SCIENCE BLUEPRINT

Science Curriculum Overview

CHAPTER 1 - RESPIRATION

No	Sub Chapter	Main Topics
1.1	The human respiratory system	Parts of the human respiratory system and the functions of each part.
1.2	Gas exchange	The structure of an air sac, gas exchange in the air sacs, and factors affecting the efficiency of diffusion.
1.3	Breathing	Breathing mechanics (inhalation & exhalation), bell-jar lung model, effect of physical exercise on breathing.
1.4	Respiration	Aerobic respiration, using energy to stay alive, releasing energy.
1.5	Blood	Components of blood and the functions of each component.

CHAPTER 2 - PROPERTIES OF MATERIALS

No	Sub Chapter	Main Topics
2.1	Dissolving	Solution, difference between dissolving and melting, difference between concentrated, dilute, and saturated, difference between transparent and opaque.
2.2	Solution and solubility	Solutions, solubility, comparing solubility, temperature and solubility, the effect of temperature on solubility and speed of dissolving, measurement of solubility.
2.3	Planning a solubility investigation	Identifying variables, experimental parameters, ensuring test reliability and accuracy.
2.4	Paper chromatography	Definition and function of paper chromatography, identifying pure substances vs mixtures using chromatograms, relative solubility of pigments.