

**Chemistry
Key Stage 3
Programme of Study**

KS3 The particulate nature of matter

Ch1	To know the 3 states of matter and be able to describe the properties of each state (solid, liquid and gas) using the particle model, including gas pressure
Ch2	To be able to explain changes of state in terms of the particle model

KS3 Atoms, elements and compounds

Ch3	To know about the simple (Dalton) atomic model
Ch4	To know the differences between atoms, elements and compounds
Ch5	To understand chemical symbols and formulae for elements and compounds
Ch6	To understand conservation of mass, changes of state and chemical reactions

KS3 Pure and impure substances

Ch7	To know about the concept of a pure substance
Ch8	To know about mixtures, including dissolving
Ch9	To be able to explain diffusion in terms of the particle model
Ch10	To know simple techniques for separating mixtures: filtration, evaporation, distillation and chromatography
Ch11	To know about the identification of pure substances

KS3 Chemical reactions

Ch12	To understand chemical reactions as the rearrangement of atoms
Ch13	To be able to represent chemical reactions using formulae and using equations
Ch14	To know about combustion, thermal decomposition, oxidation and displacement reactions
Ch15	To be able to define acids and alkalis in terms of neutralisation reactions

Ch16	To know about the pH scale for measuring acidity/alkalinity; and indicators
Ch17	To know that reactions of acids with metals produce a salt plus hydrogen
Ch19	To know that reactions of acids with alkalis produce a salt plus water
Ch20	To understand what catalysts do
KS3 Energetics	
Ch21	To understand energy changes on changes of state (qualitative)
Ch22	To know about exothermic and endothermic chemical reactions (qualitative)
KS3 The Periodic Table	
Ch23	To know about the varying physical and chemical properties of different elements
Ch24	To understand the principles underpinning the Mendeleev periodic table
Ch25	To know about the periodic table; to be able to identify periods and groups in the periodic table
Ch26	To be able to demonstrate where metals and non-metals are to be found in the periodic table
Ch27	To explain how patterns in reactions can be predicted with reference to the periodic table and the reactivity series
Ch28	To know the properties of metals and non-metals
Ch29	To be able to explain chemical properties of metal and non-metal oxides with respect to acidity
KS3 Materials	
Ch30	To know the order of metals and carbon in the reactivity series
Ch31	To know about the use of carbon in obtaining metals from metal oxides
Ch32	To know the properties of ceramics, polymers and composites (qualitative)

KS3 Earth and Atmosphere - Know the structure of the earth, the rock cycle and how humans can influence the volume of carbon dioxide in the atmosphere

Ch33	To know about the composition of the Earth
Ch34	To know about the structure of the Earth
Ch35	To know about the rock cycle and the formation of igneous, sedimentary and metamorphic rocks
Ch36	To understand that the Earth is a source of limited resources and the efficacy of recycling
Ch37	To be able to describe the rock cycle and the formation of igneous, sedimentary and metamorphic rocks
Ch38	To be able to explain the composition of the atmosphere
Ch39	To be able to explain how the production of carbon dioxide by human activity can have an impact on climate