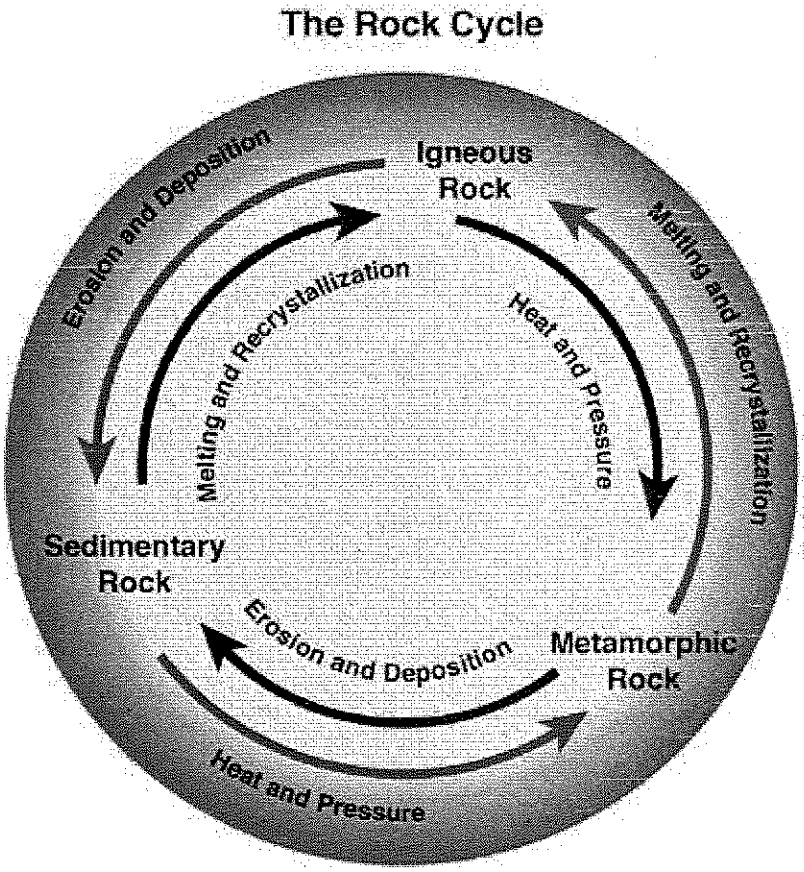
Directions: Answer the following question(s).

1 **Hector made the diagram below to show how igneous rock can change to metamorphic rock.**

What would be the BEST addition to the diagram?

A. The word "weathering" below the arrow.
B. The word "pressure" below the arrow.
C. The word "melting" below the arrow.
D. The word "cooling" below the arrow.

2 **Rock can change from one form to each of the other forms. The figure below shows how rock changes form in the rock cycle.**



Describe two ways in which igneous rocks can form.

Directions: Answer the following question(s).

3 **The formation of sedimentary rocks begins when existing rocks weather and form sediments. As a result of erosion and transport, these sediments are deposited on the ocean floor. They form layers and mix with bits of shell and the remains of other ocean organisms. Additional layers are deposited on top of older layers. Over time, the pressure from the ocean water and the new layers of sediment changes the buried layers of sediment into rock.**

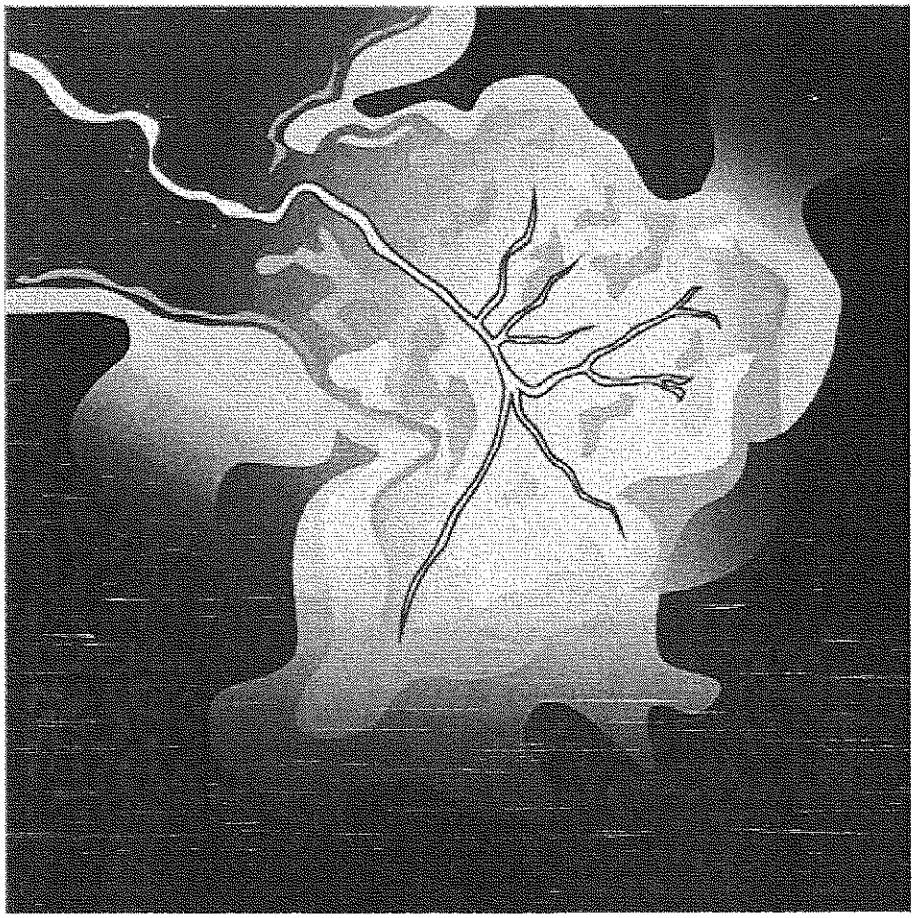
Streams also transport rock sediments to ponds. There, sediments mix with the remains of organisms on the pond bottom. Can sedimentary rock form in a pond? Explain your answer.

4 **Which type of rock can have fossils in it?**

A. melted rock
B. igneous rock
C. sedimentary rock
D. metamorphic rock

Directions: Answer the following question(s).

5 **The image below shows the area where the Mississippi River empties into the Gulf of Mexico and forms a bird's foot delta. Images such as these are used to monitor changes to areas on Earth.**



The bird's foot delta in this region changes over time. What forms this feature?

A. river sediments
B. underwater plants
C. salt from salt water
D. sand from the Gulf of Mexico

6 **In the Four Corners area of the southwestern United States, there are large rocky outcroppings of basalt. These were formed by ancient lava flows. Using this information, what class of rock is this?**

A. metamorphic
B. sedimentary
C. igneous
D. weathered

Directions: Answer the following question(s).

7 **Which of the following manufactured products can be produced using petroleum as a raw material?**

A. plastic soda bottles
B. aluminum cans
C. porcelain cups
D. copper pot

8 **A homeowner wants to use a renewable resource to heat the home. Which resource would be the BEST to use?**

A. coal
B. gas
C. oil
D. solar

9 **How does ice change the shape of rocks?**

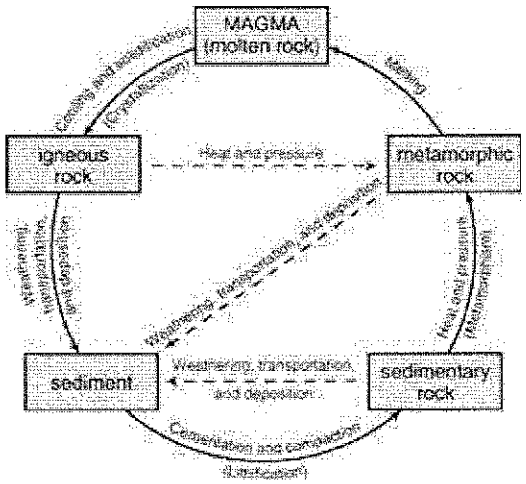
A. It dissolves the rocks by pooling on surfaces.
B. It breaks the rocks by expanding in openings.
C. It smooths the rocks by colliding with them.
D. It moves the rocks by pressing on them.

10 **Which of the following is a renewable resource?**

A. coal
B. minerals
C. petroleum
D. sunlight

Directions: Answer the following question(s).

11 **Use the diagram of the rock cycle to answer the question that follows.**



What has to occur to change igneous rock into sediment?

A. weathering, transportation, and deposition
B. heat and pressure
C. cooling and solidification
D. cementation and compaction

12 **Landforms are created through destructive forces such as weathering. Which of these is an example of physical weathering?**

A. acid rain
B. abrasion
C. hydrolysis
D. oxidation

13 **Which of these is the BEST example of physical weathering?**

A. insects eating a dead tree
B. a bulldozer pushing soil
C. ice fracturing a stone
D. acid rain dissolving limestone

14 **How are sedimentary rocks made?**

A. Magma or lava is cooled.
B. Materials are pressed together.
C. Chemical reactions change minerals.
D. Earthquakes cause small pieces to fall.

Directions: Answer the following question(s).

15 **This table gives the hardness rating of different minerals.**

Mohs Hardness Scale

Hardness	Mineral
1	Talc
2	Gypsum
3	Calcite
4	Fluorite
5	Apatite
6	Orthoclase
7	Quartz
8	Topaz
9	Corundum
10	Diamond

A student has samples of quartz and orthoclase. How can the student use this table to determine which mineral is quartz and which is orthoclase?

A. by dropping each mineral on a tile floor and measuring how far each rebounds
B. by cutting each mineral to see how many crystal faces are able to be produced
C. by rubbing the minerals together to see which mineral will scratch the other
D. by checking to see which mineral breaks first when a uniform force is applied

16 **Which of these actions will change a sedimentary rock, such as limestone, into a metamorphic rock, such as marble?**

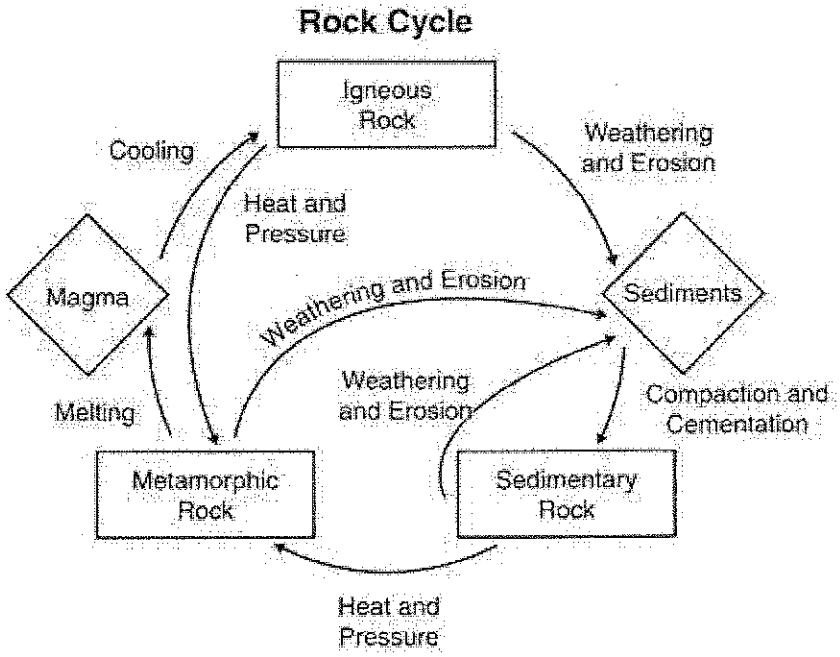
A. pressure from a glacier
B. heat from magma
C. erosion from flowing water
D. radiation from the Sun

17 **Shale is a common sedimentary rock. Which of these was required to form shale?**

A. evaporating
B. condensing
C. melting
D. compacting

Directions: Answer the following question(s).

18 **A diagram of the rock cycle is shown.**

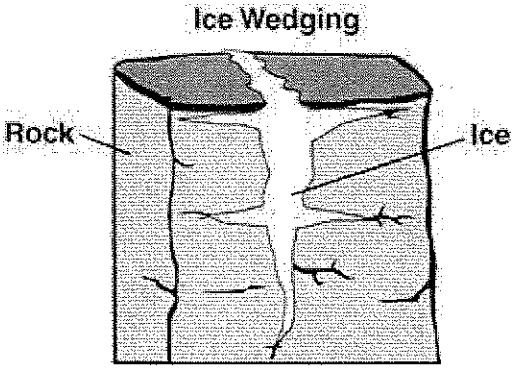


Which process accounts for the formation of horizontally layered rocks?

A. Compaction and Cementation
B. Weathering and Erosion
C. Melting
D. Cooling

Directions: Answer the following question(s).

19 **As shown in the diagram below, when water freezes in the cracks of rocks, ice wedging can occur.**



Ice wedging is BEST described as

A. a tectonic process.
B. a depositional process.
C. chemical weathering.
D. mechanical weathering.

20 **Today's limestone caverns were once solid rock. Acidic rainwater seeping through the rock over hundreds of years dissolved part of the rock, forming caverns. This is an example of**

A. erosion.
B. deposition.
C. physical weathering.
D. chemical weathering.

21 **Which land form results when carbonic acid in groundwater seeps through rock and dissolves limestone?**

A. valleys
B. ravines
C. caverns
D. mountains

22 **When forest trees are cleared from the land, and trees are not replanted, which of the following will MOST likely occur?**

A. soil erosion
B. sedimentation
C. lightning fires
D. increase in habitat

Directions: Answer the following question(s).

23 **Which is a nonrenewable resource?**

A. oil
B. trees
C. solar energy
D. food crops

24 **The freezing and expanding of water in the cracks of rocks is a form of**

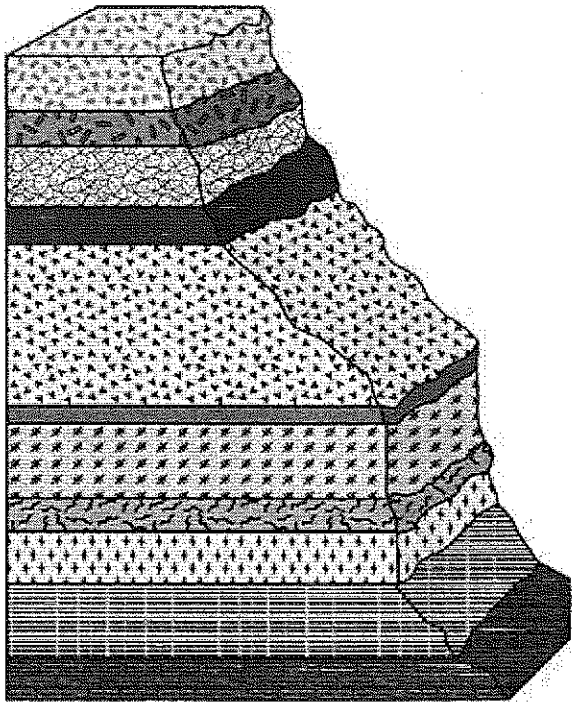
A. weathering.
B. deposition.
C. faulting.
D. erosion.

25 **Tree roots can grow into rock and break it apart. Water can freeze in the cracks of rock, causing it to break apart. How are these two processes alike?**

A. Both are forces.
B. Both affect weather.
C. Both form new kinds of rock.
D. Both are forms of weathering.

Directions: Answer the following question(s).

26 **This canyon wall has many layers of rock.**

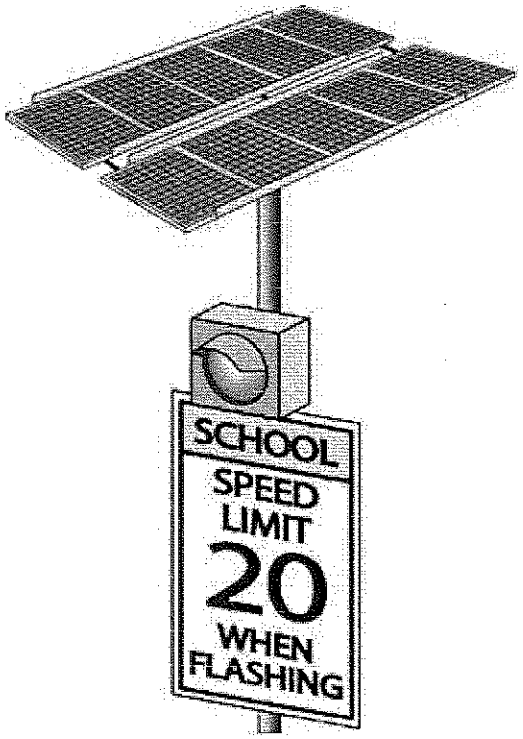


Which process MOST likely formed the rock layers exposed in this canyon wall?

A. deposition of sediment
B. erosion by water
C. weathering
D. mudslides

Directions: Answer the following question(s).

27 **A school zone has a traffic sign with a flashing light. There is a solar panel over the sign.**

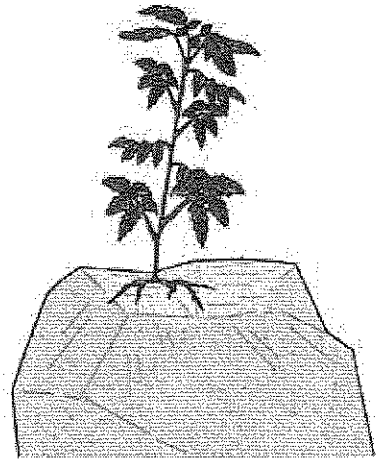


What is the function of the solar panel?

A. It provides shade for the sign.
B. It provides power for the light.
C. It determines the color of the light.
D. It brings the drivers' attention to the sign.

Directions: Answer the following question(s).

28 **Sarah saw a plant on a rocky hillside during a hike.**



Over time, how will the roots of the plant MOST likely affect the rock?

A. They will hold the rock in place.
B. They will protect the rock from the rain.
C. They will force the rock into the ground.
D. They will break the rock into smaller pieces.

29 **Which process is MOST directly related to constructing new land?**

A. erosion
B. polluting
C. deposition
D. weathering

30 **In the rock cycle, sedimentary rock forms when rock is**

A. crystallized into natural glass.
B. exposed to great temperature.
C. melted into liquid magma.
D. broken down by weathering.

Directions: Answer the following question(s).

31 **Students tested four of the minerals found on the Mohs hardness scale for streak.**

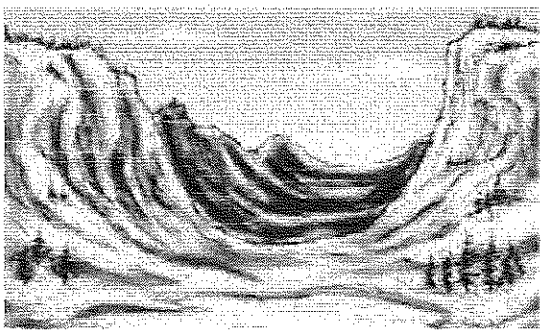
Mohs Hardness Scale

Mineral	Hardness
Diamond	10
Topaz	8
Quartz	7
Calcite	3

Which mineral will easily make a streak?

A. diamond
B. topaz
C. quartz
D. calcite

32 **The picture shows a U-shaped valley.**



The valley MOST likely was formed by

A. a glacier.
B. a volcano.
C. a landslide.
D. an earthquake.

33 **The roots of a plant can grow through cracks in a driveway, eventually causing the driveway to break. Which kind of process would be taking place?**

A. erosion
B. exfoliation
C. weathering
D. sedimentation

Directions: Answer the following question(s).

34 **Most sedimentary rock is made from sediments of other rock. Which of these processes would the sediments MOST likely go through to form sedimentary rock?**

A. compaction and cementation
B. folding and recrystallization
C. melting and solidifying
D. heating and pressure

35 **The sediments found in a riverbed are MOST likely a result of which action on nearby rock?**

A. heat
B. faulting
C. pressure
D. weathering

36 **Which process is included in the formation of both metamorphic and sedimentary rock?**

A. heating
B. recrystallization
C. compaction
D. weathering

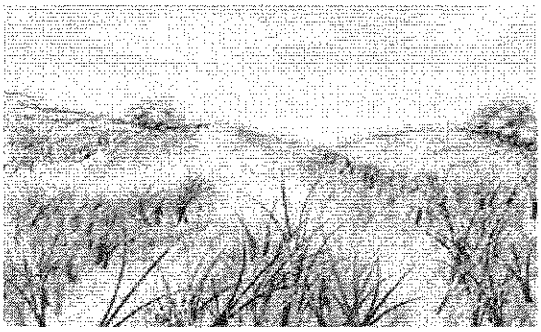
37 **Which of these BEST describes how the surface of a beach is formed?**

A. mechanical weathering
B. chemical weathering
C. mass movement
D. volcanic eruption

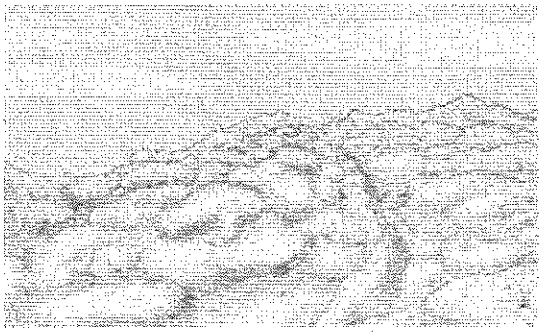
Directions: Answer the following question(s).

38 **Water, wind, ice, gravity, and waves are the primary agents of erosion that wear away at the surface of Earth. Which picture shows an area that would be MOST affected by erosion?**

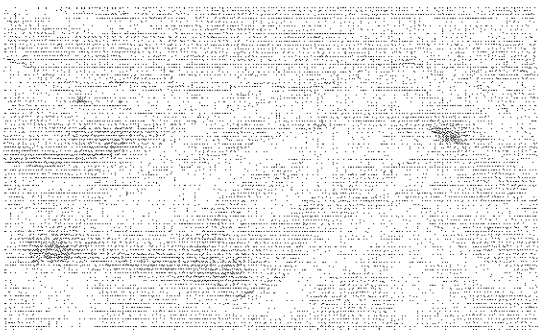
A.



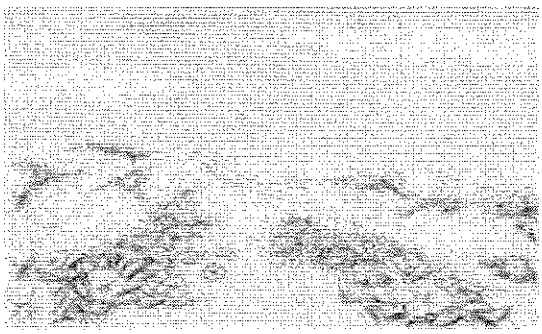
C.



B.



D.



39 **Which term BEST describes the process responsible for cave formation that results from rock being dissolved by groundwater?**

A. chemical weathering
B. glacial movement
C. sedimentation
D. abrasion

40 **Two processes are involved in the formation of a sand dune. Which two processes BEST describe how a sand dune forms?**

A. wind erosion then deposition
B. plate movement then deposition
C. wind erosion then water erosion
D. water erosion then plate movement