Rates of Reaction

- How can we change the rate of a chemical reaction?
- How can we monitor the rate of a chemical reaction?
- How can we interpret rate of reaction graphs?

Atomic structure and bonding related to properties of materials

- What is an element?
- What is the Periodic Table?
- What is the difference between a “group” and a “period” in the Periodic Table?
- Where can we find metals and non-metals in the Periodic Table?
- What do elements in the same group of the Periodic Table have in common?
- What is an atom?
- What is inside an atom?
- What do the atomic and mass numbers of an atom represent?
- Why are atoms neutral?

Atomic structure and bonding related to properties of materials

- What is a compound?
- How can we name compounds?
- What does a chemical formula tell us?
- What is meant by “valency”?
- How can we write a chemical formula using valency rules?
- How can we write a chemical formula using prefix rules?
- What is meant by “formula mass”?
- How can we calculate “formula mass”?
- How can we write word equations for chemical reactions?
- How can we write formula equations for chemical reactions?
- How can we show states in chemical equations?

Atomic structure and bonding related to properties of materials

- What are the differences between ionic and covalent bonds?
- What are the properties of ionic and covalent substances (melting point, boiling point, state at room temperature, electrical conductivity)?
- How can we tell if a substance is ionic or covalent?

Energy changes of chemical reactions

- What is meant by “exothermic” and “endothermic”?
- How can we tell if a reaction is “exothermic” or “endothermic”?

Acids and Bases

- What is an acid?
- What is a base?
- What are the differences between acids and bases?
- What is pH?
- How can we measure pH?
- What pHs do metal oxides have?
- Where does carbon dioxide, sulphur dioxide and nitrogen dioxide in the atmosphere come from?
- What effects do carbon dioxide, sulphur dioxide and nitrogen dioxide have on the environment?
- What are the health effects of acids in the diet?
- What is meant by “neutralisation”?
- How can we follow the course of a neutralisation reaction?
- How can we write equations showing neutralisation reactions?
- How can we name salts?