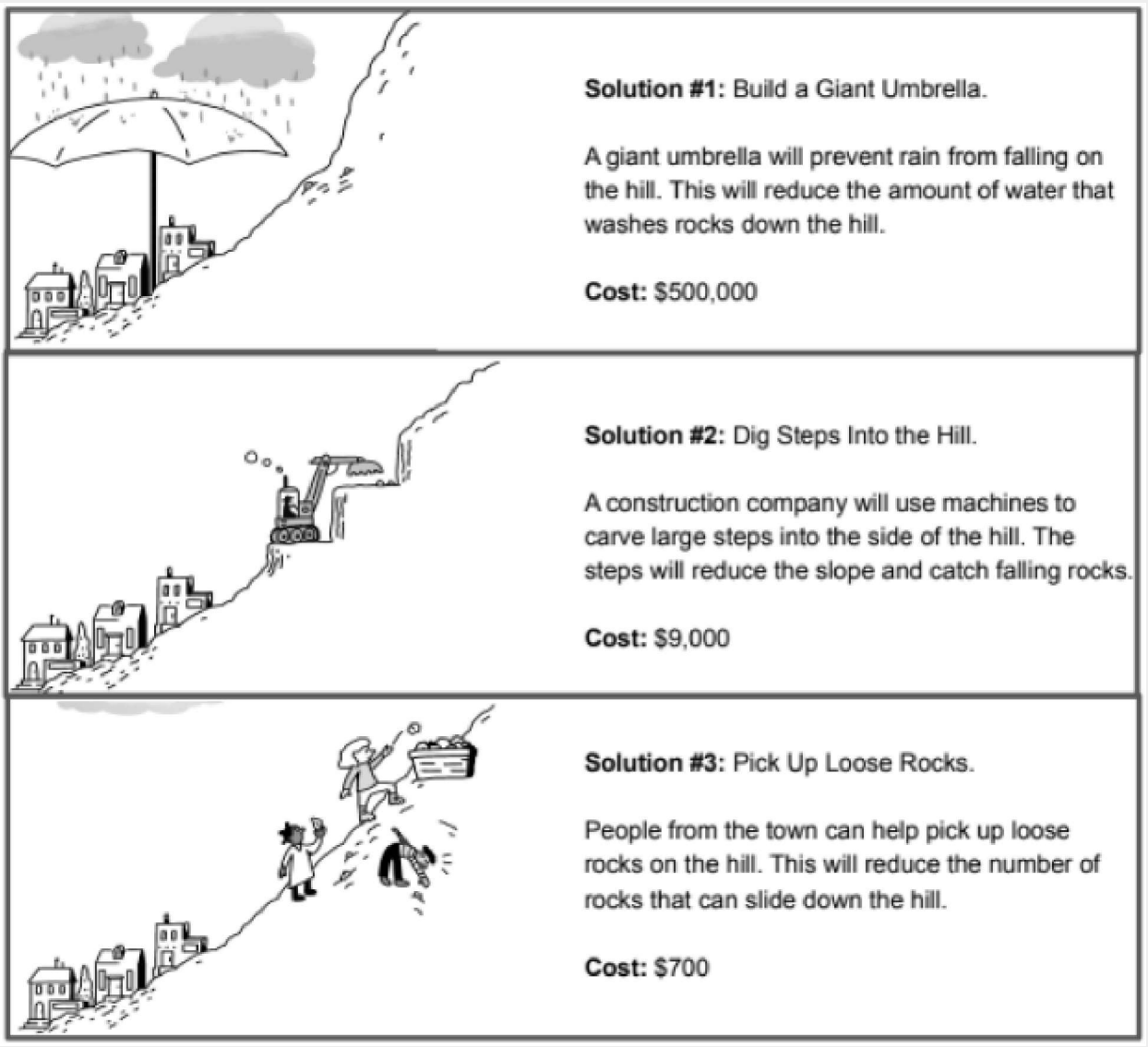
C. Yes, I think a volcano could pop up where Isabella lives. The pattern of volcanoes shows that it's possible for a volcano to pop up in this location.

D. Yes, I think a volcano could pop up where Isabella lives. The map shows that there is already a volcano where she lives.

Question 13.
What observations can you make from the map of volcanoes and earthquakes?
Select **True** or **False** for each sentence.

True	False	
☐	☐	Volcanoes form a pattern around the Pacific Ocean. The pattern is in the shape of a ring or horseshoe.
☐	☐	Earthquakes do not form any kind of pattern.
☐	☐	Volcanoes and earthquakes have similar patterns of where they are located.

Landslides can occur when there is a hill with a very steep slope that has lots of loose rocks that can slide down after it rains. Slide City experienced a landslide last year that destroyed several houses. The city wants to prevent future landslides from happening. The following three solutions were presented to the mayor of Slide City.



Solution #1: Build a Giant Umbrella.

A giant umbrella will prevent rain from falling on the hill. This will reduce the amount of water that washes rocks down the hill.

Cost: $500,000

Solution #2: Dig Steps Into the Hill.

A construction company will use machines to carve large steps into the side of the hill. The steps will reduce the slope and catch falling rocks.

Cost: $9,000

Solution #3: Pick Up Loose Rocks.

People from the town can help pick up loose rocks on the hill. This will reduce the number of rocks that can slide down the hill.

Cost: $700

Question 14.

Slide City has a budget of $10,000 to fix their landslide problem. Which solution would you choose? Why? Explain why your solution is the best option for Slide City.