



Science: Curriculum Overview

Year 8

NB: Each class will study each of the sciences across the year but in a different order.

| Half Term | Topic studied | What will I learn? | How will I be assessed? |
|---------------------|-----------------------------------|---|-------------------------|
| Physics: one term | Earth in Space | Solar system, suns and universe; Properties of light; History of Astronomy; Planets and Orbits; Size of the solar system; Suns, galaxies and seeing objects; Day, night and eclipses; Years, seasons, daylight and seasonal stars; Gravity and satellites (natural, polar and geostationary); Life Quest | End of topic Test |
| | Light | How light travels; Pin hole cameras; Absorption and reflection; Refraction; Spectrum; Colour by transmission; Colour by reflection | |
| | Forces | Forces and how they act; Pressure and equation; Hydraulics – pneumatics; Turning moments, Pivots and levers; Balanced and unbalanced turning effects; Applications of moments; Finding unknowns | |
| | Sound | Speed of sound; Vibration; Bell in a bell jar; Range of Hearing and effects of loud sounds on hearing; Loudness and pitch/frequency | |
| Chemistry: one term | Energy in chemistry (5 lessons) | That food contains chemical energy; How much energy a food has can be determined by burning the food; That chemical reactions give out (exothermic) or take in (endothermic) energy; What happens to the temperature of a substance when it is heated or cooled and be able to explain the shape of the curve using particles | End of topic test |
| | The Periodic Table (5 lessons) | The periodic table contains elements, which all have a unique symbol; Compounds can be represented using formulas; The value of the Periodic table; To be able to understand the tests for oxygen, hydrogen and carbon dioxide | |
| | Metals and reactivity (8 lessons) | Properties of metals; Some metals readily react with water; Know how to build up a reactivity series by using the reactivity of metals with water acid and displacement reactions; How electricity can be generated in chemical reactions | |
| | Chemical change (6 lessons) | The difference between physical and chemical change; Signs of a physical change versus a chemical change; Know that no atoms are lost or made during a chemical reaction and that the mass of the products equals the mass of the reactants; How to make a salt by reacting a metal carbonate with an acid; How insoluble salts are made. | |
| Biology: one term | Nutrition | Food groups and food tests; Balanced diet | End of topic tests |
| | Digestion | The digestive system; Enzymes | |
| | Respiration | Respiration; Respiratory system and gaseous exchange; Anaerobic respiration | |
| | Healthy Living | Exercise on rate of breathing and heart rate; Smoking; Drugs; Alcohol | |
| | Photosynthesis | Leaf structure; Photosynthesis practicals; Minerals | |
| | Classification | Classification | |

