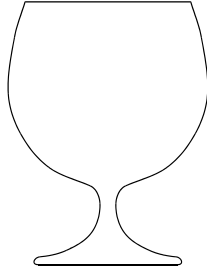


Science 4-5 – District 2023 – Test

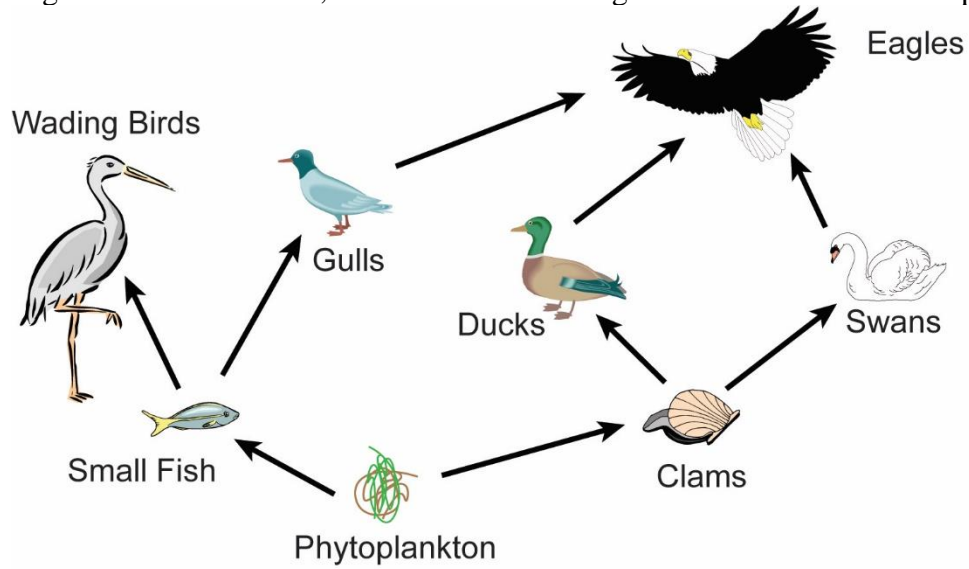
1. Which of the following will take the shape of this container when placed inside?



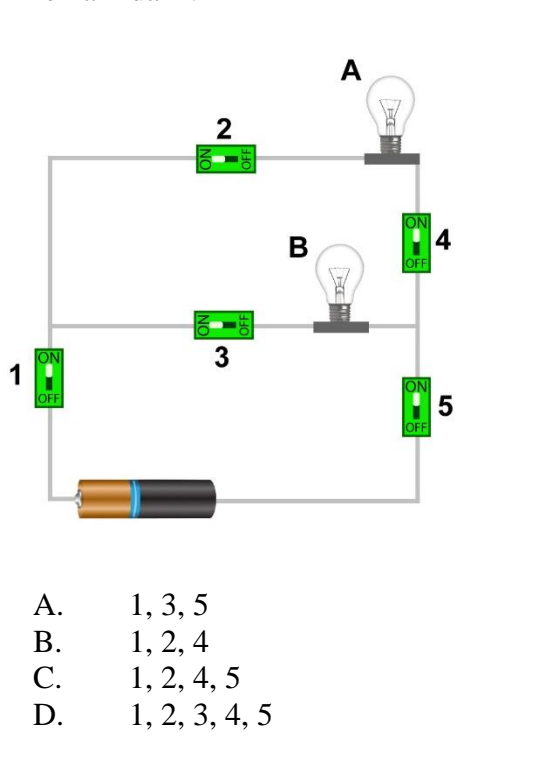
- A. water at 3°F
B. water at 30°F
C. water at 130°F
D. water at 300°F
2. Which of the following is an example of a physical change?
A. fireworks exploding
B. wood burning
C. fruit ripening
D. glass breaking
3. Which system contains the esophagus, the stomach, and the small intestines?
A. respiratory system
B. digestive system
C. circulatory system
D. nervous system

4. How long does it take the Earth to make one full rotation around its axis?
A. 24 hours
B. 365 days
C. 28 days
D. 60 minutes
5. Centuries ago, an animal adapted to a new environment by growing webbed feet from non-webbed feet. This adaptation was needed to allow the animal to survive in which environment?
A. plains
B. forest
C. tundra
D. water
6. Which of the following is NOT one of the three main layers of the Earth?
A. the core
B. the atmosphere
C. the crust
D. the mantle

7. Using the food web below, which of the following is both a consumer and a producer?

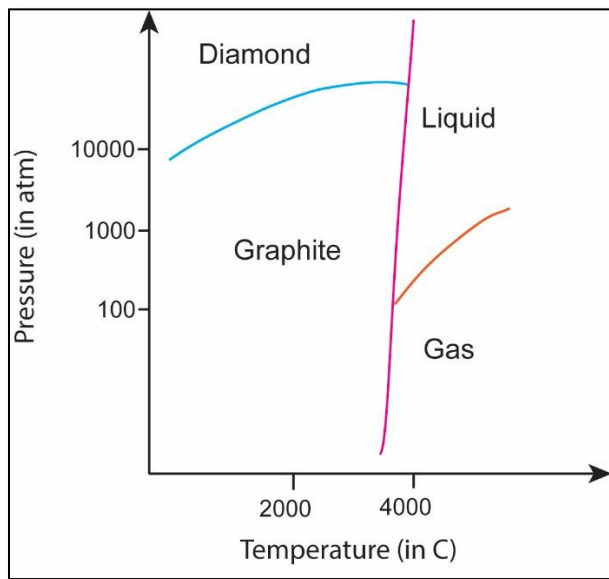


- A. plankton
 B. wading birds
 C. ducks
 D. eagles
8. Which switches should be closed in order for lightbulb B to light, but lightbulb A to remain dark?



- A. 1, 3, 5
 B. 1, 2, 4
 C. 1, 2, 4, 5
 D. 1, 2, 3, 4, 5

9. Which of the following is considered a mixture?
 A. lemonade
 B. water
 C. salt
 D. sugar
10. The phase diagram for carbon is shown. What form is a sample of carbon in at a temperature of 2500°C and a pressure of 1000 atm?



- A. diamond
 B. graphite
 C. liquid
 D. gas

11. What process is the rock cycle based on?
 A. the movement of tectonic plates
 B. the changes that rocks undergo in response to weathering and erosion
 C. the formation of caves and mountains
 D. the formation of rocks over time
12. Your class will conduct an experiment where two pots are filled with soil purchased from a gardening store. The same number of seeds will be planted in the soil of each pot. The recommended amount of water each day will be provided to each pot. One pot will be placed by a window in the classroom. The other pot will be placed in a closet. Which of the following could be a possible hypothesis this experiment can test?
 A. The sizes of the pots and the amount of potting soil are factors in whether plants grow tall and how green the leaves of the plants become.
 B. Different soils provide different nutrients that plants need to thrive and survive.
 C. Plants need water in order to grow strong and tall.
 D. Plants with limited access to sunlight do not grow as tall or as fast as those placed in sunny locations.

13. When a train begins to move from rest, it moves slowly at first, and eventually increases to its full speed. Why does it move slowly at first?
- The train loses mass as it moves faster.
 - The force of gravity prevents the train from moving at its full speed the moment it starts.
 - The steam force of the train must first be converted to mechanical energy in order for the train to accelerate.
 - The frictional force between the train and tracks must be overcome for the train to accelerate.
14. The girth around a tree's trunk is measured every year and is given in the chart. In which time period did this area receive the most rain?

Year	Girth (in centimeters)
1	18 cm
2	30 cm
3	44 cm
4	72 cm
5	84 cm

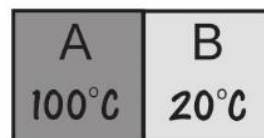
- between years 1 and 2
- between years 2 and 3
- between years 3 and 4
- between years 4 and 5

15. What is the transfer of energy through waves without matter to carry it known as?
- conduction
 - radiation
 - convection
 - effervescence
16. Which statements are true for both light and sound?
- Both are transmitted by waves.
 - Both can be measured by their frequency.
 - Both can travel through a vacuum.
- I only
 - I and II
 - II and III
 - I, II, and III
17. Which of the following is not considered a fossil fuel?
- oil
 - natural gas
 - coal
 - sunlight
18. The most likely place to find geothermal energy is where?
- in the Earth
 - on the moon
 - from the sun
 - in flowing rivers

21. The average temperatures (in °C) are given for four different cities. Which of these four cities would you expect to be closest to the Equator and near an ocean?

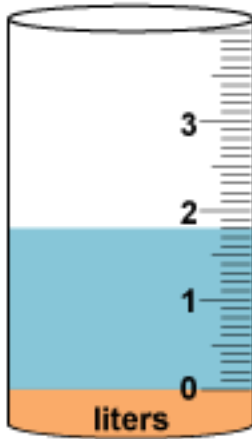
	City A	City B	City C	City D
March	1	16	3	4
June	13	19	22	20
September	10	22	19	19
December	-1	15	-4	2

- A. City A
 B. City B
 C. City C
 D. City D
22. On which day will the number of hours of day and night be the same, followed by a day when there is less daylight and more nighttime?
 A. summer solstice
 B. fall equinox
 C. winter solstice
 D. spring equinox
23. Oxygen has an atomic number of 8 and an atomic mass of 16. How many total protons and electrons does oxygen have?
 A. 8
 B. 12
 C. 16
 D. 20
24. Which of the following is an instinctive behavior?
 A. babies crying
 B. teenagers texting
 C. adults driving a car
 D. lions hunting
25. A metallic plate is heated up to 100°C and placed next to a plate (same metal) that is at room temperature of 20°C. What is the most likely expectation?



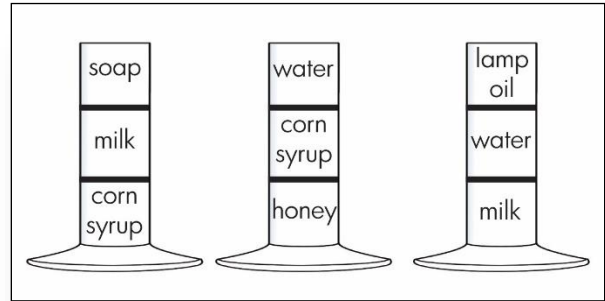
- A. Heat will transfer from Plate A to Plate B and Plate B will heat up to 100°C.
 B. Heat will transfer from Plate B to Plate A and Plate A will cool down to 20°C.
 C. Heat will transfer from Plate A to the surrounding air until Plate A reaches 20°C.
 D. Heat will transfer from Plate A to Plate B until both plates reach the same temperature.

26. A liquid is poured into a graduated cylinder. How much liquid is in the cylinder?



- A. 1.8 liters
 B. 2.2 liters
 C. 1.5 liters
 D. 2.5 liters
27. Which of the following is the best conductor of electricity?
- A. rubber ball
 B. copper penny
 C. glass rod
 D. wooden stick

28. Various liquids are placed in cylinders. Each liquid has a different density. Which of the following is the densest?



- A. lamp oil
 B. honey
 C. corn syrup
 D. milk
29. What is the largest planet in our solar system?
- A. Uranus
 B. Mars
 C. Saturn
 D. Jupiter
30. Sunrise in Austin, Texas, on September 1, 2023, is expected to occur at 7:08AM. Which of the following times is the most likely expected sunrise time on September 8, 2023 in Austin?
- A. 7:08AM
 B. 7:12AM
 C. 6:48AM
 D. 8:07AM