

Subject:

Chemistry



HECKMONDWIKE
GRAMMAR SCHOOL

KS 4 Year 9 Curriculum Overview

Autumn Term

Topics being taught

C1 Atomic structure and the periodic table-

States of matter, atoms and ions
Formulae and balancing equations
The periodic table and its history
Groups 1,7 and 0 and the transition metals

C2 Structure and bonding-

Ionic and covalent bonding
Properties of ionic lattices, simple molecules, giant covalent and metallic structures

Term 1

What you will be assessed on

Describing structures of atoms and ions in terms of sub-atomic particles
Writing simple formulae and balancing equations

Term 2

Reactivity of the elements in groups 1,7, 0 and transition metals.
Explaining the properties of materials based on their structures and bonding

How you can support at home

Be familiar with the [specification](#) and the [units](#) covered!

[Bitesize revision on atomic structure Videos](#) on the whole of unit 1 to review the key ideas

[Bitesize revision on structure and bonding](#)

[Self directed Educake](#) quizzes on C1 Atomic structure

CHRISTMAS HOLIDAYS - CHRISTMAS HOLIDAYS - CHRISTMAS HOLIDAYS - CHRISTMAS HOLIDAYS

Spring Term

Topics being taught

C2 Structure and bonding-

Nanotechnology and states of matter.

C4 Chemical changes -

Reactions of acids with bases
Strength of acids and bases
Reactivity of metals and displacement reactions.
Oxidation and reduction

Term 3

What you will be assessed on

Explaining the properties of materials based on their structures and bonding. Changes of state.

Term 4

Equations for reactions between acids and metal oxides, carbonates and hydroxides.

How you can support at home

[Nanotechnology](#) on bitesize

[States of matter](#)

[Neutralisation](#) revision

[Free science lessons](#) videos on this topic

EASTER HOLIDAYS - EASTER HOLIDAYS - EASTER HOLIDAYS - EASTER HOLIDAYS - EASTER HOLIDAYS

Summer Term

Topics being taught

C9 Chemistry of the Atmosphere

The development of the Earth's atmosphere
Pollution and its effects on the environment, including global warming and other pollutants from combustion.

C8 Chemical analysis

Techniques used to analyse substances, including chromatography, gas tests, instrumental analysis and chemical tests

Term 5

What you will be assessed on

Theories about how our atmosphere has developed including changes to the levels of oxygen and carbon dioxide. The greenhouse effect and the impact of human activity on the environment and climate change. Common pollutants and their sources

Term 6

Pure substances and formulations. How chromatography can be used to separate mixtures. Identification of ions using chemical tests and flame tests.

How you can support at home

Review how the [Earth's atmosphere](#) changed....

Know the different [pollutants](#) in our atmosphere

[Tests for common gases](#)

[Learn the chemical tests for different anions and cations](#)