

Chemistry in the Natural World

Chemistry · Practice Test · 12 Questions

1. Which metallic element is the central atom in the chlorophyll molecule that allows plants to perform photosynthesis?

- A) Iron
- B) Magnesium
- C) Calcium
- D) Zinc

2. What is the primary chemical compound that makes up the hard exoskeleton of crustaceans like crabs and lobsters?

- A) Chitin
- B) Cellulose
- C) Keratin
- D) Collagen

3. Which toxic heavy metal is known to biomagnify in aquatic food chains, often reaching high levels in large predatory fish?

- A) Sodium
- B) Mercury
- C) Potassium
- D) Calcium

4. The distinctive blue colour of the blood of a horseshoe crab is caused by the presence of which metal-based respiratory pigment?

- A) Iron
- B) Copper
- C) Cobalt
- D) Nickel

5. Which gas, essential for respiration in most animals, is the most abundant component of the Earth's atmosphere?

- A) Oxygen
- B) Carbon Dioxide
- C) Nitrogen
- D) Hydrogen

6. Which chemical element, found in the amino acids cysteine and methionine, gives the scent of skunk spray its potency?

- A) Sulfur
- B) Phosphorus
- C) Silicon
- D) Chlorine

7. What is the primary chemical compound that provides the structure for the cell walls of plants?

- A) Glucose
- B) Starch
- C) Cellulose
- D) Lipid

8. Which acid is produced by Formicinae ants and is used as a chemical defence mechanism?

- A) Acetic acid
- B) Formic acid
- C) Citric acid
- D) Sulfuric acid

9. What chemical element makes up the majority of a diamond, which is the hardest natural substance found in the Earth?

- A) Silicon
- B) Carbon
- C) Oxygen
- D) Gold

10. Which chemical process do plants use to convert water and carbon dioxide into glucose using sunlight?

- A) Respiration
- B) Fermentation
- C) Photosynthesis
- D) Combustion

11. Which gas do plants primarily absorb from the atmosphere to build their structural biomass?

- A) Nitrogen
- B) Carbon dioxide
- C) Oxygen
- D) Argon

12. What substance, rich in nitrogen, is secreted by many desert animals to conserve water due to its low solubility?

- A) Urea
- B) Uric acid
- C) Ammonia
- D) Glucose