

High School Chemistry Assessment

Chemistry · Answer Key · 10 Questions

1. Which subatomic particle has a relative mass of approximately 1/1840 of a proton?

- A) Neutron
- B) Proton
- C) Electron**
- D) Positron

2. What is the primary intermolecular force responsible for the high boiling point of water compared to other hydrides of group 16?

- A) Hydrogen bonding**
- B) London dispersion forces
- C) Dipole-dipole interactions
- D) Ionic bonding

3. In a redox reaction, what term describes the gain of electrons by an atom or ion?

- A) Oxidation
- B) Reduction**
- C) Neutralization
- D) Displacement

4. Which group in the periodic table consists of elements with a full valence shell of electrons?

- A) Alkali metals
- B) Halogens
- C) Noble gases**
- D) Alkaline earth metals

5. According to the collision theory, what effect does increasing the temperature have on a chemical reaction?

- A) Decreases the activation energy
- B) Decreases the frequency of collisions
- C) Increases the kinetic energy of particles**
- D) Increases the volume of the container

6. What is the empirical formula of a compound containing 40.0% Carbon, 6.7% Hydrogen, and 53.3% Oxygen by mass?

- A) CHO
- B) CH₂O**
- C) C₂H₄O
- D) CH₄O

7. Which bond type involves the electrostatic attraction between oppositely charged ions?

- A) Covalent
- B) Metallic
- C) Ionic**
- D) Polar covalent

8. What is the pH of a 0.01 M solution of a strong monoprotic acid like HCl?

- A) 1
- B) 2**
- C) 12
- D) 13

9. Which element has the highest electronegativity value on the Pauling scale?

- A) Oxygen
- B) Fluorine**
- C) Chlorine
- D) Nitrogen

10. What type of reaction involves an acid and a base reacting to form water and a salt?

- A) Combustion
- B) Precipitation
- C) Neutralization**
- D) Decomposition