

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

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

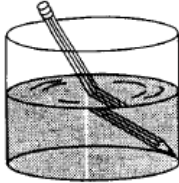
### 6<sup>th</sup> Grade Science MSL Practice

1. As ice cream melts, its molecules (6.P.2.1)

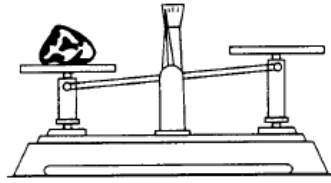
- A. absorb heat energy and move farther apart.
- B. absorb heat energy and move closer together.
- C. release heat energy and move farther apart.
- D. release heat energy and move closer together.

2. Which diagram best shows the property of **refraction**? (6.P.2.2)

A.



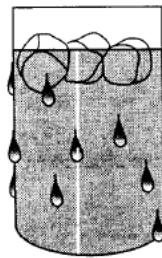
C.



B.



D.



3. Which of the following is **most likely** to make a rock crack and crumble? (6.E.2.3)

- 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

4. The pictures below show four different bells made of the same material.

Bell 1



Bell 2



Bell 3



Bell 4



Which of the bells should have the **lowest** pitch? (6.P.1.3)

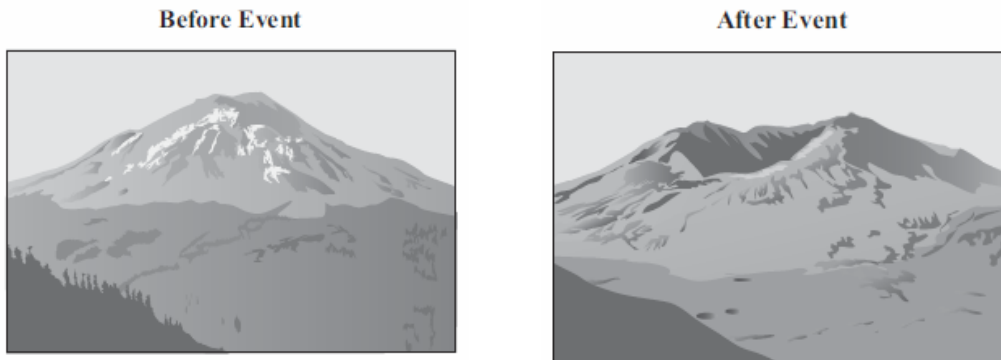
- A. bell 1
- B. bell 2
- C. bell 3
- D. bell 4

5. Which of the following events involves a consumer and producer in a food chain? (6.L.2.1)
- A. A cat eats a mouse.
  - B. A deer eats a leaf.
  - C. A hawk eats a mouse.
  - D. A snake eats a rat.
6. Which of the following **best** describes how plants use the energy they receive from sunlight? (6.L.1.2)
- A. They change water into heat.
  - B. They produce their own food.
  - C. They make minerals for their roots.
  - D. They break down nutrients into rocks.
7. Many bacteria are decomposer organisms. Which of the following statements **best** describes how these bacteria help make soil more fertile? (6.L.2.1)
- A. The bacteria break down water into food.
  - B. The bacteria change sunlight into minerals.
  - C. The bacteria combine with sand to form rocks.
  - D. The bacteria break down plant and animal matter.
8. A statue and a table are both made of the same type of marble. Which of the following properties will **most likely** be the same for both of these objects? (6.P.2.3)
- A. size
  - B. shape
  - C. weight
  - D. hardness
9. The picture below shows an incomplete electrical circuit.



- Which of the following objects can be connected to the ends of the two wires to make the circuit complete and light the bulb? (6.P.3.3)
- A. a battery
  - B. a switch
  - C. another bulb
  - D. another wire

10. The pictures below show the same area before and after an event occurred. (6.E.2.3)



Which of the following events **most likely** caused the change in this area?

- A. a flood
- B. a hurricane
- C. a volcanic eruption
- D. a strong earthquake

11. A piece of bread is stuck in the toaster pictured below.



Which of the following explains why it is unsafe to use a metal fork to remove the piece of bread from the toaster? (6.P.3.3)

- A. The fork will catch on fire.
- B. The fork will melt in the toaster.
- C. The fork will conduct electricity.
- D. The fork will damage the toaster.

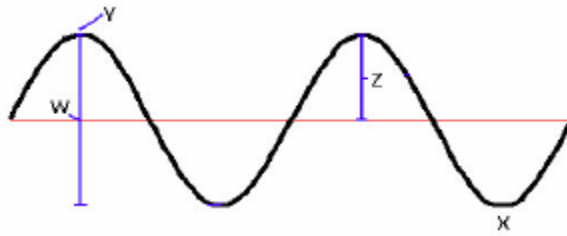
12. Which type of rock is formed when hot lava cools? (6.E.2.3)

- A. coal
- B. igneous
- C. limestone
- D. metamorphic

13. A \_\_\_\_\_ wave is an example of a longitudinal wave. (6.P.1.1)

- A. sound
- B. transverse
- C. light
- D. all of these

14. Which letter corresponds to the **trough** of the wave? (6.P.1.1)

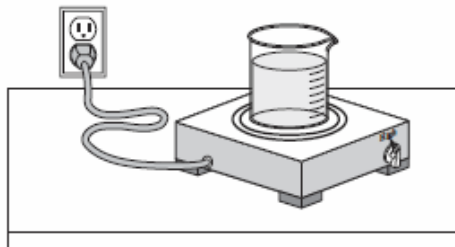


- A. Z
- B. W
- C. X
- D. Y

15. Energy from an earthquake travels (6.P.1.1 & 6.E.2.2)

- A. at the same speed through solids, liquids, and gases.
- B. fastest through the gases of Earth's atmosphere.
- C. as light waves that warm the rock underground.
- D. as seismic waves that cause matter to vibrate.

16. The picture below shows a beaker being heated on a hot plate.



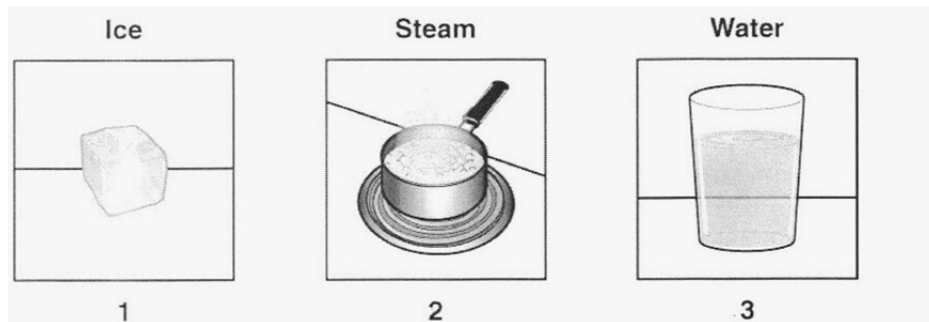
Which type of energy transfer occurs when a beaker of water is heated on a hot plate?  
(6.P.3.1)

- A. light to heat
- B. chemical to heat
- C. electrical to heat
- D. magnetic to heat

17. A roller coaster is climbing up the highest hill on its track. At which point will the front car of the coaster most likely have its greatest potential energy? (6.P.1.1)

- A. at the bottom of the highest hill
- B. at the top of the highest hill
- C. at the start of the track
- D. at the end of the track

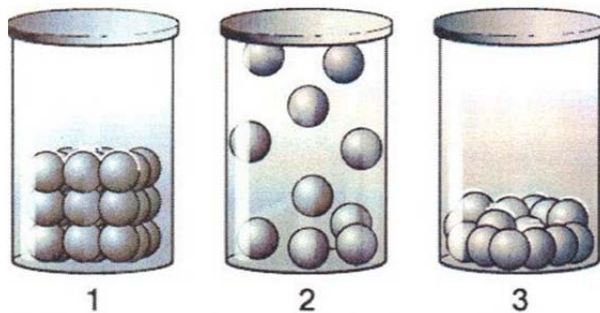
18. The distance between atoms is often affected by temperature. The diagrams show water at three different temperatures. (6.P.2.2)



Which order of the diagrams indicates **DECREASING** distance between atoms?

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

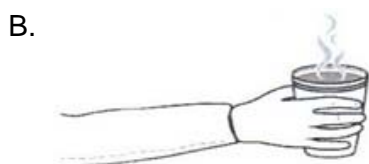
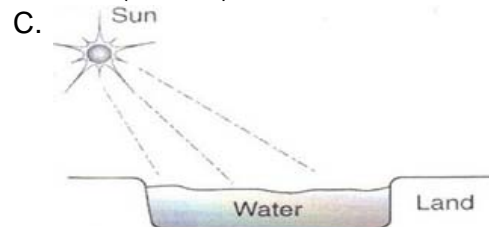
19. The diagram shows molecules of water in three different phases. (6.P.2.2)



What best represents the phases of water from 1 to 3?

- A. solid, gas, liquid
- B. gas, solid, liquid
- C. liquid, gas, solid
- D. gas, liquid, solid

20. Which picture shows the transfer of heat by conduction? (6.P.3.1)



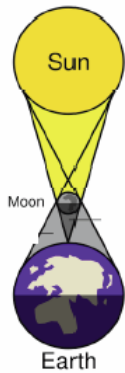
21. Tides are caused mainly by (6.E.1.1)

- A. Earth's rotation on its axis, which causes water to move.
- B. strong winds blowing water onto coasts.
- C. changes in gravity.
- D. differences in how much the moon pulls on different parts of the Earth.

22. Which statement explains why seasons occur in the Northern and Southern hemispheres? (6.E.1.1)

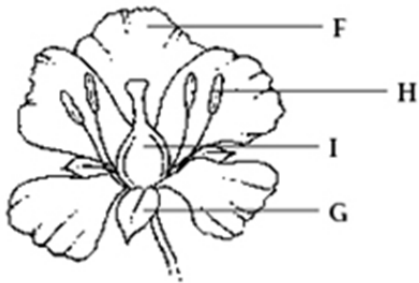
- A. The Earth is closer to the Sun in the summer.
- B. The Earth is closer to the Sun in the winter.
- C. The Earth is tilted on its axis and each hemisphere points toward the Sun in the summer.
- D. The orbit of the Earth is not a circle.

23. Look at the illustration below. Which statement is true? (6.E.1.1)



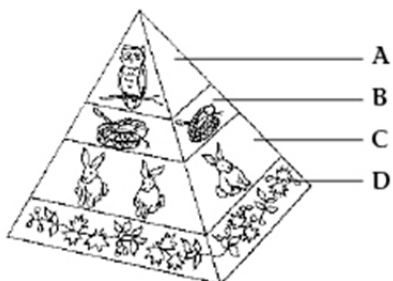
- A. The illustration shows a solar eclipse.
- B. The illustration shows a lunar eclipse.
- C. The illustration shows how summer occurs in the Northern Hemisphere.
- D. The illustration shows how a full moon occurs.

24. Look at the diagram below. Which letter identifies where pollen is made in a flower? (6.L.1.1)



- A. F
- B. G
- C. H
- D. I

25. Look at the energy pyramid below. Where is the greatest amount of energy? (6.L.2.1)

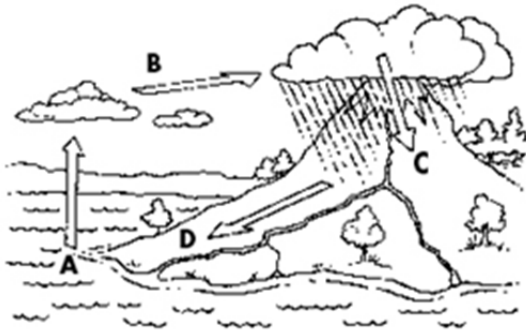


- A. A
- B. B
- C. C
- D. D

26. How do carnivores obtain energy? (6.L.2.1)

- A. They eat plants.
- B. They eat animals.
- C. They eat animals and plants.
- D. They eat the food they make.

27. Look at the picture of the water cycle. (6.L.2.1) Which arrow shows condensation?



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

28. What makes up Earth's lithosphere? (6.E.2.1)

- A. Earth's crust and core
- B. the mantle and the outer core
- C. the bottom part of the mantle and the core
- D. the top part of the Earth's mantle and the crust above it

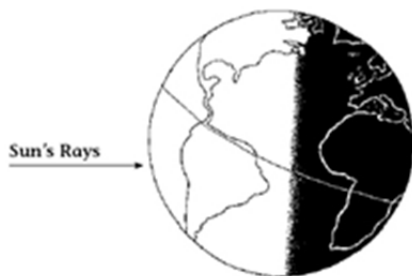
29. How do farmers work to prevent wind erosion of topsoil? (6.E.2.4)

- A. They frequently plow their fields.
- B. They plant crops that grow close to the ground.
- C. They plant crops in valleys rather than on hills.
- D. They surround fields with natural barriers, such as trees.

30. How many different elements are in a molecule of CO<sub>2</sub>? (6.P.2.1)

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

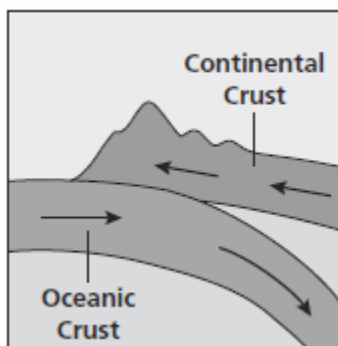
31. Look at the illustration below. What season is the location the arrow is pointing to on Earth experiencing? (6.E.1.1)



- A. Spring
- B. Winter
- C. Autumn
- D. Summer

32. Which choice below gives the correct order of planets from the Sun? (6.E.1.2)
- A. Mars, Venus, Earth, Saturn
  - B. Earth, Mars, Venus, Jupiter
  - C. Mercury, Earth, Mars, Jupiter
  - D. Uranus, Jupiter, Neptune, Saturn
33. During which phase of the Moon is the Moon passing between Earth and the Sun? (6.E.1.1)
- A. full moon
  - B. new moon
  - C. first quarter
  - D. crescent moon

34. The following diagram shows the motion of two plates. Which of these explains the feature that can form at the boundary of these two plates? (6.E.2.1)



- A. A broad canyon-like valley because the two colliding plates act like a plow, digging out any soil in the plates' paths
  - B. Volcanic mountain range because one oceanic plate melts underneath the continental plate, forming composite volcanoes on the continent
  - C. Island arc because one oceanic plate melts underneath the continental plate, forming volcanic mountains that eventually become islands
  - D. Folded mountain range because the two colliding plates have equal composition and density, causing both to fold and form wide, thick mountains
35. Photosynthesis is essential to the survival of green plants. Describe why photosynthesis is important to plant survival. List all steps necessary for photosynthesis to occur in plants. (6.L.1.2 & 6.L.2.3)

36. During the first day of which season does North Carolina experience its longest day? Explain why? (6.E.1.1)