Student Book: *Essential Chemistry for Cambridge Secondary 1: Stage 9*

Curriculum Framework: Cambridge Secondary 1 Science: Stage 9

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<td><strong>Scientific Enquiry</strong></td>
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<td>Essential Science for Cambridge Secondary 1 has been designed to support students in thinking and acting like scientists. Scientific enquiry is embedded at appropriate points throughout the book, allowing students to apply scientific enquiry directly to the content they are learning about. Particular focus on scientific enquiry learning objectives is given in the orange ‘Practical activity’ features. Students should also be referred back to the dedicated ‘Scientific enquiry’ chapter at the end of Stage 7 (pages 218–223). This holistic approach ensures that all scientific enquiry learning objectives are covered.</td>
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**Chemistry**

**Chemistry: Material properties**

- Describe the structure of an atom and learn about the methods and discoveries of Rutherford. Pages 6–9
- Compare the structures of the first twenty elements of the Periodic Table. Pages 4–5 and 12–13
- Describe trends in groups and periods. Pages 10–11
- Talk about the contribution of scientists. Secondary sources can be used. Pages 6–7

**Chemistry: Material changes**

- Explore and explain the idea of endothermic processes, e.g. melting of ice, and exothermic reactions, e.g. burning, oxidation. Pages 46–47
- Describe the reactivity of metals with oxygen, water and dilute acids. Pages 24–29
- Explore and understand the reactivity series. Pages 32–33
- Give examples of displacement reactions. Pages 30–31
- Explain how to prepare some common salts by the reactions of metals and metal carbonates and be able to write word equations for these reactions. Pages 14–19
- Give an explanation of the effects of concentration, particle size, temperature and catalysts on the rate of a reaction. Pages 34–41