

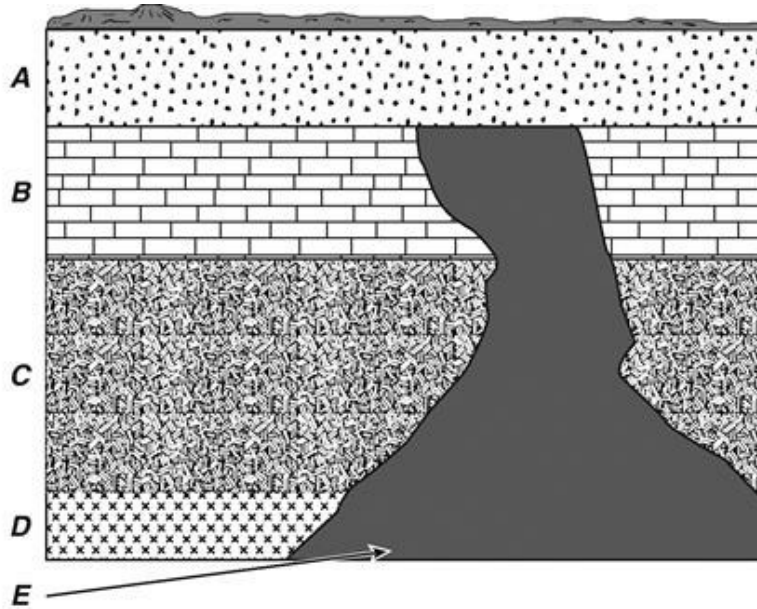
TEST NAME: Williams Montessori 8th Science EOG review
TEST ID: 2475570
GRADE: 08 - Eighth Grade
SUBJECT: Life and Physical Sciences
TEST CATEGORY: School Assessment

Student: _____

Class: _____

Date: _____

1. The diagram shows layers of rock, *A*, *B*, *C*, *D*, and igneous intrusion *E*.



A, *B*, *C*, *D*, and *E* MOST likely formed in which sequence?

A.

First	→ → →	Last		
<i>D</i>	<i>C</i>	<i>B</i>	<i>E</i>	<i>A</i>

B.

First	→ → →	Last		
<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>	<i>E</i>

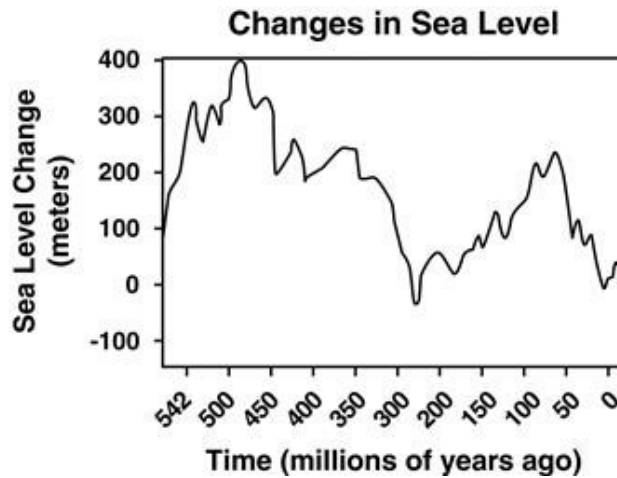
C.

First	→ → →	Last		
<i>E</i>	<i>D</i>	<i>C</i>	<i>B</i>	<i>A</i>

D.

First	→ → →	Last		
<i>A</i>	<i>E</i>	<i>B</i>	<i>C</i>	<i>D</i>

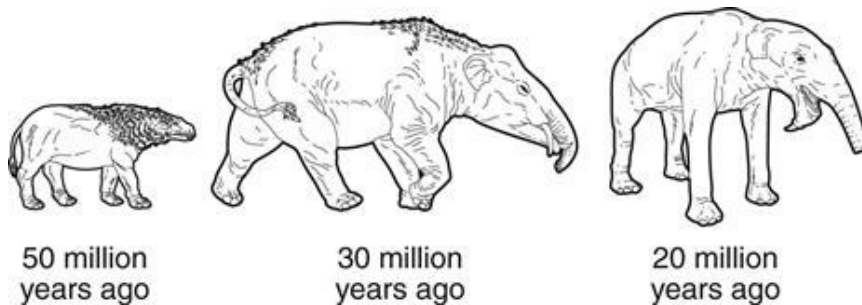
2. The graph shows possible changes to sea level over geologic time.



What did scientists MOST likely study to construct this graph?

- A. molten magma
- B. extrusive igneous rocks
- C. sedimentary layers
- D. foliated metamorphic rocks

3. A scientist drew some diagrams of ancestors of elephants based on fossil evidence.



Which is the BEST conclusion that can be made from comparing the diagrams?

- A. Elephant species have changed over time.
- B. Ancient elephants were better adapted than modern elephants.
- C. Elephant habitats have remained the same over time.
- D. Elephant fossil evidence is widespread and complete.

4. Trilobites are extinct animals that lived in the oceans. Fossils of these animals can be found in dry areas such as Cincinnati. What does this indicate?

- A. Trilobites now live underground.
- B. Trilobites are the ancestors of jellyfish.
- C. Cincinnati was once covered by the ocean where trilobites lived.
- D. The environment changed, creating small saltwater lakes in Cincinnati.

5. **Which factor has the greatest effect on a community's stores of fresh water?**
- A. the location of the nearest ocean
 - B. the average annual rainfall
 - C. the location of the nearest mountain
 - D. the average winter temperature
6. **Which two statements in the table are true about the changing salt concentrations of ocean water?**

1	When Earth's ice increases, ocean water gets saltier.
2	When Earth's ice increases, ocean water gets less salty.
3	When ocean water evaporates, the water gets saltier.
4	When ocean water evaporates, the water gets less salty.

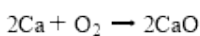
- A. 1 and 3
 - B. 1 and 4
 - C. 2 and 3
 - D. 2 and 4
7. Which **best** describes the shallow water ocean zone?
- A. The long water column protects small organisms from being eaten by large predators.
 - B. Cooler water temperatures cause a decrease in dissolved oxygen needed by organisms.
 - C. Sunlight penetration increases algae growth and provides food for a variety of organisms.
 - D. Hydrothermal vents provide heat and dissolved minerals needed by some organisms to survive.
8. Which would **most likely** be discovered by researchers exploring the deep ocean with remotely operated vehicles (ROVs)?
- A. new terrestrial species
 - B. new phytoplankton species
 - C. new photosynthetic species
 - D. new chemosynthetic species

9. Which **most likely** makes fish excellent indicators of watershed health?
- A. Fish live only for a short period of time.
 - B. Fish live in the water for at least a portion of their life.
 - C. Fish differ in their tolerance to amount and types of pollution.
 - D. Fish are frequently moving throughout different columns of water.
10. A recreational lake experiences eutrophication because of excess nutrients. Based on this information, how would the recreational lake **most likely** appear?
- A. clear and blue
 - B. oily and greasy
 - C. murky and full of algae
 - D. orange and rust-colored
11. **Mangrove trees are affected by several factors. Which is an abiotic factor contributing to the energy cycle of a mangrove ecosystem?**
- A. bacteria
 - B. climate
 - C. fungi
 - D. rocks
12. **A rainforest area is experiencing a severe drought. As a consequence, the insect population has decreased. What will the insect-eating birds MOST likely do as a result of the drought?**
- A. stop searching for food until it begins to rain
 - B. begin reproducing to increase population
 - C. move to a new area to find food
 - D. start the process of hibernation
13. Which is an example of parasitism?
- A. cat and mouse
 - B. tadpole and frog
 - C. human and tapeworm
 - D. caterpillar and butterfly

14. **The Smiths save all of their “vegetable garbage” to add to a compost heap. The food waste decomposes and the Smiths use it as a fertilizer for their vegetable garden. Which BEST describes how composting saves resources?**
- A. The compost heap gets nutrients from the garden soil.
 - B. The commercial fertilizer nutrients go into the compost.
 - C. The decomposers help the vegetables recycle themselves.
 - D. The nutrients from leftover food are reused to grow new food.
15. **Which represents a short-term storage for carbon?**
- A. Coral reefs formed from calcium carbonate.
 - B. Coal formed from plants that lived long ago.
 - C. Limestone rocks quarried at Earth’s surface.
 - D. Carbohydrates stored in fruits and vegetables.
16. **In the water cycle, water moving from oceans to clouds involves which change in the water?**
- A. It changes from a solid to a gas.
 - B. It turns from salt water to fresh water.
 - C. Its crystal size becomes smaller.
 - D. Its chemical energy increases.
17. **How does acid rain MOST likely affect forests?**
- A. Top soil loses all of its nutrients.
 - B. Plants begin to grow deeper roots.
 - C. Animals have more food sources.
 - D. Trees become less healthy over time.
18. **Which statement BEST explains why coal is used to generate electricity despite the amount of pollution produced by burning coal?**
- A. Compared to other fuels, coal produces more energy per kilogram.
 - B. Compared to other fuels, coal is relatively cheap and plentiful.
 - C. Coal burns without producing greenhouse gases.
 - D. Coal is a renewable source of energy.
19. **A country that has limited resources would MOST likely focus on the development of technology that includes**
- A. water treatment.
 - B. space exploration.
 - C. robotic automation.
 - D. satellite communications.

20. **Which upgrade to a school will most likely reduce the school's consumption of nonrenewable resources?**
- A. solar-collection panels
 - B. high-speed computers
 - C. wireless internet connections
 - D. biodegradable carpeting
21. **Organisms can be separated by their MOST basic characteristics into the broadest groups known as**
- A. kingdoms.
 - B. domains.
 - C. phyla.
 - D. orders.
22. **Who was the first person to base a system of classification on organisms having similar structures?**
- A. Aristotle
 - B. Darwin
 - C. Einstein
 - D. Linnaeus
23. **Wild blackberries reproduce asexually by sprouting new roots when stems touch the ground. They also reproduce sexually through their flowers. What is the advantage of the blackberry plant being able to reproduce sexually and asexually?**
- A. It allows the plants to grow taller.
 - B. It produces flowers that attract insects.
 - C. It produces blackberries that have more flavor.
 - D. It allows blackberry plants to adapt to new conditions.
24. **Which of these are broken down during chemical, but not physical, changes?**
- A. elements
 - B. mixtures
 - C. solutions
 - D. compounds

25. Read the equation.



What is the product of the reaction?

- A. metal
- B. mixture
- C. solution
- D. compound

26. A student studies four chemicals in a laboratory investigation.

Chemical	Description	Chemical Formula
1	salt	NaCl
2	water	H ₂ O
3	iron	Fe
4	limestone	CaCO ₃

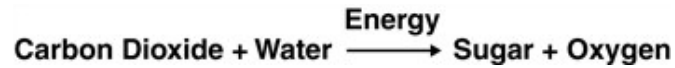
Which chemical cannot be further broken down into other chemicals using ordinary laboratory processes?

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

27. What physical property is characteristic of all of the elements in the group located in the rightmost column of the periodic table?

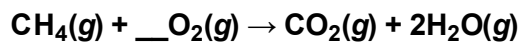
- A. very high melting point
- B. gas state at room temperature
- C. good conductor of electric current
- D. extremely brittle solid at room temperature

28. **During photosynthesis, carbon dioxide and water combine according to the general equation:**



Why is photosynthesis a chemical reaction?

- A. because new substances are formed
 - B. because an input of energy is required
 - C. because the reactants are compounds
 - D. because the products include an element
29. **A chemical change happens when**
- A. glass breaks into pieces.
 - B. dough bakes in an oven.
 - C. ice cream melts into a liquid.
 - D. electricity flows through a wire.
30. **What coefficient for O₂ demonstrates the law of conservation of mass?**



- A. 1
 - B. 2
 - C. 3
 - D. 4
31. **How are bacterial cells and human cells alike?**
- A. They allow oxygen through the cell wall.
 - B. They allow carbon dioxide through the cell wall.
 - C. They allow nutrients through the cell membrane.
 - D. They allow nutrients through the nuclear membrane.
32. **Which technology enables doctors to monitor the function of the heart?**
- A. dialysis machine
 - B. electrocardiogram
 - C. electroencephalogram
 - D. automatic external defibrillator

33. **Over a two-week period, several students complain of feeling sick. Their symptoms include a cough, fever, and a sore throat. What describes the MOST likely cause of these symptoms?**
- A. exposure to hot weather
 - B. decrease in physical exercise
 - C. consumption of bad food
 - D. infection by a virus
34. Under which condition is a person **most likely** to contract *E. coli* poisoning?
- A. eating burned food
 - B. drinking bottled water
 - C. eating undercooked beef
 - D. eating undercooked vegetables
35. **The bacteria *B. anthracis* causes the deadly disease anthrax. Here is one way humans can contract the disease:**
1. The bacteria form tough endospores that rest in soil indefinitely.
 2. Grazing animals such as sheep inhale the endospores from the soil.
 3. Once inside the sheep, the spores reactivate and cause infection.
 4. Infected sheep then pass the bacteria to humans who become infected.
- In this scenario, what is the vector of anthrax?**
- A. endospores
 - B. soil
 - C. sheep
 - D. humans
36. Which is a way the agricultural biotechnology industry could have a positive impact on the environment?
- A. by producing crops that are virus resistant
 - B. by making robots to replace large farm machines
 - C. by reducing the need for countries to import food
 - D. by increasing the use of wind farms that produce electricity

37. Which is an example of scientists using biotechnology to benefit aquaculture?
- A. creating pest-resistant crops
 - B. making new forms of human antibiotics
 - C. developing a rot-resistant gene for trees
 - D. producing a faster-growing salmon species