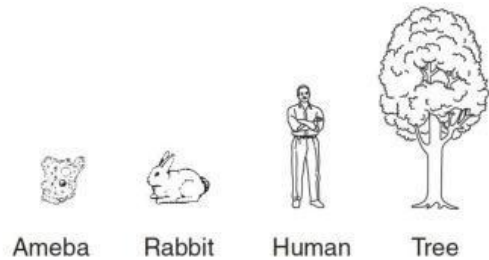


MAP practice 2

Directions: Read each question carefully and answer

1. Four different living organisms are shown on the right.
Which statement is true for all of the organisms shown?

- a. They carry out photosynthesis.
- b. They are multicellular.
- c. They contain at least one cell.
- d. They are consumers.



2. Running to escape danger is an action that requires the nervous system to coordinate the interaction of which two body systems?
- a. digestive and endocrine
 - b. muscular and skeletal
 - c. reproductive and excretory
 - d. circulatory and digestive

3. The diagrams on the right show two organisms. How are these two organisms classified?

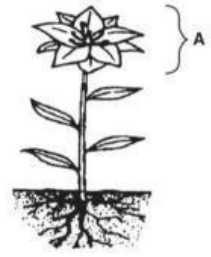
- a. same kingdom, different species
- b. same kingdom, same species
- c. different kingdoms, same species
- d. different kingdoms, different species



4. Which system produces most of the hormones in the human body?
- a. Circulatory
 - b. Endocrine
 - c. Digestive
 - d. Respiratory
5. Which unit expresses the amount of energy in food?
- a. Calorie
 - b. Milliliter
 - c. Degree Celsius
 - d. Gram

6. The diagram on the right shows a green plant. What is the main function of the plant structure labeled A?

- a. Reproduction
- b. release of minerals, absorption of water
- c. , support



7. Many cars today are designed to get better gas mileage than those made in the past. This change resulted from a need to

- a. recycle materials
- b. improve safety
- c. produce chemicals
- d. conserve resources

8. Which event is the best example of **competition** between species in a pond environment?

- a. dragonflies landing on lily pads
- b. frogs and toads eating flies
- c. lizards and snakes lying in the sun
- d. hawks eating mice

9. The diagram below shows a cross-section of a bean seed. The function of part X in the bean seed is to

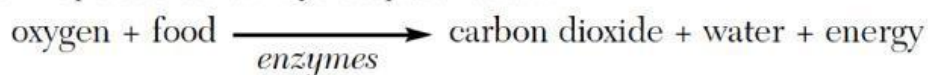
- a. protector the embryo
- b. and provide nutrients for the embryo
- c. prevent mutations in the plant
- d. fight off infections in the plant



10. A broken bone heals through the process of

- a. adaptation
- b. cell division
- c. mutation
- d. chemical digestion

11. Which life process is shown by the equation below?



- a. Circulation
- b. Reproduction
- c. Respiration
- d. Photosynthesis

12. Which process is shown in the diagram on the right?

- a. Evolution
- b. Migration
- c. Photosynthesis
- d. Metamorphosis



13. Studies of earthquake waves have helped scientists determine the

- a. structure of Earth's interior
- b. depth of the oceans
- c. cause of dinosaur extinction
- d. age of Earth

14. Which statement would most likely be included in a news report about an approaching hurricane?

- a. Open the windows to equalize air pressure.
- b. Install snow tires and check the antifreeze in the car radiator.
- c. Evacuate low-lying areas near the coast.
- d. Expect wind speed to decrease for the next several hours.

15. Part of South America's east coast and Africa's west coast have matching fossils within the same series of rock layers. This provides evidence that these two continents were once

- a. separated by a much larger ocean
- b. joined together as one landmass
- c. located near the North Pole
- d. in a different hemisphere

16. In which type of rock is the fossil imprint of a fern leaf most likely to be found?

- a. igneous
- b. sedimentary
- c. metamorphic
- d. volcanic

17. Which process is an example of a **physical change**?

- a. Wood burning
- b. Iron rusting
- c. Ice melting
- d. Milk souring

18. Which statement best describes the energy changes that occur while a child rides on a sled down a steep, snow-covered hill?

- a. Kinetic energy decreases, and potential energy increases.
- b. Kinetic energy increases and potential energy decreases.
- c. Both potential energy and kinetic energy decrease.
- d. Both potential energy and kinetic energy increase.

19. Which example best demonstrates the process of **conduction**?

- a. A piece of paper is torn in half.
- b. Warmed air rises above a lit candle.
- c. A metal spoon gets warm when used to stir hot soup.
- d. Sunlight brightens a dark room.

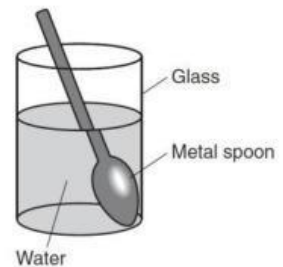
20. All **matter** is made up of

- a. cells
- b. molecules
- c. atoms
- d. compounds

21. The diagram on the right shows a metal spoon in a glass of water.

Which process causes the metal spoon to appear split or broken?

- a. absorption
- b. convection
- c. refraction
- d. reflection



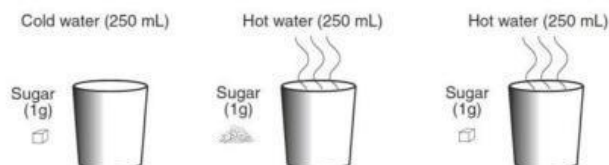
22. The data table below shows changes in four measurements as a human develops from birth to adulthood. Each measurement is expressed as a percentage of the adult value.

Measurement	Data Table Percentage of Adult Value (%)		
	Birth	5 Years	Adult
brain weight	25	90	100
head size	60	90	100
height	30	65	100
total body weight	5	30	100

According to the table, which measurement shows the greatest percentage increase from birth to age 5?

- a. brain weight
- b. height
- c. head size
- d. total body weight

23. The diagrams below show three situations where sugar will dissolve in water.



Identify two variables that affect the rate at which the sugar will dissolve in the water.

- a. _____
- b. _____

Base your answers to questions 24 and 25 on the information about blood groups below. Human blood is classified into four blood types: A, B, AB, and O. Genes passed on from the offspring's parents determine an offspring's blood type. Each parent gives an offspring one gene for blood type. The combination of the two genes determines the offspring's blood type. Three genes, A, B, and o, are responsible for the four blood types. The table below shows how these three genes interact to produce the four blood types.

Determination of Blood Type			
Genes from Parents		Genes of Offspring	Blood Type of Offspring
Mother	Father		
A	A	AA	A
A	o	Ao	A
A	B	AB	AB
B	B	BB	B
o	B	Bo	B
o	o	oo	O

The Punnett square below shows the probability of blood types in the offspring of two parents. One parent's blood type genes are AB, and the other parent's are Ao.

	A	B
A	AA	AB
o	Ao	Bo

24. Based on this Punnett Square, identify the expected percentage of offspring in each of the four blood types.

- Blood type A: _____%
- Blood type AB: _____%
- Blood type B: _____%
- Blood type O: _____%

25. Complete the Punnett Square below, which shows a cross between two parents whose genes for blood type are AB.

	A	B
A		
B		

26. The beaker shown below contains four liquids of different densities. The blocks shown in the beaker represent four different solid materials. The table below shows the densities of the four solid materials.

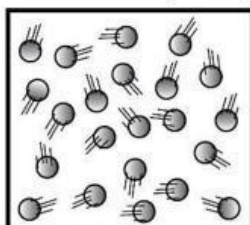
Density of Solid Materials	
Solid Material	Density (g/cm^3)
copper	8.90
plastic	1.17
rubber	1.34
wood	0.71

Write the name of each of the four solid materials in the space provided to indicate where they would be located.

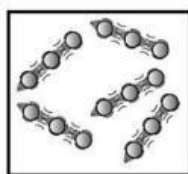
Name of Liquid (density)		Name of Solid Material

Corn oil (0.925 g/cm^3)		
Water (1.00 g/cm^3)		
Glycerol (1.26 g/cm^3)		
Corn syrup (1.38 g/cm^3)		

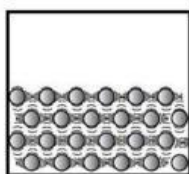
27. The diagram below shows a model of a sample of gas particles at room temperature



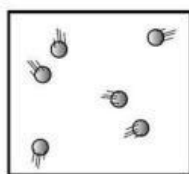
Which diagram best shows the results of removing heat from this sample until it freezes?



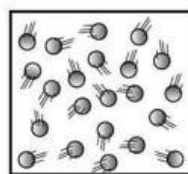
(1)



(2)



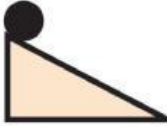
(3)



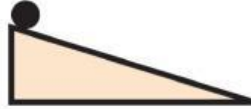
(4)

28. Solid steel balls are located on ramps, as shown. ^[1]_{SEP} Which ball has the greatest gravitational potential energy?

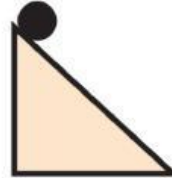
a.



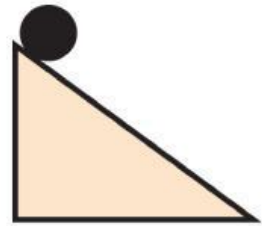
b.



c.



d.

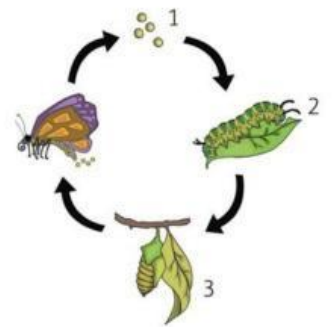


29. Students are comparing animals in an environment. They need to describe all predators. Which phrase describes all predators?

- a. animals that eat plants and fungi
- b. animals that hibernate in the winter ^[1]_{SEP}
- c. animals that hunt other animals for food
- d. animals that live in herds with other animals

30. Students made this model of the life cycle of a butterfly. How should they label stages 1, 2, and 3?

- a. egg, pupa, and larva
- b. larva, egg, and pupa
- c. egg, larva, and pupa
- d. Pupa, larva, and egg



31. Which action is an example of melting?

- a. heating a block of ice until the ice turns to water
- b. warming a pan of water until the water is all gone ^[1]_{SEP}
- c. stirring some sugar in water until the sugar is invisible ^[1]_{SEP}
- d. cooling water in the freezer until the water becomes solid ^[1]_{SEP}

32. A student experiments with magnets. Which group of magnets has attractive forces between all 3 magnets?

- a.

S	N
---	---

S	N
---	---

S	N
---	---
- b.

S	N
---	---

N	S
---	---

S	N
---	---
- c.

N	S
---	---

S	N
---	---

S	N
---	---
- d.

S	N
---	---

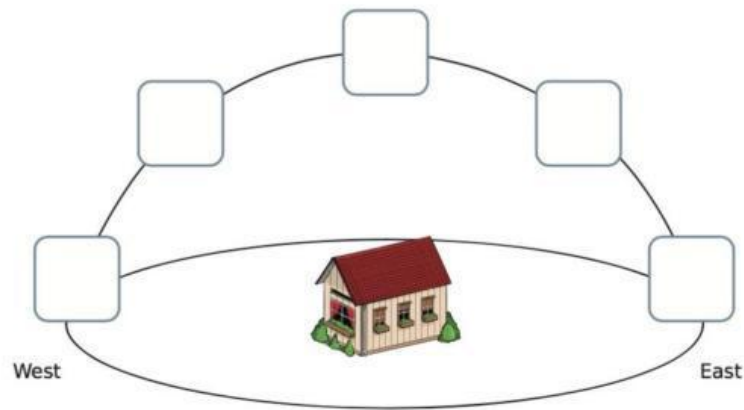
S	N
---	---

N	S
---	---

33. What is the function of the respiratory system in animals?

- a. to move blood
- b. to detect sound
- c. to obtain oxygen
- d. to break apart food

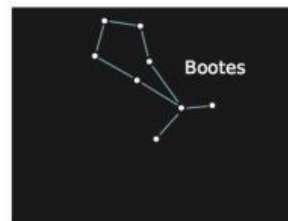
34. A student plans to cross 2 purebred guinea pigs. One will have black fur and the other will have white fur. The color of guinea pig's fur depends on single gene pair. Black fur is dominant to white fur. If there are 6 guinea pigs in spring, what fur color will they most likely have?
- 3 with black fur and 3 with white fur
 - 4 with black fur and 2 with white fur
 - 5 with black fur and 1 with white fur
 - 6 with black fur and 0 with white fur
35. Show the position of the Sun in the sky at 6 a.m., 12 noon, and 6 p.m. in March by writing "6 am," "6 pm," or 12 noon in the correct box. (note: not all boxes have to be complete)



36. In May, a student observes Virgo's constellation in one area of the sky. One month later, the student observed the constellation Bootes in the same sky area.



May 10:00 P.M.



June 10:00 P.M.

Why does the student observe Virgo's constellation in May and Bootes in June?

- Stars fade in and out.
- Earth rotates on its axis.
- Stars revolve around the Sun.
- Earth revolves around the Sun.