

Name: _____

Date: _____ Class: _____

6th Grade Science MSL Practice

- The length of a day is based on the amount of time that (6.E.1.1)
 - Earth takes to orbit the sun one time.
 - Earth takes to rotate once on its axis.
 - the moon takes to orbit Earth one time.
 - the moon takes to rotate once on its axis.
- What do vibrations from tectonic plate movement cause? (6.E.2.2)
 - Earthquakes
 - Hurricanes
 - Tornadoes
 - Volcanoes
- At each higher level of the food pyramid (6.L.2.1)
 - the amount of energy decreases.
 - the number of organisms increases.
 - the amount of energy increases.
 - the size of organisms increases.
- Some plants have stems that can hold water and carry on photosynthesis, and almost no leaves. In which type of habitat would this be important? (6.L.1.1)
 - grassland
 - rainforest
 - swamp
 - desert
- Which of the following improves the fertility of soil by breaking down once-living matter and aerating soil? (6.E.2.3 & 6.L.2.3)
 - worms
 - sunlight
 - rock particles
 - plant roots
- Some processes in the rock cycle are listed below. (6.E.2.3)

Rock Cycle Process

Process	Description
X	Rocks change by heat and pressure.
Y	Rocks melt and cool.
Z	Rocks weather and erode.

Which type of rock is **most likely** to form by Process Z?

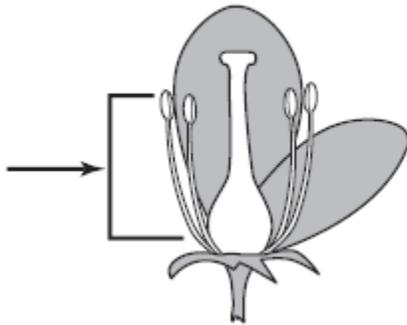
- lava
- metamorphic
- igneous
- sedimentary

7. A house plant is placed on a window sill that receives direct sunlight for a month. It receives all of the nutrients necessary for life and is not moved. (6.L.2.2)



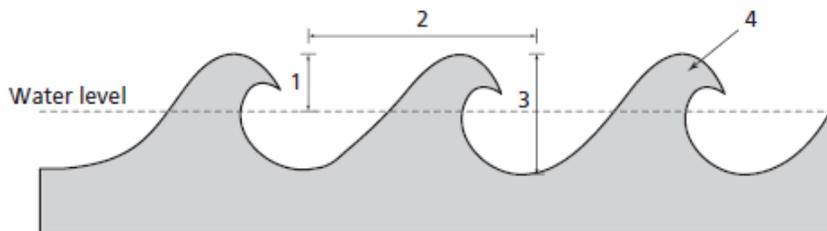
Which statement describes the appearance of the plant after one month?

- A. The leaves will turn yellowish-brown and wilt.
 - B. The stem will bend toward the sunlit window.
 - C. The roots of the plant will grow upward toward the light.
 - D. The plant will lose all of its leaves as it becomes dormant.
8. A flower is shown in the diagram. (6.L.1.1)



What is the **main** function of the flower part indicated by the arrow?

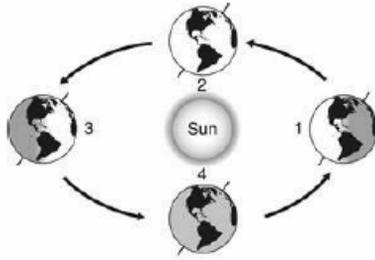
- A. attracting pollinators
 - B. producing pollen
 - C. protecting the ovule
 - D. supporting the pistil
9. Scientists measured the amplitude of ocean waves during a storm. (6.P.1.1)



Which part of the diagram shows the **amplitude** of a wave?

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

10. The diagram shows Earth revolving around the Sun. (6.E.1.1)



Which position of Earth shows summer in North America?

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

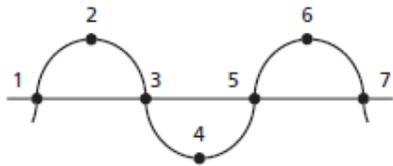
11. Ocean tides result mainly from (6.E.1.1)

- A. surface winds.
- B. radiant heat from stars.
- C. Earth's tilt on its axis.
- D. the Moon's gravitational pull.

12. Soil that drains slowly most likely has a high amount of (6.E.2.3)

- A. ash.
- B. sand.
- C. clay.
- D. peat.

13. Some points are marked on a wave, as shown in the diagram below. (6.P.1.1)



The **wavelength** is the distance between which points?

- A. 1 and 3
- B. 2 and 6
- C. 4 and 5
- D. 1 and 7

14. A plant that needs well drained soil would grow best in soil made mostly of (6.E.2.3)

- A. silt.
- B. clay.
- C. sand.
- D. humus.

15. Photosynthesis is the process that converts carbon dioxide and water into (6.L.1.2)

- A. carbon and oxygen.
- B. sugar and hydrogen.
- C. sugar and oxygen.
- D. nitrogen and carbon.

16. The organisms that convert solar energy and raw materials into food are (6.L.2.1)

- A. producers.
- B. consumers.
- C. herbivores.
- D. decomposers.

17. Students in a science class were observing properties of an unknown mineral. The mineral was soft enough to be scratched by a fingernail. The students compared the hardness of the mineral to the chart below. (6.E.2.3)

Mineral Hardness Chart

1	Talc
2	Gypsum
2.5	Fingernail
3	Calcite
3.5	Penny
4	Fluorite
5	Apatite
5.5	Steel File
6	Feldspar

Which mineral could the students have been observing?

- A. Gypsum
- B. Calcite
- C. Apatite
- D. Feldspar

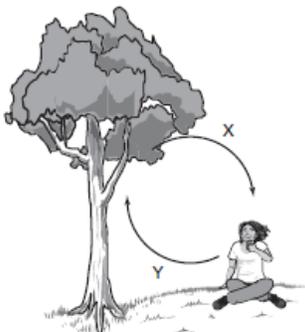
18. Kinley wraps her hands around a mug of hot tea. (6.P.3.1)



The heat from the hot tea is being transferred to Kinley's hands primarily by

- A. conduction.
- B. convection.
- C. absorption.
- D. radiation.

19. The picture shows an exchange of gases between plants and animals. (6.L.1.2)



What gas is **most likely** represented by the arrow labeled X?

- A. carbon dioxide
- B. hydrogen
- C. nitrogen
- D. oxygen

20. The sound heard when a piano key is hit is caused by (6.P.1.3)

- A. vibration.
- B. refraction.
- C. momentum.
- D. acceleration.

21. A substance that carries sound waves is called (6.P.1.3)

- A. a fulcrum.
- B. a medium.
- C. a spectrum.
- D. an equilibrium.

22. When liquid water freezes, it forms ice. What is the physical state of an ice cube? (6.P.2.2)

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

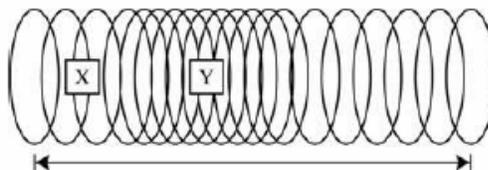
23. Which of these best describes the composition of the inner core of Earth? (6.E.2.1)

- A. liquid iron and nickel
- B. carbon dioxide and ice
- C. quartz and oxygen
- D. solid iron and nickel

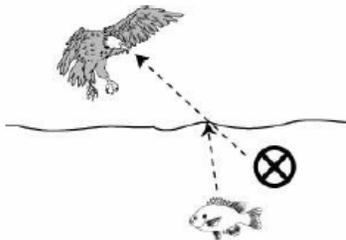
24. The figure below shows a longitudinal wave. (6.P.1.1)

Identify parts X and Y.

- A. X is a trough; Y is a crest.
- B. X is wavelength; Y is amplitude.
- C. X is rarefaction; Y is compression.
- D. X is compression; Y is rarefaction.



25. An eagle is trying to catch a fish. He keeps missing the fish by striking the spot marked with an X rather than where the fish is actually located. (6.P.1.3)



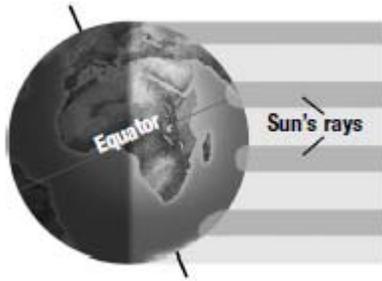
What property of light might explain why the eagle keeps striking the wrong location?

- A. absorption
- B. reflection
- C. refraction
- D. transmission

26. Which is the best explanation for why a flower's petals are colorful? (6.L.1.1)

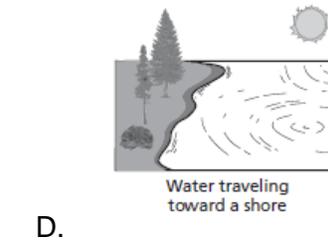
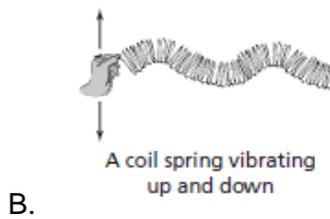
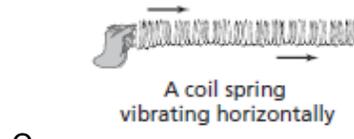
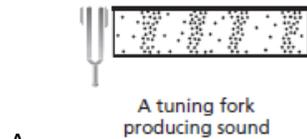
- A. They attract more sunlight.
- B. They attract more pollinators.
- C. They protect the plant from disease.
- D. They protect the developing plant embryos.

27. When Earth is oriented, as shown in the illustration below, what is the season in South Africa? (6.E.1.1)



- A. spring
- B. summer
- C. autumn
- D. winter

28. Which diagram shows only a **transverse** wave? (6.P.1.1)



29. A biome has many insects, lizards, snakes and cacti. It experiences extreme temperatures and very little rainfall. Identify the correct biome below. (6.L.2.3)

- A. grassland
- B. deciduous forest
- C. tundra
- D. desert

30. The picture shows a spoon being used to stir a pan of hot soup. (6.P.3.1)



Which of the following spoon handles would get hot the quickest?

- A. a metal spoon
- B. a plastic spoon
- C. a rubber spoon
- D. a wooden spoon

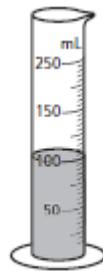
31. Nature's recyclers are (6.L.2.1)

- A. predators.
- B. decomposers.
- C. producers.
- D. omnivores.

32. Students were investigating some properties of rocks. They wanted to compare the volumes of the rocks. (6.E.2.3 & 6.P.2.3)



Which tool should the students use to accurately measure the **volume** of each rock?



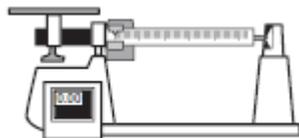
Graduated Cylinder

A.



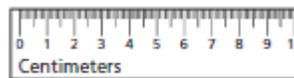
Light Microscope

C.



Balance

B.



Ruler

D.

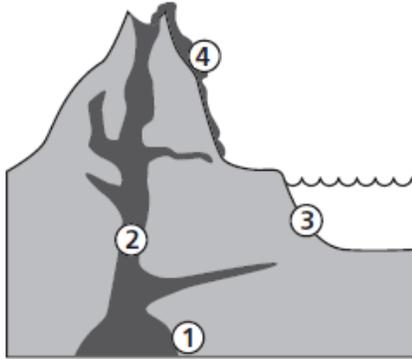
33. What type of eclipse occurs when Earth is between the sun and the moon? (6.E.1.1)

- A. solar eclipse
- B. annular eclipse
- C. lunar eclipse
- D. total eclipse

34. Tides are at their highest during (6.E.1.1)

- A. spring tide.
- B. neap tide.
- C. a tidal bore.
- D. the daytime.

35. Different locations are labeled on the diagram of the volcano.



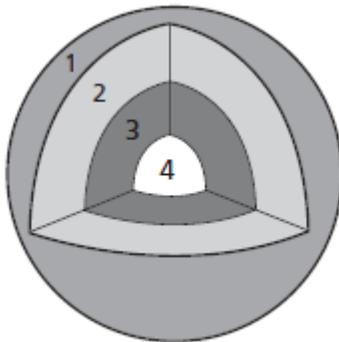
Where would the **most** metamorphic rocks likely be located? (6.E.2.3)

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

36. Which best describes one way igneous rocks form? (6.E.2.3)

- A. Sedimentary rocks erode.
- B. Sedimentary rocks are compacted.
- C. Metamorphic rocks are melted, then cooled.
- D. Metamorphic rocks are deposited and cemented.

37. A cross section of Earth is shown below..(6.E.2.1)



Which layer of Earth is made mostly of liquid metal?

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

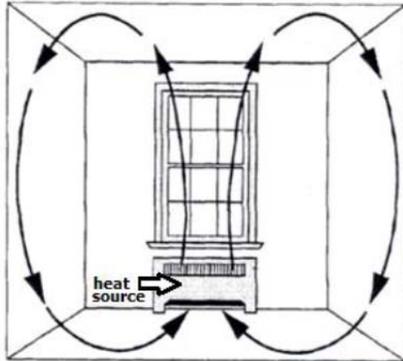
38. Organize these phases of the moon in order, beginning with a full moon. (6.E.1.1)

- A. full, waning gibbous, first quarter, waxing crescent, new
- B. full, waning gibbous, new, waxing crescent, first quarter
- C. full, waxing crescent, new, waning gibbous, first quarter
- D. full, waxing crescent, waning gibbous, new, first quarter

39. Twice a year the length of the day and night are equal. The term for this occurrence is (6.E.1.1)

- A. equal distance.
- B. equal night.
- C. equinox.
- D. axis tilt.

40. The diagram shows the pattern of air movement within a closed room with a heat source. (6.P.3.1)



What type of heat transfer is represented in the diagram?

- A. conduction
- B. convection
- C. insulation
- D. radiation