

All Saints CVA

Science Cycle A Coverage Year 3 and Year 4

Mixed age curriculum overview 2026 to 2027

Curriculum organisation.

Cycle A teaches the six Kapow Year 4 units to Years 3 and 4. The current Year 4 cohort previously completed the Year 3 sequence and then the Year 2 sequence within the former Year 2/3 class. Current Year 3 pupils will complete the Year 3 sequence in Cycle B, securing full lower KS2 coverage over two years.

Mixed-age progression.

Both year groups study the same scientific theme. Teachers check prerequisite knowledge and adapt modelling, recording and independence. Year 3 pupils build from their KS1 starting points and are not expected to meet Year 4 endpoints immediately; Year 4 pupils work towards the full Year 4 knowledge and lower KS2 working scientifically outcomes.

Term	Year 3 and 4 Cycle A Kapow Year 4 unit	Coverage and essential knowledge	Working scientifically	Key vocabulary	Assessment evidence
Autumn 1	Animals Including Humans: Digestion and Food.	Essential knowledge. The digestive system has connected organs with specific functions; humans have incisors, canines, premolars and molars; food chains identify producers, predators and prey.	Skills. Ask relevant questions; use models and fair tests; make careful observations; record with diagrams and tables; use evidence to explain findings.	digestive system, mouth, oesophagus, stomach, small intestine, large intestine, saliva, incisor, canine, premolar, molar, producer, predator, prey	Label and explain the digestive system; identify tooth types and functions; interpret food chains; use observations or test results to explain dental-health choices.
Autumn 2	Energy: Electricity and Circuits.	Essential knowledge. Electrical appliances use mains electricity or cells; a complete series circuit needs correctly connected components; switches open and close circuits; metals are commonly conductors.	Skills. Ask questions; construct and compare circuits; make systematic observations; use labelled diagrams; record results; predict, test and improve.	electricity, appliance, mains, cell, battery, wire, bulb, buzzer, motor, switch, circuit, complete loop, conductor, insulator	Build and diagnose a simple series circuit; draw and label components; explain switch action; classify conductors and insulators using evidence.
Spring 1	Materials: States of Matter.	Essential knowledge. Materials can be grouped as solids, liquids or gases; heating and cooling can change state; melting and freezing occur at particular temperatures; evaporation and condensation drive the water cycle.	Skills. Classify materials; measure temperature accurately; set up enquiries; observe change over time; record in tables or diagrams; conclude from evidence.	solid, liquid, gas, state, melting, freezing, evaporation, condensation, temperature, degrees Celsius, water cycle, precipitation	Classify and justify; interpret temperature observations; explain changes of state and the water cycle; use results to link evaporation rate with temperature.
Spring 2	Energy: Sound and Vibrations.	Essential knowledge. Sounds are produced by vibrations; vibrations travel through a medium to the ear; pitch relates to features of the sound source; stronger vibrations make louder sounds; sound fades with distance.	Skills. Plan comparative tests; observe and measure carefully; identify patterns; record and present data; draw conclusions, predict and suggest improvements.	sound, vibration, medium, ear, volume, pitch, sound source, distance, high, low, loud, quiet, insulation	Explain sound using vibration; investigate pitch, volume or distance; present results; identify a pattern and support a conclusion with evidence.
Summer 1	Living Things: Classification and Changing Habitats.	Essential knowledge. Living things can be grouped in different ways; classification keys help identify organisms; environments change naturally and through human action, sometimes creating dangers for living things.	Skills. Observe local organisms; group and classify; use and evaluate keys; gather and present data; identify similarities and differences; use evidence to answer questions.	classification, classification key, organism, vertebrate, invertebrate, flowering, non-flowering, environment, habitat, conservation, pollution, deforestation, endangered	Use and create a classification key; justify groupings; survey a habitat; explain how environmental change may affect living things and suggest responsible action.
Summer 2	Making Connections: How Does the Flow of Liquids Compare.	Essential knowledge. Apply knowledge of states of matter, temperature and material properties to compare how liquids flow. Recognise that viscosity and temperature can affect flow and that properties influence use.	Skills. Choose an enquiry approach; control relevant variables; measure time or distance; repeat readings; record in tables and graphs; compare, conclude, evaluate and raise further questions.	liquid, flow, viscosity, temperature, property, variable, comparative test, measurement, data, result, pattern, conclusion	Plan and carry out a comparative enquiry; present data clearly; explain patterns using scientific ideas; evaluate reliability and propose an improvement or further question.

Connections across the year.

Retrieval links digestion to food chains and classification; material properties and changes of state support the final liquids enquiry; measurement, recording, pattern seeking and evidence-based explanation become increasingly independent.

Coverage assurance.

Teachers retain evidence from discussion, models, practical work, diagrams, tables, graphs and explanations. Subject leadership checks that all statutory Year 4 content and lower KS2 working scientifically skills are taught and that Cycle B completes the Year 3 sequence.

Curriculum basis: National Curriculum in England Science Programmes of Study and Kapow Primary Science. Detailed lesson resources and copyrighted scheme materials are retained securely in school.

Science Cycle A Progression Inclusion and Implementation

Year 3 and Year 4 mixed age class

The class shares a coherent Year 4 scientific sequence while teaching, support and assessment reflect each pupil's starting point. The rolling programme secures lower KS2 coverage across two years and increases precision, independence and the quality of scientific reasoning.

Phase	Starting points and curriculum	Teaching emphasis	Expected evidence and progression
Year 3	Pupils have completed the Year 2 sequence. Teachers identify and teach prerequisite Year 3 ideas needed to access each shared Year 4 theme. Pupils will complete the full Year 3 sequence in Cycle B.	Concrete models and practical experiences; explicit vocabulary and oral rehearsal; scaffolded planning and recording; careful movement from observation to scientific explanation.	Pupils ask relevant questions, make careful observations, take measurements, group and record findings and begin to justify conclusions. Evidence is judged from Year 3 starting points, not against Year 4 endpoints.
Year 4	Pupils have previously completed the Year 3 and Year 2 sequences. They retrieve and connect this knowledge while working towards the statutory Year 4 curriculum and lower KS2 enquiry outcomes.	Increasingly independent choice of enquiry, accurate measurement, systematic recording, pattern identification, evidence-based conclusions, evaluation and application to unfamiliar situations.	Pupils retain and connect essential knowledge, select suitable methods, present data appropriately and use evidence to justify explanations, predictions and improvements.

Inclusive curriculum and adaptive teaching	Assessment vocabulary and retention
All pupils access the same ambitious science. Barriers are anticipated through first-hand experiences, accessible equipment, visuals, explicit modelling, pre-taught vocabulary, chunked instructions and supported rehearsal. SEND, EAL and disadvantaged pupils may show learning through talk, photographs, models, diagrams, practical demonstration or supported recording. Pace, equipment and adult support reflect individual plans and sensory or physical needs. Higher prior attainers deepen learning through independent enquiry, justification, evaluation and application rather than extra content.	Assessment is woven through each unit using retrieval questions, discussion, observation of practical work, models, labelled diagrams, classification keys, tables, graphs and explanations. Teachers identify misconceptions and adjust teaching promptly. Vocabulary is introduced explicitly, modelled in context and revisited through speaking, reading and writing. End-of-unit evidence is considered alongside pupils' explanations and practical competence; no single written task is used in isolation.
Enrichment and wider opportunities. Outdoor investigations, the school grounds, practical problem solving, scientific texts, links with health and the environment, and purposeful design tasks make science meaningful. Participation is planned so that cost, SEND or confidence do not restrict access.	Subject leadership and quality assurance. The subject leader checks planning against this map, samples pupils' work and discussions, reviews vocabulary and assessment evidence, and speaks with pupils and staff. Monitoring evaluates coverage, retention, progression, practical enquiry and the participation and achievement of different pupil groups.

Cycle B teaches the Kapow Year 3 sequence. Teachers revisit and deepen relevant ideas so that knowledge and working scientifically skills develop cumulatively across lower KS2.