Year 7 Science Curriculum Plan

Chemistry
Biology
Physics

Scientific attitudes | Analysis & investigation | Experimental skills & investigations | Measurements

Autumn

Introduction and Safety
Hazard symbols; lab safety; solids, liquids and gases; particle model.
Key terms: solid, liquid, gas, corrosive, flammable, irritant, hazardous.

Changes of state
Melting; freezing; evaporating; boiling; condensing.
Key terms: solid, liquid, gas, melting, freezing, evaporating, boiling, condensing, conservation of mass.

Energy transfers and resources
Sankey diagrams; efficiency; energy stores; energy resources; making batteries.
Key terms: energy, transfer, store, pathway, kinetic, thermal, chemical, elastic, electrical, gravitational, nuclear, light, sound, magnetic, efficiency, useful, wasted.

Cells and organisation
Adaptations; plant cells; animal cells; cell structure; microscope skills; scientific drawing; plant and animal organisation.
Key terms: nucleus, membrane, respiration, specialised, chloroplast, mitochondria, organ system, adaptations, epithelial.

Separation techniques
Chromatography; distillation; filtration; solubility; pure substances.
Key terms: soluble, insoluble, evaporation, condensation, distillation, chromatography, crystallisation, filtration.

Spring

Reproduction
Human reproduction; menstrual cycle; gestation; birth; plant reproduction; pollination; flower dissection; seed investigation.
Key terms: asexual, sexual, ovule, pollen, gamete, zygote, embryo, enzyme, acrosome, pollination, anther, stigma, conservation, competition.

Forces
Gravity; air resistance; speed; friction; density; forces.
Key terms: force, newtons, independent variable, dependent variable, control variable, hypothesis, prediction, correlation, directly proportional.

Periodic table and elements
Elements; groups; properties; compounds; mixtures; chemical reactions.
Key terms: group, period, element, atom, molecule, compound, exothermic, endothermic, precipitation, oxidation, reduction, thermal decomposition, combustion, neutralisation.

Summer

Genetics and evolution
DNA; chromosomes; genes.
Nature reserve visit
Variation; heredity; observation skills.
Key terms: DNA, chromosome, nucleus, gene expression, characteristic, protein, genetic factor, environmental factor, twins, ancestor, parent, offspring.

Heat transfers
Solids, liquids and gases; convection; conduction; particle model.
Key terms: solid, liquid, gas, particles, heat, thermal, temperature, conductor, insulator, convection, radiation.

Space
Planets; stars; galaxies
Key terms: planet, star, orbit, satellite, galaxy, universe, moon.

Conservation
Wildlife; environment; species.

Solubility project
Variables; solubility; presentation skills; method writing.

Extra reading: Horrible Science Titles (Microscope Monsters; Dangerous Diseases; Nasty Nature, Chemical Chaos, The Smashing Solar System, Fatal Forces); Cellfies; The Periodic Table, A Visual Guide to the Elements; The Extraordinary Life of Katherine Johnson; Unlocking the Universe.