



Science: Year 8 Overview

Autumn term

B7—Lungs and gas exchange:

Students learn the structures of the breathing system and the mechanism of breathing. They learn about how an insect and a fish breath. Students study the structures of the heart and the circulatory system.

B8 – Respiration:

Students learn about respiration, the word and chemical equation. They differentiate between aerobic and anaerobic respiration in human and yeast cell. They carry practical investigations to test the product of aerobic respiration and what happens during exercise.

B9—Inheritance and variation:

Students learn about variations in species and what causes variation. They study the structure of DNA, from its discovery to how changes in DNA drives evolution. They study Darwin's theory of natural selection and artificial selection.

C7 – The periodic table:

Students learn the history of the periodic table following the footsteps of Dmitri Mendeleev and other early scientists by looking at the patterns in the periodic table. They study the reactions of group 1, 7 and 0 and identify trends in reactivity of elements in the groups.

C8 – Extracting metals:

Students learn about the reactivity series and how this is used in the extraction of metals. They investigate how metals are extracted through reduction and electrolysis. They study the uses of metals based on their properties.

C9—Reactions of acids:

Students investigate the reactions of acids with metals, carbonate and alkali in a neutralisation reaction. They carry out an investigation to make a pure salt using a metal oxide and sulphuric acid.

P7 – Domestic and static electricity:

Students learn to calculate Power and energy use in domestic electricity. They learn about static electricity and carry out investigations to show attraction and repulsion of charges using different objects.

P8 – Heat transfer:

Students learn how heat travels by conduction, convection and radiation. Students carry out an investigation to find out the best emitters of radiation. They learn about insulation in homes and other materials we use every day.

Spring term

P9—Exploring space:

Students learn about seasons of the year, phases of the moon and lives of the stars. They learn about the changing ideas of the solar system.

B10 – Microbes:

Students study the structure of bacteria, viruses and fungi that cause disease. We learn how the body defend and protect us from these microbes. They learn about antibiotics and how vaccination works.

B11 – Drugs and health:

Students study the different types of drugs and their effects. They learn the stages of new drug testing and reasons for the stages.

C10 – Describing reactions:

Students study different types of reactions, bond breaking and bond making. They carry out investigations to find the different factors that affect the rate of reaction.

Summer term

C11—Earth and atmosphere:

Students study the different layers of the atmosphere and the rock cycle. They learn how human activity affects the climate causing global warming and the life cycle of a product.

P10 – Waves and sound:

Students study features of sound waves, and how it can be reflected. They study ultrasound and how they are used; calculate the distance sound waves travel.

P11 – Light:

Students study the features of waves, and how light waves can be reflected and refracted. They study different materials to know if they allow light to pass through. They investigate the pin-hole camera, convex lens, the eye and coloured light.

Year 8 to Year 9 Transition