

1. Where is **most** freshwater located on Earth?
 - A polar ice caps
 - B groundwater
 - C lakes
 - D rivers

2. Which describes the hydrosphere?
 - A Most of it contains salt.
 - B It is made of only freshwater.
 - C All of it is located above ground.
 - D It is formed by a climate change.

3. Which condition in the ocean is **most** responsible for an increase in the fish population near the surface?
 - A buoyancy
 - B density
 - C salinity
 - D upwelling

4. Which pair of organisms represents a connection between aquatic and terrestrial food webs?
 - A whales and plankton
 - B seagulls and oysters
 - C spiders and mosquitoes
 - D humans and coral

5. Which tool is used to determine precipitation amounts?
 - A balance scale
 - B hygrometer
 - C rain gauge
 - D thermometer

6. Which is evidence that elements can combine to form new compounds?
 - A melting a solid
 - B freezing a liquid
 - C moving a piece of metal with a magnet
 - D pouring two liquids together to create a solid

7. Which property of metals allows them to be used to make coins that have the same thickness?
- A electrical conductivity
 - B density
 - C malleability
 - D specific heat
8. Which **best** describes why metals are used for making pots and pans that are used for cooking?
- A Metals have low specific heats and high melting points.
 - B Metals have high specific heats and low melting points.
 - C Metals have low specific heats and low melting points.
 - D Metals have high specific heats and high melting points.
9. Which **best** describes the physical change of an aluminum soda can after it is crushed?
- A There is a change in the mass of the can.
 - B There is a change in the weight of the can.
 - C There is a change in the volume of the can.
 - D There is a change in the specific heat of the can.
10. A chemical reaction produces two new substances, and each product has a mass of 25 grams. What was the total mass of the reactants?
- A 25 grams
 - B 50 grams
 - C 75 grams
 - D 100 grams
11. Which factor **best** explains why some people will react differently than others to the same dose of an antibiotic?
- A high potency
 - B low concentration
 - C individual exposure
 - D individual susceptibility

12. If a farmer decides to have a pesticide-free farm, which is **most likely** the result of this choice?
- A The farmer's crops will yield more than if pesticides had been applied.
 - B The farmer's crops will yield the same amount whether or not pesticides have been applied.
 - C Insects may eat a larger percentage of the farmer's crops, causing a lower harvest than if pesticides had been applied.
 - D Insects may eat a lower percentage of the farmer's crops, causing a higher harvest than if pesticides had been applied.
13. Which is the **best** evidence that two continents were once connected?
- A They have similar types of rocks and fossils.
 - B They are in the same stage of succession.
 - C They exist along the same line of latitude.
 - D They have the same climate.
14. What does a scientist **most likely** consider when studying the relative ages of rock layers in a canyon wall?
- A chemical weathering
 - B current climate
 - C amount of daily rainfall
 - D Law of Superposition
15. Which can **most likely** be concluded about the top layer of rock seen in an undisturbed cliff wall?
- A The top layer is older than layers located farther down the cliff.
 - B The top layer is younger than layers located farther down the cliff.
 - C The top layer contains more fossils than layers located farther down the cliff.
 - D The top layer contains fewer fossils than layers located farther down the cliff.

16. Based on the Law of Superposition, what can be concluded about fossils?
- A Fossils give clues about past climate patterns.
 - B Fossils form from the hard parts of organisms.
 - C The oldest fossils are found in the lowest rock layers.
 - D The most recent fossils were advanced organisms.
17. Which **best** explains why fossils of the same species of a reptile were discovered in South America and in western Africa?
- A The reptiles evolved in both South America and Africa.
 - B The continents of South America and Africa were once joined.
 - C Land bridges connected the continents of South America and Africa.
 - D The reptiles could swim the distance between South America and Africa.
18. Which process **best** explains how mountain ranges are worn down over time?
- A asteroid impacts
 - B volcanic eruptions
 - C mechanical and chemical weathering
 - D continental drift and seafloor spreading
19. Which organelle stores genetic information?
- A flagellum
 - B nucleus
 - C mitochondrion
 - D vacuole
20. What is the energy source that an animal cell needs to carry out life processes?
- A water stored in vacuoles
 - B proteins built in ribosomes
 - C light absorbed by chloroplasts
 - D sugar broken down in mitochondria

21. Which statement *best* describes influenza?
- A Influenza causes most forms of lung cancer.
 - B Influenza is caused by poor hygiene.
 - C Influenza is cured with antibiotics.
 - D Influenza is highly contagious.

22. Which type of training should local schools offer in order to prepare potential workers in the pharmaceutical industry?
- A biotechnology
 - B ecology
 - C engineering
 - D geology

End of Sample Items

In compliance with federal law, including the provisions of Title IX of the Education Amendments of 1972, the Department of Public Instruction does not discriminate on the basis of race, sex, religion, color, national or ethnic origin, age, disability, or military service in its policies, programs, activities, admissions or employment.

Answers to EOG Grade 8 Science Sample Items

1. Objective 3.02

Explain the structure of the hydrosphere including: Water distribution on earth.; Local river basin.; Local water availability.

Thinking Skill: Knowledge **Correct Answer:** A

2. Objective 3.02

Explain the structure of the hydrosphere including: Water distribution on earth.; Local river basin.; Local water availability.

Thinking Skill: Knowledge **Correct Answer:** A

3. Objective 3.03

Evaluate evidence that Earth's oceans are a reservoir of nutrients, minerals, dissolved gases, and life forms: Estuaries.; Marine ecosystems.; Upwelling.; Behavior of gases in the marine environment.; Value and sustainability of marine resources.; Deep ocean technology and understandings gained.

Thinking Skill: Applying **Correct Answer:** D

4. Objective 3.04

Describe how terrestrial and aquatic food webs are interconnected.

Thinking Skill: Organizing **Correct Answer:** B

5. Objective 3.06

Evaluate technologies and information systems used to monitor the hydrosphere.

Thinking Skill: Knowledge **Correct Answer:** C

6. Objective 4.02

Evaluate evidence that elements combine in a multitude of ways to produce compounds that account for all living and nonliving substances.

Thinking Skill: Analyzing **Correct Answer:** D

7. Objective 4.04

Describe the suitability of materials for use in technological design: Electrical Conductivity.; Density.; Magnetism.; Solubility.; Malleability.

Thinking Skill: Evaluating **Correct Answer:** C

8. Objective 4.05

Identify substances based on characteristic physical properties: Density.; Boiling/Melting points.; Solubility.; Chemical reactivity.; Specific heat.

Thinking Skill: Analyzing **Correct Answer:** A

Answers to EOG Grade 8 Science Sample Items

- 9. Objective 4.06**
Describe and measure quantities related to chemical/physical changes within a system: Temperature.; Volume.; Mass.; Precipitate.; Gas production.
Thinking Skill: Analyzing **Correct Answer:** C
- 10. Objective 4.07**
Identify evidence supporting the law of conservation of matter.: During an ordinary chemical reaction matter cannot be created or destroyed.; In a chemical reaction, the total mass of the reactants equals the total mass of the products.
Thinking Skill: Analyzing **Correct Answer:** B
- 11. Objective 4.09**
Describe factors that determine the effects a chemical has on a living organism including: Exposure.; Potency.; Dose and the resultant concentration of chemical in the organism.; Individual susceptibility.; Possible means to eliminate or reduce effects.
Thinking Skill: Integrating **Correct Answer:** D
- 12. Objective 4.10**
Describe risks and benefits of chemicals including: Medicines.; Food preservatives.; Crop yield.; Sanitation.
Thinking Skill: Generating **Correct Answer:** C
- 13. Objective 5.01**
Interpret ways in which rocks, fossils, and ice cores record Earth's geologic history and the evolution of life including: Geologic Time Scale.; Index Fossils.; Law of Superposition.; Unconformity.; Evidence for climate change.; Extinction of species.; Catastrophic events.
Thinking Skill: Applying **Correct Answer:** A
- 14. Objective 5.01**
Interpret ways in which rocks, fossils, and ice cores record Earth's geologic history and the evolution of life including: Geologic Time Scale.; Index Fossils.; Law of Superposition.; Unconformity.; Evidence for climate change.; Extinction of species.; Catastrophic events.
Thinking Skill: Applying **Correct Answer:** D

Answers to EOG Grade 8 Science Sample Items

15. Objective 5.01

Interpret ways in which rocks, fossils, and ice cores record Earth's geologic history and the evolution of life including: Geologic Time Scale.; Index Fossils.; Law of Superposition.; Unconformity.; Evidence for climate change.; Extinction of species.; Catastrophic events.

Thinking Skill: Evaluating

Correct Answer: B

16. Objective 5.01

Interpret ways in which rocks, fossils, and ice cores record Earth's geologic history and the evolution of life including: Geologic Time Scale.; Index Fossils.; Law of Superposition.; Unconformity.; Evidence for climate change.; Extinction of species.; Catastrophic events.

Thinking Skill: Analyzing

Correct Answer: C

17. Objective 5.03

Examine evidence that the geologic evolution has had significant global impact including: Distribution of living things.; Major geological events.; Mechanical and chemical weathering.

Thinking Skill: Applying

Correct Answer: B

18. Objective 5.03

Examine evidence that the geologic evolution has had significant global impact including: Distribution of living things.; Major geological events.; Mechanical and chemical weathering.

Thinking Skill: Knowledge

Correct Answer: C

19. Objective 6.02

Analyze structures, functions, and processes within animal cells for: Capture and release of energy.; Feedback information.; Dispose of wastes.; Reproduction.; Movement.; Specialized needs.

Thinking Skill: Knowledge

Correct Answer: B

20. Objective 6.04

Conclude that animal cells carry on complex chemical processes to balance the needs of the organism.: Cells grow and divide to produce more cells.; Cells take in nutrients to make the energy for the work cells do.; Cells take in materials that a cell or an organism needs.

Thinking Skill: Integrating

Correct Answer: D

21. Objective 7.02

Describe diseases caused by microscopic biological hazards including: Viruses.; Bacteria.; Parasites.; Contagions.; Mutagens.

Thinking Skill: Analyzing

Correct Answer: D

Answers to EOG Grade 8 Science Sample Items

22. Objective 7.05

Investigate aspects of biotechnology including: Specific genetic information available; Careers; Economic benefits to North Carolina; Ethical issues; Impact for agriculture.

Thinking Skill: Analyzing

Correct Answer: A