



Cambridge Lower Secondary Programme Science Curriculum Framework: Year 8

Scientific Enquiry

Students should be able to:

- Select ideas that can be tested.
- Plan investigations to test these ideas.
- Make predictions using scientific knowledge.
- Identify important variables and choose which variables to vary.
- Take accurate measurements.
- Present results as appropriate graphs.
- Make simple calculations.
- Identify trends and patterns in results.
- Compare results with predictions.
- Identify anomalous results and suggest improvements to investigations.
- Interpret qualitative data from secondary sources.

Biology

Plants

Students should be able to:

- Recognise the parts of a flower and relate these to their function Bp4
- Describe the absorption and transport of water and mineral salts in flowering plants. Bp3

Humans as Organisms

Students should be able to:

- Identify the constituents of a balanced diet and the functions of various nutrients. Bh2
- Understand the effects of nutritional deficiencies. Bh2
- Recognise the organs of the alimentary canal and know their functions. Bh3
- Understand the function of enzymes as biological catalysts. Bh3
- Recognise the basic components of the circulatory system and know their functions. Bh4
- Understand the relationship between diet and fitness. Bh5
- Describe disorders of the circulatory system and relate these to diet. Bh5
- Recognise the basic components of the respiratory system and know their functions. Bh6
- Explain gaseous exchange. Bh6
- Describe the effects of smoking. Bh6
- Define and describe respiration including the use of a word equation. Bh7

Chemistry

Materials

Students should be able to:

- Give chemical symbols for the first twenty elements of the Periodic Table. Cm1
- Understand that elements are made of atoms. Cm1
- Explain the idea of compounds. Cm2
- Name some common compounds including oxides, hydroxides, chlorides, sulphates and carbonates. Cm2
- Distinguish between elements, compounds and mixtures. Cm3
- Describe and explain the differences between metals and non-metals. Cm4

Note: The codes provided refer to the corresponding Checkpoint learning outcomes.



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Chemical Change

Students should be able to:

- Use a word equation to describe a common reaction. Cc1
- Describe chemical reactions which are not useful e.g. rusting. Cc2

Physics

Magnetism

Students should be able to:

- Describe the properties of magnets. Pm1
- Recognise and reproduce the magnetic field pattern of a bar magnet. Pm2
- Construct and use an electromagnet. Pm3

Light

Students should be able to:

- Use rectilinear propagation of light to explain the formation of shadows and other phenomena. P11 P12
- Describe how non-luminous objects are seen. P13
- Describe reflection at a plane surface and use the law of reflection. P14
- Investigate refraction at the boundary between air and glass or air and water. P15
- Explain the dispersion of white light. P16
- Explain colour addition and subtraction, and the absorption and reflection of coloured light. P17

Sound

Students should be able to:

- Explain the properties of sound in terms of movement of air particles. Ps1
- Recognise the link between loudness and amplitude, pitch and frequency. Ps2

Energy

Students should be able to:

- Understand what is meant by energy and energy conservation. Pe2
- Recognise different types of energy and energy transformations. Pe2

Forces and Motion

Students should be able to:

- Calculate average speeds Pf1
- Interpret simple distance/time graphs. Pf1
- Describe the effects of forces on motion. Pf2
- Describe the effect of gravity on objects. Pf2