

Science Quiz: Energy, Homeostasis, and Evolution

Science · Answer Key · 11 Questions

1. Which of the following reactions is exothermic?

- A) Burning wood in a fireplace**
- B) Dissolving ammonium nitrate in water
- C) Melting ice cubes
- D) Photosynthesis in plants

2. Which type of chemical reaction releases energy to the surroundings, usually as heat?

- A) Decomposition reaction
- B) Endothermic reaction
- C) Exothermic reaction**
- D) Neutralization reaction

3. Which statement correctly compares exothermic and endothermic reactions?

- A) Both exothermic and endothermic reactions always make the surroundings warmer.
- B) Exothermic and endothermic reactions do not involve energy changes.
- C) Exothermic reactions absorb heat, while endothermic reactions release heat.
- D) Exothermic reactions release heat to the surroundings, while endothermic reactions absorb heat from the surroundings.**

4. A person has a body temperature of 40°C. Which term refers to the body's ability to maintain a stable internal condition?

- A) Circulation
- B) Digestion
- C) Homeostasis**
- D) Respiration

5. During a basketball game, Leo's heart beats faster. After he stops and rests, his heart rate returns toward normal. What is happening?

- A) His body is trying to maintain stable internal conditions despite changes caused by exercise.**
- B) His body is preventing blood from reaching his muscles.
- C) His blood pressure must remain high for several hours after exercise.
- D) His body stops using feedback mechanisms during exercise.

6. When a person gets a cut, activated platelets release chemicals that attract more platelets until a clot forms. Why is this positive feedback?

- A) The response reduces platelets.
- B) The response increases platelet activation.**
- C) The response restores body temperature.
- D) The response stops platelet activity.

7. Which feedback mechanism reverses a change and brings the body back toward its normal condition?

- A) Forward feedback
- B) Negative feedback**
- C) Neutral feedback
- D) Positive feedback

8. A population of birds becomes separated when a river forms. Over generations, the two groups develop different characteristics. Which concept explains this?

- A) Heredity
- B) Isolation**
- C) Selection
- D) Variation

9. Which line of evidence provides preserved remains or traces of organisms from the past?

- A) Biography
- B) Comparative morphology
- C) Embryology
- D) Fossils**

10. Why is variation important in the process of evolution?

- A) It makes all organisms identical.
- B) It causes all organisms to develop the same traits.
- C) It prevents organisms from adapting to their environment.
- D) It provides differences that may help organisms survive and reproduce.**

11. What is the term for the differences in traits among individuals of the same species?

- A) Adaptation
- B) Heredity
- C) Isolation
- D) Variation**