



SECOND QUARTER EXAMINATION

Science 10 — Chemistry

Name: _____ Year & Section: _____

Direction: Read each item carefully. Choose the letter of the best answer and write it on the blank before each number.

- What is the number of protons in the nucleus of an atom called?
a. Mass number b. Atomic number c. Neutron number d. Valence number
- Which group in the periodic table contains the noble gases?
a. Group 1 b. Group 7 c. Group 17 d. Group 18
- The periodic table is arranged in order of increasing:
a. Atomic mass b. Atomic number c. Number of neutrons d. Number of electron shells
- Which of the following elements is a halogen?
a. Sodium (Na) b. Chlorine (Cl) c. Calcium (Ca) d. Potassium (K)
- An atom that has gained or lost electrons is called a:
a. Molecule b. Compound c. Ion d. Isotope
- Which type of bond involves the sharing of electron pairs between atoms?
a. Ionic bond b. Metallic bond c. Covalent bond d. Hydrogen bond
- Sodium chloride (NaCl) is an example of a compound held together by:
a. Covalent bonds b. Ionic bonds c. Metallic bonds d. Van der Waals forces
- What is the chemical formula for water?
a. HO b. H₂O₂ c. H₂O d. OH₂
- Which of the following is a physical change?
a. Burning wood b. Rusting iron c. Melting ice d. Souring of milk
- In a chemical equation, the substances that are produced are called:
a. Reactants b. Products c. Catalysts d. Compounds
- The law of conservation of mass states that:
a. Mass can be created during a reaction b. Mass is destroyed in exothermic reactions c. The total mass of reactants equals the total mass of products d. Mass changes depending on temperature
- A solution with a pH of 3 is:
a. Neutral b. Strongly basic c. Weakly acidic d. Strongly acidic
- Which indicator turns red in an acidic solution?
a. Phenolphthalein b. Litmus c. Bromothymol blue d. Methyl orange
- A neutralization reaction produces water and a:
a. Base b. Salt c. Acid d. Gas
- Which of the following is an example of a chemical reaction?
a. Dissolving sugar in water b. Cutting paper c. Baking a cake d. Freezing water
- The element with the symbol 'Fe' is:
a. Fluorine b. Francium c. Iron d. Fermium
- Elements in the same period of the periodic table have the same:
a. Number of valence electrons b. Number of electron shells c. Atomic mass d. Chemical properties
- What is the valence electron configuration of oxygen (atomic number 8)?
a. 2 valence electrons b. 4 valence electrons c. 6 valence electrons d. 8 valence electrons
- Which of the following best describes an exothermic reaction?

a. A reaction that absorbs heat from the surroundings

b. A reaction that releases heat into the surroundings

c. A reaction that occurs only at low temperatures

d. A reaction with no energy change

20. In the reaction: $2\text{H}_2 + \text{O}_2 \rightarrow 2\text{H}_2\text{O}$, how many molecules of water are produced for every molecule of oxygen used?

a. 1

b. 2

c. 3

d. 4

"Chemistry is the study of matter, but I prefer to see it as the study of change." — Prepared by: Science Department

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