

AIS Learning

O/L Sciences

Practice Tutorial

Lesson 02: Fundamentals of Chemistry

1. Atomic Structure:

- a. Define an atom and list its three main subatomic particles.
- b. If an atom has 6 protons, 6 neutrons, and 6 electrons, what is its atomic number?

2. Periodic Table:

- a. Explain the organisation of the periodic table.
- b. Identify the group and period of an element with the electron configuration 2-8-7.

3. Chemical Bonding:

- a. Define ionic and covalent bonding.
- b. Provide an example of a compound formed by each type of bonding.

4. Chemical Reactions:

- a. Write the balanced chemical equation for the reaction between hydrogen and oxygen to form water.
- b. Identify the reactants and products in the above equation.

5. Stoichiometry:

- a. If 2 moles of hydrogen react with 1 mole of oxygen, how many moles of water are produced?
- b. Calculate the mass of 3 moles of carbon dioxide.

6. States of Matter:

- a. Define the terms solid, liquid, and gas.
- b. Explain the process of sublimation.

7. Acids and Bases:

- a. Define an acid and a base.
- b. Provide the pH range for acidic, neutral, and basic solutions.

8. Chemical Kinetics:

- a. Explain the factors that influence the rate of a chemical reaction.

9. Thermodynamics:

- a. Define enthalpy and entropy.
- b. Explain the difference between an exothermic and endothermic reaction.

10. Organic Chemistry:

- a. Define an organic compound.
- b. Provide an example of an alkane and an alkene.

Try those questions by yourself and submit your answers to us.

We can evaluate it for you!!!!

Happy Learning!!!!

-Evaluation Team AIS Learning