

Year 7 Curriculum Overview 2026-7

	Autumn 1 (7 weeks)	Autumn 2 (7 weeks)	Spring 1 (5 weeks)	Spring 2 (6 weeks)	Summer 1 (6 weeks)	Summer 2 (7 weeks)
Topic	Transition Unit Working Scientifically Secure Foundations	Cell structure Skeletal and muscular system Introduction to forces	Particle model and states of matter Forces continuation Pure substances and separating mixtures	Observing waves Sound waves and light waves Ecosystems and interdependence	Acids and alkalis Plant and human reproduction	Earth and its atmosphere Space: solar systems
Big questions	How do scientists work safely and accurately? How do we plan and carry out a fair test? What key science ideas from primary school will help us in Year 7? How can evidence help us explain what we observe?	What are living things made from? How are cells, tissues, organs and organ systems linked? How do the skeleton and muscles help the body move? How can forces change speed, direction or shape?	How does the particle model explain solids, liquids and gases? How can we separate mixtures using their properties? How can forces explain changes in movement?	How do sound and light travel? How can wave models help us explain what we see and hear? How do organisms depend on each other in ecosystems?	How can we tell whether a substance is acidic, alkaline or neutral? What happens during neutralisation? How do plants and humans reproduce?	What is the Earth made from and how has its atmosphere changed? How do the Sun, Earth and Moon move? How can models help us explain day, night and the solar system?
Prerequisite knowledge and skills	- Y3-Y6 Working scientifically: ask questions, plan enquiries, identify variables, measure accurately, record data, use tables/graphs, identify patterns and use evidence. - Y4-Y6 KS2 science: states of matter, materials and mixtures, forces, circuits, light, sound, body systems, life cycles, classification, habitats and food chains.	- Y3: skeletons and muscles; nutrition; forces and magnets. - Y4: digestive system and simple series circuits. - Y5: gravity, friction, air resistance and water resistance. - Y6: circulatory system; circuit symbols. - Key skill: use labelled diagrams and simple models.	- Y4: solids, liquids, gases, changes of state, evaporation and condensation. - Y5: dissolving, solutions, reversible changes, filtering, sieving and evaporation; gravity, friction, air resistance and water resistance. - Y5-Y6 Working scientifically: accurate measurement, repeat readings, tables/graphs and evidence-based conclusions.	- Y3/Y6: light, reflection, shadows and light travelling in straight lines. - Y4: sound as vibrations travelling through a medium. - Y2/Y4/Y6: habitats, food chains, classification keys and grouping living things. - Key skill: use evidence to classify and explain patterns.	- Y5: properties and changes of materials, reversible/irreversible changes, including the action of acid on bicarbonate of soda. - Y5: life cycles and reproduction in some plants and animals. - Y5: human development and puberty. - Y6: variation, inheritance and adaptation without genes/chromosomes detail.	- Y3: rocks, soils and fossils. - Y5: movement of Earth and planets relative to the Sun, Moon relative to Earth, spherical bodies, day/night and apparent movement of the Sun. - Y4/Y6: environmental change and evidence-based explanations. - Key skill: use models to explain large-scale systems.
Domains of knowledge	<i>Scientific enquiry, particles, forces, organisms</i>	<i>Cells, organisation, forces</i>	<i>Particles, materials, forces</i>	<i>Waves, ecosystems</i>	<i>Reactions, reproduction</i>	<i>Earth, atmosphere, space</i>
Concepts	- Laboratory safety and routines - Hazards, risks and control measures - Equipment, measurement and units - Scientific questions and variables - Planning investigations and risk assessment - Tables, repeat readings and presenting data - Describing patterns and using evidence - Secure Foundations: states, mixtures, separation, forces, circuits, light and sound, body organisation, life cycles, classification and ecosystems	- Cells as the basic unit of living things - Animal and plant cells - Using a light microscope - Levels of organisation - Tissues, organs and organ systems - Skeleton: support, protection and movement - Muscles and antagonistic pairs - Forces as pushes and pulls - Contact and non-contact forces	- Solids, liquids and gases - Changes of state - Particle arrangements and movement - Pure substances and mixtures - Soluble and insoluble substances - Filtration, evaporation and chromatography - Forces, friction and resistance - Speed, distance and time - Simple distance-time graphs	- Waves as transfers of energy - Sound from vibrations - Sound travelling through a medium - Light travelling in straight lines - Reflection and shadows - Habitats and ecosystems - Food chains and food webs - Producers, consumers, predators and prey - Interdependence and environmental change	- Acids, alkalis and neutral substances - Indicators and the pH scale - Neutralisation reactions - Safe handling of acids and alkalis - Human reproductive systems - Fertilisation, pregnancy and birth - Plant reproductive structures - Pollination, fertilisation, seed and fruit formation	- Structure of the Earth - Igneous, sedimentary and metamorphic rocks - Rock cycle - Earth resources and recycling - Composition and changes in the atmosphere - Greenhouse effect and climate change - Sun, Earth and Moon - Day and night - Planets and the solar system - Gravity in space

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Practical skills	- Identifying hazards and reducing risk - Choosing suitable laboratory equipment - Measuring accurately with correct units - Using a Bunsen burner safely - Planning simple investigations - Identifying independent, dependent and control variables - Recording results in tables - Describing patterns using evidence - Producing a transition report or display for settling-in evening	- Preparing and observing cells using a light microscope - Drawing scientific diagrams from microscope observations - Using magnification calculations at a simple level - Modelling levels of organisation - Investigating the action of muscles using simple models - Measuring forces using newton meters - Observing effects of forces on objects	- Modelling particle arrangements - Observing changes of state - Separating mixtures using filtration - Separating mixtures using evaporation - Chromatography of inks or dyes - Measuring distance and time to calculate speed - Collecting data from simple force and motion practicals - Drawing and interpreting simple graphs	- Observing vibrations that produce sound - Investigating how sound changes with distance or material - Investigating reflection of light - Modelling straight-line travel of light - Investigating shadows - Constructing and interpreting food chains and food webs - Using classification keys - Using evidence to explain changes in ecosystems	- Using indicators safely - Testing acids and alkalis using universal indicator - Neutralisation practical - Recording pH values accurately - Flower dissection - Modelling fertilisation and seed formation - Interpreting data about reproduction and development	- Modelling the structure of the Earth - Classifying rocks from observable properties - Modelling the rock cycle - Interpreting evidence about atmospheric change - Modelling day and night - Modelling orbits in the solar system - Using secondary data about planets and space
Assessment	Baseline assessment to check prior knowledge and transition skills. Practical routines and Working Scientifically skills check. Transition report or display task.	End of Unit assessment to assess impact.	End of Unit assessment to assess impact.	KS3 exam assessing all topics covered so far this year. End of Unit questions where appropriate.	End of Unit assessment to assess impact.	End of Year assessment covering all Year 7 topics from September.
Tier 3 Vocabulary (literacy in science)	<i>hazard, risk, control measure, apparatus, measurement, unit, variable, independent variable, dependent variable, control variable, prediction, evidence, pattern, conclusion, particle, mixture, force, circuit, organism, organ system, organ, tissue, cell, classification, ecosystem</i>	<i>cell, nucleus, cytoplasm, cell membrane, cell wall, chloroplast, vacuole, microscope, magnification, tissue, organ, organ system, skeleton, muscle, joint, tendon, ligament, force, contact force, non-contact force, gravity, friction, newton</i>	<i>particle, solid, liquid, gas, melting, freezing, evaporation, condensation, sublimation, pure substance, mixture, soluble, insoluble, solution, solvent, solute, filtration, evaporation, chromatography, friction, air resistance, water resistance, speed, distance, time</i>	<i>wave, vibration, medium, pitch, volume, frequency, amplitude, reflection, ray, shadow, transparent, translucent, opaque, habitat, ecosystem, population, community, producer, consumer, predator, prey, food chain, food web, interdependence, adaptation</i>	<i>acid, alkali, neutral, indicator, universal indicator, pH, neutralisation, salt, reproductive system, gamete, fertilisation, embryo, foetus, gestation, puberty, pollination, pollen, ovule, seed, fruit, dispersal</i>	<i>crust, mantle, core, tectonic plate, igneous rock, sedimentary rock, metamorphic rock, rock cycle, erosion, weathering, atmosphere, carbon dioxide, greenhouse gas, climate change, orbit, axis, rotation, planet, moon, star, solar system, gravity</i>
Supporting learning at home	Century.tech – short video nuggets and review tasks; Satchel One – to check homework; The National Academy – video lessons and review questions; Kerboodle – access to textbooks.					
Careers	<i>laboratory technician, research scientist, science teacher, health and safety officer, data analyst, science communicator, forensic scientist</i>	<i>biomedical scientist, clinical scientist, laboratory technician, physiotherapist, sports scientist, radiographer, medical illustrator</i>	<i>materials scientist, chemical engineer, forensic scientist, analytical chemist, laboratory technician, vehicle safety engineer, product tester</i>	<i>acoustician, sound engineer, optical engineer, lighting designer, ecologist, conservation scientist, environmental consultant, wildlife officer</i>	<i>pharmacist, doctor, nurse, midwife, fertility specialist, botanist, plant scientist, horticulturalist, pharmaceutical technician</i>	<i>geologist, meteorologist, climate scientist, astronomer, astrophysicist, aerospace engineer, planetary scientist, environmental scientist</i>