Name: _____
Date: _____ Class: _____

6th Grade Science MSL Practice

1. The length of a day is based on the amount of time that (6.E.1.1)
   A. Earth takes to orbit the sun one time.
   B. Earth takes to rotate once on its axis.
   C. the moon takes to orbit Earth one time.
   D. the moon takes to rotate once on its axis.

2. What do vibrations from tectonic plate movement cause? (6.E.2.2)
   A. Earthquakes
   B. Hurricanes
   C. Tornadoes
   D. Volcanoes

3. At each higher level of the food pyramid (6.L.2.1)
   A. the amount of energy decreases.
   B. the number of organisms increases.
   C. the amount of energy increases.
   D. the size of organisms increases.

4. 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)
   A. grassland
   B. rainforest
   C. swamp
   D. desert

5. 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)
   A. worms
   B. sunlight
   C. rock particles
   D. plant roots

6. 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?

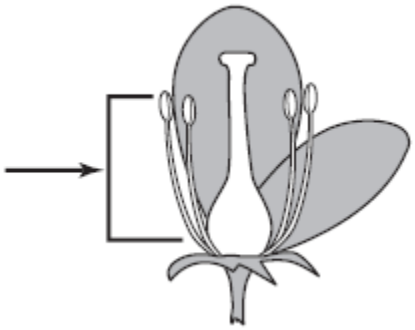
   A. lava
   B. metamorphic
   C. igneous
   D. sedimentary

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.

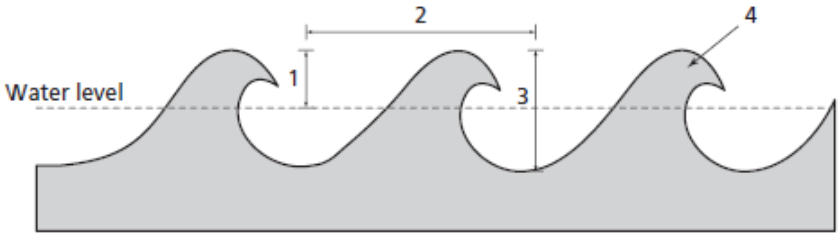
8. A flower is shown in the diagram. (6.L.1.1)



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

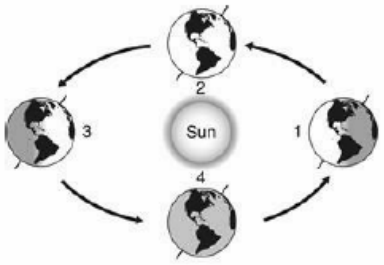
9. Scientists measured the amplitude of ocean waves during a storm. (6.P.1.1)



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

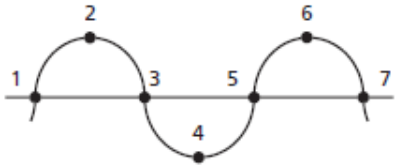
11. Ocean tides result mainly from (6.E.1.1)

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

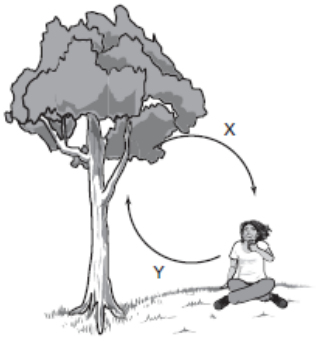
1	Talc
2	Gypsum
2.5	Fingernail
3	Calcite
3.5	Penny
4	Fluorite
5	Apatite
5.5	Steel File
6	Feldspar

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

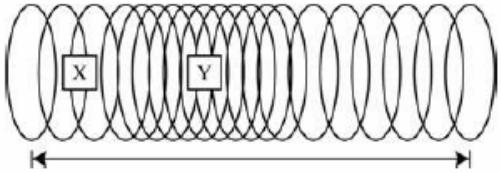
20. The sound heard when a piano key is hit is caused by (6.P.1.3)
    A. vibration.
    B. refraction.
    C. momentum.
    D. acceleration.

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.

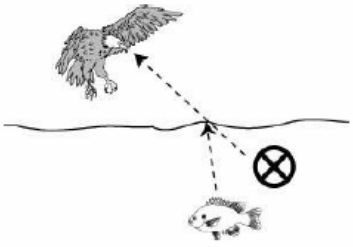
22. When liquid water freezes, it forms ice. What is the physical state of an ice cube? (6.P.2.2)
    A. gas
    B. solid
    C. liquid
    D. plasma

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.



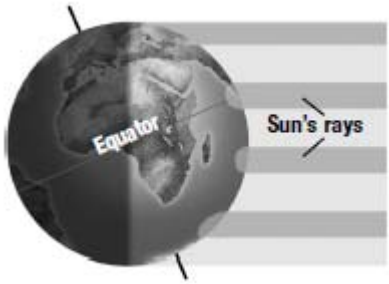
25. An eagle is trying to catch a fish. He keeps missing the fish by striking the spot marked with an X rather than where the fish is actually located. (6.P.1.3)



What property of light might explain why the eagle keeps striking the wrong location?
    A. absorption
    B. reflection
    C. refraction
    D. transmission

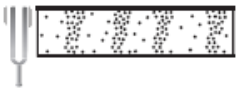
26. Which is the best explanation for why a flower's petals are colorful? (6.L.1.1)
    A. They attract more sunlight.
    B. They attract more pollinators.
    C. They protect the plant from disease.
    D. They protect the developing plant embryos.

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)

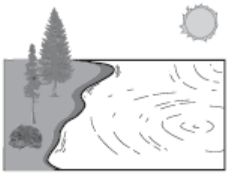
A.

A tuning fork producing sound

C.

A coil spring vibrating horizontally

B.

A coil spring vibrating up and down

D.

Water traveling toward a shore

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)

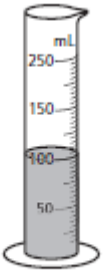
Which of the following spoon handles would get hot the quickest?

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.

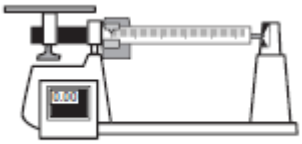
32. Students were investigating some properties of rocks. They wanted to compare the volumes of the rocks. (6.E.2.3 & 6.P.2.3)

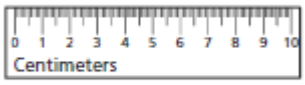
Which tool should the students use to accurately measure the ***volume*** of each rock?

A. 

Graduated Cylinder

C. 
Light Microscope

B. 
Balance

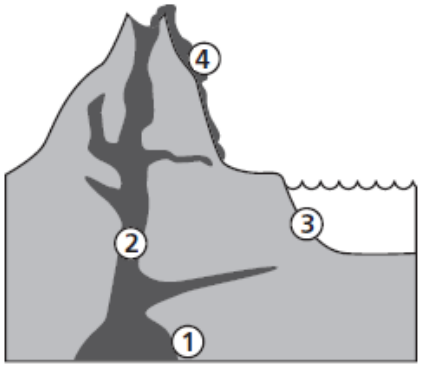
D. 

Ruler

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.



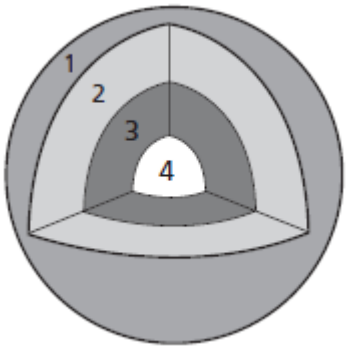
Where would the ***most*** metamorphic rocks likely be located? (6.E.2.3)

A. 1 C. 3
B. 2 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?

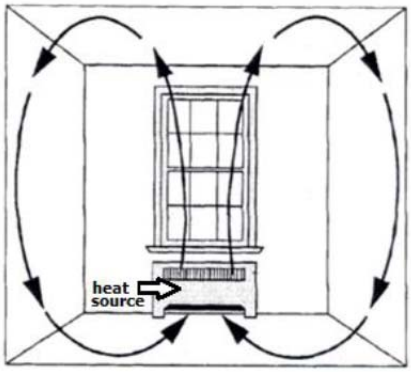
A. 1
B. 2
C. 3
D. 4

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