

# Unifying Themes of Life Science

Biology · Answer Key · 20 Questions

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## 1. What is the primary focus of Biology?

- A) Studying nonliving matter and its properties
- B) Studying living things and their interactions with the environment**
- C) Studying the Earth's geological formations
- D) Studying the principles of physics and chemistry

## 2. Which of the following is a characteristic shared by all living things?

- A) They are all made of a single cell.
- B) They require sunlight to survive.
- C) They are composed of cells.**
- D) They reproduce identically every time.

## 3. What are the basic structural and functional units of life?

- A) Tissues
- B) Organs
- C) Organ systems
- D) Cells**

## 4. In the biological hierarchy, what comes directly after a tissue?

- A) Cell
- B) Organ**
- C) Organ system
- D) Organism

## 5. What is the function of the root system in plants?

- A) To produce food through photosynthesis
- B) To anchor the plant and absorb water and minerals**
- C) To transport food to other parts of the plant
- D) To attract pollinators for reproduction

## 6. Which human system is responsible for breaking down food into simpler nutrients?

- A) Respiratory system
- B) Circulatory system
- C) Digestive system**
- D) Nervous system

**7. When a sunflower faces the sunlight, it demonstrates which characteristic of living things?**

- A) Growth
- B) Reproduction
- C) Metabolism
- D) Responsiveness to stimuli**

**8. The process by which organisms regulate internal conditions to stay balanced is called:**

- A) Adaptation
- B) Homeostasis**
- C) Evolution
- D) Metabolism

**9. What is the function of xylem in plants?**

- A) Transports food made in leaves
- B) Carries water and minerals from roots to leaves**
- C) Aids in gas exchange
- D) Anchors the plant in the soil

**10. The brain sending signals to muscles for movement is an example of coordination between which two human systems?**

- A) Digestive and Circulatory Systems
- B) Respiratory and Circulatory Systems
- C) Nervous and Muscular Systems**
- D) Endocrine and Reproductive Systems

**11. What does it mean for biological systems to be interdependent?**

- A) Each system operates completely independently.
- B) The success of one system depends on others working properly.**
- C) Systems only interact during emergencies.
- D) Only animals exhibit system interdependence.

**12. Which of the following illustrates system interdependence in ecosystems?**

- A) Animals exhaling carbon dioxide that plants use for photosynthesis**
- B) Plants growing taller than surrounding trees
- C) Rocks eroding over time
- D) Water evaporating from a lake

**13. Which level of biological organization is made up of different tissues performing a specific function?**

- A) Cell
- B) Tissue
- C) Organ**
- D) Organ system

**14. What is the primary role of the excretory system in humans?**

- A) Transporting oxygen
- B) Breaking down food
- C) Eliminating waste and maintaining water/salt balance**
- D) Sending electrical signals

**15. The process of producing offspring to ensure the continuation of a species is known as:**

- A) Growth
- B) Metabolism
- C) Reproduction**
- D) Homeostasis

**16. Which human system produces hormones that regulate growth and metabolism?**

- A) Skeletal System
- B) Muscular System
- C) Nervous System
- D) Endocrine System**

**17. What is the function of the shoot system in plants?**

- A) Absorbs water and minerals
- B) Anchors the plant
- C) Includes stems, leaves, flowers, and fruits that make and transport food**
- D) Stores water in the soil

**18. If one part of an organism stopped working, how would it affect the entire organism's system, according to the text?**

- A) It would have no effect.
- B) It would likely affect the entire organism's system.**
- C) Only other related systems would be affected.
- D) It would lead to immediate death of the organism.

**19. What is the fundamental unit of life that is active, organized, and self-sustaining?**

- A) Atom
- B) Molecule
- C) Cell**
- D) Tissue

**20. The statement 'life thrives on connection, balance, and cooperation' relates to which unifying theme?**

- A) Characteristics of Living Things
- B) Levels of Biological Organization
- C) Systems of Related Parts
- D) System Interdependence**