

LTP - Science

Our Science curriculum develops pupils' understanding of biology, chemistry, and physics, encouraging them to apply scientific knowledge and methods to everyday life. Rooted in the National Curriculum but adapted to our learners' needs, it promotes **scientific knowledge, skills, and attitudes** through engaging and inclusive teaching. We embed our whole-school focus on **Reading, Remembering, and Resilience** by:

- Explicitly teaching vocabulary and key concepts
- Using retrieval practice to support memory
- Encouraging perseverance in practical and theoretical work

The curriculum is tailored across three pathways:

- **Nurture:** experiential, sensory-based learning with a focus on communication and engagement
- **Create:** practical and scaffolded lessons using real-life contexts to build functional science skills
- **Accelerate:** academically rigorous with greater focus on writing, investigation, and preparation for qualifications

Our intent is to equip pupils with the knowledge, curiosity, and confidence to understand the world and succeed in life.

C l a s s	Cherry					
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	■ Materials LO: • Name some materials in their surrounding class environment. • Classify these materials as man-made and naturally existing. • State the origins of some materials (wood from trees, metals from mines, plastic from crude oil, ...) • Differentiate between sustainable and non-sustainable materials. Reading Activity: Simple material-themed story (e.g., 'What's it made of?') Writing Activity: Matching worksheet: objects and their materials. Oracy Activity: Classify classroom objects out loud in groups Cross Curricular Links: Geography (natural resources); Art (materials collage) Assessments: Object sorting activity; oral Q&A	■ Use of Materials LO: • Specify the use of some materials in daily life. • Relate between the characteristics of materials and their uses. State the characteristics of some materials (conductivity, ductility, ...) Reading Activity: Read labels from classroom objects Writing Activity: Labelling: match property to material Oracy Activity: Describe object's use based on feel/look Cross Curricular Links: DT (designing an object from materials); Literacy (adjective use) Assessments: Hands-on sorting task; teacher questioning	■ Animals LO: • Differentiate between animals based on external features. • Classify animals based on their features. • Indicate the characteristics of mammals. • Indicate the characteristics of birds and reptiles. • Indicate the characteristics of fish and amphibians. Reading Activity: Animal information cards Writing Activity: Draw and label animals from different groups Oracy Activity: Animal-themed 'Guess Who?' oral game Cross Curricular Links: Art (animal sketching); Geography (habitats) Assessments: Picture-based classification quiz	■ Plants LO: • Differentiate between plants based on external features. • Classify plants based on their features (flowering/non-flowering, tree/shrub, ...) • Indicate the habitat of some plants. • Relate between plants and different seasons. • Describe how plants reproduce. Reading Activity: Nature books on plants Writing Activity: Sequencing cards for plant life cycle Oracy Activity: Group discussion: 'What do plants need to grow?' Cross Curricular Links: Geography (seasons); DT (build a plant model) Assessments: Plant classification task; oral explanation	■ Living/ Non-Living LO: • Differentiate between living and non-living. • State the needs of living organisms. • Differentiate between the needs of plants and those of animals. Relate every living thing to its suitable habitat. Reading Activity: Story with animal characters in different settings Writing Activity: Cut-and-stick: sort images into living/non-living Oracy Activity: Describe what makes something living or not Cross Curricular Links: PSHE (needs and wellbeing); Geography (habitats) Assessments: Venn diagram sort; speaking assessment	■ Weather and Seasons LO: • Name the four seasons. • Describe the weather in each season. • Relate between the length of the day and the amount of sunlight plants are supplied with in every season. • Describe the vegetation in every season and link it to hibernation of some animals. Reading Activity: Picture books about seasons Writing Activity: Create a weather diary Oracy Activity: Share season-based observations orally in pairs Cross Curricular Links: Geography (weather and climate); Art (season painting) Assessments: Diary review; season-themed group discussion

	→ Y7 / Y9	→ Y7 / Y9 / Y10	→ Y7 / Y9	→ Y8 / Y10	→ Y7 / Y9	→ Y7 / Y9
Ash	■ Matter LO: - Identify and compare between different materials. - Recognise “Metals” and “Non-metals”. - Differentiate between pure and impure substances. - Identify and compare the suitability of some materials based on the ability to shape them. Reading Activity: Science booklet on materials Writing Activity: Venn diagram comparing two materials Oracy Activity: Describe the difference between metal and non-metal objects in pairs Cross Curricular Links: Geography (natural materials); DT (materials testing) Assessments: Group sorting task and verbal recall	■ Living Things and Their Habitats LO: - Recall living and non-living organisms and identify their needs. - Identify of different habitats and naming animals and plants living in each habitat. - Recognise the relation between animals and plants as a feeding relation. - Identify “micro-organisms” and “Cells”. Reading Activity: Science booklet on materials Writing Activity: Venn diagram comparing two materials Oracy Activity: Describe the difference between metal and non-metal objects in pairs Cross Curricular Links: Geography (natural materials); DT (materials testing) Assessments: Group sorting task and verbal recall	■ Weather and Environment LO: - Identify and name the four seasons of the year. - Describe key weather changes across the seasons - Compare clean and polluted air using basic vocabulary and visual clues. - Define “pollution” and give examples of air and land pollution. - Explain the basic process of recycling and how it helps the environment. Reading Activity: Picture books and non-fiction texts on the seasons (e.g. Tree: Seasons Come, Seasons Go). Writing Activity: Write a seasonal weather diary over 1–2 weeks using sentence starters and scaffolded vocabulary. Oracy Activity: Seasonal charades: pupils act out seasonal weather and clothing Cross-Curricular Links Geography (Compare weather patterns across the world), Art (Create season-themed artwork) Assessment Plan Oral questioning; sorting activity. Written worksheets.	Forces and Light - Identify contact and non-contact forces. - Represent forces (magnitude/direction). - Explain how magnets interact. - Describe waves. Discuss light and study its interaction with surfaces (reflection and refraction). Reading Activity Short story: “A Day in the Life of a Magnet”. Writing Activity: Complete a structured experiment write-up Oracy Activity: Sort and explain: “Contact or non-contact?” (using real-life objects). Cross-Curricular Links Maths (Measuring forces) Art (Create diagrams) Assessment Plan Object sorting task; pair explain Comic strip comprehension questions	■ Food Chains - Define: Producer and Consumer. - Read a food chain. - Construct simple food chains. - Identify how energy is passed across living organisms through feeding. Reading Activity Short paragraph case studies: “What happens when bees disappear?” or “Why are sharks important?” Writing Activity: Fill-in-the-blanks to complete a food chain story (e.g., “The fox eats the ____”). Oracy Activity: Presentation of own food chain: use visual aids and sentence stems to describe it. Cross-Curricular Links Geography (Explore food chains in different biomes) Maths (Simple data) Assessment Plan Design and present a food chain poster or story	■ Solubility - Differentiate between different solutions. - Identify solvents and solutes. - Compare acids and alkalis using simple vocabulary (sour vs soapy, pH colours). - Use indicators (e.g. litmus or universal indicator) to test common household substances. Reading Activity Safety rules for acids and alkalis (simple lab safety poster). Writing Activity: Compare acids and alkalis using a sentence frame: “Acids taste _____. Alkalis feel _____. They both _____.” Oracy Activity: Verbal prediction: “What do you think will happen when we test vinegar with litmus paper?” Cross-Curricular Links Maths (Measure liquid volumes and compare quantities) Assessment Plan Simple practical test + result sheet
	→ Y7 / Y9			→ Y7 / Y9/ Y10	→ Y8 / Y9/ Y10	→ Y7 / Y9
		→ Y7 / Y9				
			→ Y7 / Y9			

Willow	Classification of Living Organisms ■ LO: - Differentiate between types of living organisms (plants, animals, fungus) - Group animals based on body structures. - Identify species based on common characteristics. - Recognise environmental shifts and link them to Evolution and Extinction. Reading Activity: Non-fiction booklets on animals, plants and fungi Writing Activity: Create a classification chart; write a paragraph on how species adapt Oracy Activity: Group sorting activity: explain your classification choices Cross-Curricular Links: Geography (habitats); History (evolution); PSHE (adaptation and resilience) Assessment Plan: Classify unfamiliar species based on features and justify choices	Electricity ■ LO: - Define current and power in an electrical circuit. - Identify electrical components of a simple electrical circuit. - Construct simple electrical circuits. - Differentiate between an open and a closed circuit. - Classify materials as conductors and insulators. Reading Activity: Textbook chapter or poster on circuit components Writing Activity: Label a circuit diagram; write a procedure for making a circuit Oracy Activity: Explain the difference between open and closed circuits using real examples Cross-Curricular Links: Maths (voltage and current); DT (simple electronics) Assessment Plan: Build a circuit and describe how it works verbally and diagrammatically	States of Matter ■ LO: - Group materials according to their states. - Recognise solid state characteristics. - Recognise liquid state. - Recognise gaseous state. - Describe the water cycle and identify state transformation due to heat. Reading Activity: Fact cards with visual diagrams of each state and the water cycle Writing Activity: Complete a water cycle explanation using key vocabulary Oracy Activity: Group discussion: Which materials change state and how? Cross-Curricular Links: Geography (water cycle); Art (particle diagrams) Assessment Plan: Draw and label the water cycle; class quiz on states	Organ Systems ■ LO: - Identify and label the skeletal system. - Describe movement in humans and different animals. - Label the digestive system. - Differentiate between mechanical and chemical digestion. - Define enzymes and state their role. Reading Activity: Information sheet on the skeletal and digestive systems Writing Activity: Create a labelled diagram and sequence steps of digestion Oracy Activity: Explain the role of bones and muscles in moving your arm Cross-Curricular Links: PE (movement); PSHE (healthy eating) Assessment Plan: Practical demo/model explanation + worksheet on digestion	Light and Sound Waves ■ LO: - Identify waves and labelling them. - Describe how waves propagate and identify frequency. - Differentiate between reflection and refraction. - Explain how light is made of seven colours. - Differentiate between opaque, transparent, translucent media and relate them to shadows. Reading Activity: Science comic strip or illustrated explanation on waves Writing Activity: Write-up of light experiments using sentence frames Oracy Activity: Partner explanation: What happens when light hits a mirror? Cross-Curricular Links: Art (colour spectrum); Music (sound vibrations); ICT (wave simulation) Assessment Plan: Practical investigation on shadows and reflection with explanation	Life Cycle of Plants ■ LO: - Label a flower. - Explain how seeds are formed. - List what a seed needs to germinate. - Describe asexual reproduction of plants (budding) Reading Activity: Lifecycle cards with diagrams and explanations Writing Activity: Sequence and describe the steps of seed formation Oracy Activity: Describe what happens when a plant grows from seed to flower Cross-Curricular Links: Geography (seasons); DT (growing plants); Art (flower sketches) Assessment Plan: Draw a labelled lifecycle and explain it orally
	→ Y7 / Y11	→ Y8 / Y9	→ Y7 / Y9	→ Y7 / Y9	→ Y8 / Y9 / Y11	→ Y9

Oak	Electrical Circuits ■ - Recognise symbols presenting an electrical circuit. - Construct parallel and series electrical circuits. - Describe how the current flows in each type of circuits. - Perform simple calculations applying a given formula. Reading Activity: Poster of circuit symbols; textbook page on current flow Writing Activity: Label diagrams of series and parallel circuits; explain current flow Oracy Activity: Describe how a bulb lights up in a series circuit Cross-Curricular Links: Maths (calculations of current); DT (circuit models) Assessment Plan: Build a working circuit and explain it using diagrams and oral questions	Forces ■ - Differentiate between contact and non-contact forces. - Define “Gravity”. - Measure the mass of objects using a scale. - Identify weight as a force. - Differentiate between balanced and unbalanced forces. - Name some simple machines and their uses. Reading Activity: Fact cards on types of forces and gravity Writing Activity: Write observations from force experiments Oracy Activity: Group presentation: ‘What is a force?’ Cross-Curricular Links: Maths (mass vs weight); PE (pushes and pulls); DT (levers and pulleys) Assessment Plan: Demonstration of force types + practical data sheet	Reproduction and Puberty ■ - Identify the male reproductive organs. - Identify the female reproductive organs. - Describe puberty and its signs. - Name the male and female gametes and explain fertilisation. - Recognise asexual reproduction and give some examples. Reading Activity: Age-appropriate puberty education leaflets or PSHE guides Writing Activity: Label reproductive diagrams and explain fertilisation process Oracy Activity: Circle time discussion: changes in puberty (respectfully facilitated) Cross-Curricular Links: PSHE (puberty); Biology (human development); Literacy (anatomical terms) Assessment Plan: Diagram labelling, verbal Q&A, optional quiz	Atoms and Chemical Reactions ■ - Recall atoms and states of matter. - Label Lab equipment and safety signs. - Recognise chemical reactions and identify reactants and products. - Differentiate between chemical reactions and change in state. - Apply simple chemical reactions. - Define a chemical bond. Reading Activity: Lab safety posters; introduction to atoms booklet Writing Activity: Experiment write-ups: reactions and states of matter Oracy Activity: Explain chemical changes using sentence stems Cross-Curricular Links: Chemistry; Literacy (scientific process writing); Art (atoms model) Assessment Plan: Lab safety quiz + observation of reaction experiments	Healthy Life Styles and Immunity ■ - Describe a healthy meal. - Relate healthy meals and exercise to good health and define immunity. - Recognise pathogens (bacteria and viruses) and relate them to diseases. - Name white blood cells as human immune cells and describe inflammation. Reading Activity: Leaflets on nutrition and hygiene; KS2 science health posters Writing Activity: Design a healthy eating plan; write how white blood cells fight infection Oracy Activity: Group discussion: ‘How does the body protect us?’ Cross-Curricular Links: PSHE (diet and hygiene); PE (exercise); Literacy (informative writing) Assessment Plan: Healthy meal plan + short quiz on immunity	Earth and Space ■ ■ - Name planets of the Solar System. - Relate between Earth’s rotation (around itself / around the sun), day/night and seasons. - Explain the Earth’s, Moon’s and the Sun’s movement in space and relate it to magnetic and gravitational forces and fields. Reading Activity: Space fact cards or NASA children’s website extracts Writing Activity: Create a fact file on the planets; write an explanation of day/night Oracy Activity: Role-play: Earth, Moon, Sun movement using classmates Cross-Curricular Links: Geography (seasons); Maths (planet distances); ICT (planetarium tools) Assessment Plan: Diagram activity + oral explanation of planetary motion
	→ Y8 / Y9	→ Y7 / Y10	→ Y7 / Y11	→ Y7 / Y9 / Y10	→ Y10	→ Y8 / Y9

Maple

Cells and Organisation ■	Propagation of Waves ■	Mixtures, Acids and Alkalis ■	Circulation in Animals and Plants ■	Energy Transfers and Work ■	Evolution and Inheritance ■
- Identify different types of cells. - Label an animal and a plant cell. - Explain the role of DNA in guiding the cell on how to function. - Describe how the body is organised: cell - tissue - organ – organ system – organism. Reading Activity: Labelled diagrams and KS3-style cell information sheet Writing Activity: Draw and label animal and plant cells with descriptions Oracy Activity: Group explanation: how cells make up a human body Cross-Curricular Links: Literacy (descriptive writing); Art (cell drawings) Assessment Plan (linked to AQA Entry Level): AQA Entry Level-style task: label and match cell parts to functions Transition Activity: Mini entry-level task: complete a simple organisation hierarchy with definitions	- Identify a wave and label its main parts. - Differentiate between sound and light waves and how they propagate. - Recall reflection and refraction. - Identify electromagnetic waves and name their uses. - Differentiate between beneficial and harmful EM. Reading Activity: KS3 EM wave chart and summary sheet Writing Activity: Compare sound vs light in a table Oracy Activity: Verbal explanation of wave behaviour with rope/water models Cross-Curricular Links: Physics; ICT (wave simulations); Music (sound waves) Assessment Plan (linked to AQA Entry Level): AQA-style comprehension with EM wave uses and reflection scenarios Transition Activity: Entry Level practice: EM wave matching task (uses and dangers)	- Differentiate between pure substances and mixtures. - Recognise solutions and identify solvents and solutes. - Identify aqueous solutions. - Name simple methods of separation. - Apply filtration and evaporation separation methods. Reading Activity: Info cards on common household mixtures Writing Activity: Write steps for a separation experiment Oracy Activity: Explain to a partner how you separated sand and salt Cross-Curricular Links: DT (kitchen science); Maths (measurement); Literacy (sequences) Assessment Plan (linked to AQA Entry Level): AQA-style structured practical write-up and question sheet Transition Activity: Complete a mini-lab safety task (identify equipment & safety rules)	- Recall the needs of living organisms to survive. - Infer the need of a circulatory system in multi-cellular organisms and its role. - Label the circulatory system and state the role of the heart and the vessels. - Differentiate between arteries and veins - Identify xylem and phloem in plants. Reading Activity: Heart and plant transport system booklets Writing Activity: Label diagrams and write a short paragraph on why plants need xylem Oracy Activity: Describe the path of blood through the heart using props Cross-Curricular Links: PE (pulse check); Geography (plant survival); Literacy Assessment Plan (linked to AQA Entry Level): Entry-Level AQA-style labelling activity and multiple-choice quiz Transition Activity: Peer teaching task: explain the function of an artery using a model	- Identify types of energy. - Differentiate between renewable and non-renewable energy. - Describe energy transfers. - Explain how energy is conserved. - Recall forces and their effect. - Apply a formula to calculate work. Reading Activity: KS3-style chart of energy types and examples Writing Activity: Write an energy transfer chain for a bouncing ball Oracy Activity: Verbal challenge: describe where energy goes in simple machines Cross-Curricular Links: Maths (calculations); Geography (renewables); DT Assessment Plan (linked to AQA Entry Level): Calculate work done (guided); answer AQA-style energy MCQs Transition Activity: Energy comparison task: entry-level format using diagrams	- Recall DNA and identify genes. - Describe how DNA changes (mutates). - Name some mutagenic factors. - Relate between mutations and adaptation of organisms to their environment. - Explain evolution and extinction. (Mention fossils and fossil fuel) Reading Activity: Simplified Darwin story and evolution timelines Writing Activity: Write a story of a creature that adapted to survive Oracy Activity: Debate: “Should we clone extinct species?” (structured) Cross-Curricular Links: History (fossils); Literacy; Geography (climate change) Assessment Plan (linked to AQA Entry Level): Entry-Level AQA comprehension and fossil timeline sort Transition Activity: Create a revision flashcard for one inherited trait vs learned behaviour
→ Y7 / Y9 /Y11	→ Y8 / Y9	→ Y8 / Y9 / Y10	→ Y7 / Y8 /Y10	→ Y7 / Y10	→ Y11

Year 7 Accelerate

(Component 5)	(Component 1)	(Component 1)	(Component 1)	(Component 3)	(Component 3)
Physics: Energy Transfers- Forces and Gravity ■ - Working Scientifically - Introduction to the lab. Lab safety and equipment - Recognise that our bodies need energy which we get from our food - Use and conversion of units of energy - Investigate the energy in foods - describe the different ways in which energy is transferred - Investigate the law of conservation of energy - Describe how fossil fuels are made - Distinguish between renewable and non-renewable resource and give examples - Suggest ways of conserving energy and the importance. - Use a formula (weight = mass × g) to work out your weight on different planets and compare it to your weight on Earth. - Calculate speed from a distance–time graph, with support.	Biology: Cells and movement ■ - Explain why multi-cellular organisms need organ systems to keep their cells alive. - Explain how unicellular organisms are adapted to carry out functions that, in multi-cellular organisms, are done by different types of cell. - Describe the structure and function of joints. - Interpret observations in a chicken wing to describe how the muscles work together to cause movement. - Use a diagram to predict the result of a muscle contraction or relaxation Reading Activity: Cell structure fact cards; microscopy case studies; article on single-celled organisms Writing Activity: Write a comparison between unicellular and multicellular organisms; label and annotate a diagram of joints Oracy Activity: Explain how muscles move bones using chicken wing model; group task: role-play the cell as a factory Cross-Curricular Links: PE (movement); Literacy (report structure); Art (diagram sketches) Assessment Plan: Diagram-based test; written explanation on cell adaptations and muscle movements	Biology: Digestive system and Immune cells ■ - List the nutrients we need in our diets - Interpret nutrition information on labels - Recognise sources of various nutrients and describe what nutrients does in the body - Describe the benefits of a balanced diet and effects of malnutrition - Recall the parts of the digestive system and their functions - Explain why enzymes and bacteria are useful to digestion - Explain how diffusion enables absorption by small intestines. - Differentiate between the lines of defence in the body: Specific and Non-specific - Explain the formation of a secondary immune response. Reading Activity: Nutrient profiles from packaging; immune system storyboards; case study on malnutrition Writing Activity: Write a labelled diagram of digestion; explanation paragraph: how enzymes help digestion Oracy Activity: Team quiz: food functions; explain in pairs how the immune system fights infections Cross-Curricular Links: PSHE (healthy lifestyle); Food Tech (balanced meals); Literacy Assessment Plan: Labelling task; structured comprehension questions; peer assessment of nutrient explanation	Biology: Nervous and hormonal system ■ - Infer the communication systems as electrical and chemical. - Label the nervous system and explain its role. - Determine the role of hormones in the body processes - Identify some glands and infer the role of their secretions. Reading Activity: Diagrams and texts on reflexes and endocrine system; newspaper article: hormones and teens Writing Activity: Label nervous system; match hormones to roles; write a paragraph on adrenaline's effect Oracy Activity: Present a reflex arc using a diagram; small group: act out a stress response Cross-Curricular Links: Drama; Literacy; PSHE (body changes and hormones) Assessment Plan: Multiple choice on hormone roles; short written analysis: nervous vs hormonal communication	Chemistry: Matter - A,E,C and The periodic Table Particle model ■ - Describe Dalton's atomic theory - Identify the chemical symbols of elements - Use atomic theory to explain what happens during a reaction - Write and interpret chemical formulae - Use the periodic table to find elements with similar properties - Describe how the periodic table was made and typical properties of the 3 main groups of elements - Use the particle model, and ideas about energy, to explain changes of state involving solids and liquids. - Investigate diffusion Reading Activity: Simplified periodic table; biography of John Dalton; particle model illustrated booklet Writing Activity: Fill in gaps in chemical formulae; explain changes of state using diagrams Oracy Activity: Describe the arrangement of particles in solids/liquids/gases; guess-the-element game (symbol clues) Cross-Curricular Links: Maths (pattern recognition); Literacy (science language); History (scientific discoveries) Assessment Plan: Labelling diagrams; element symbol quiz; formulae construction scaffolded task	Chemistry: metals/ non metals Polymers ■ - Describe a difference in physical properties between typical metal and non-metal oxides. - State that when a metal reacts with an acid the products are a salt and hydrogen gas. - Explain metallic bonds and identify metal properties. Reading Activity: Reaction descriptions; information texts on polymers; table of material properties Writing Activity: Write a word equation for metal + acid; create a table comparing metals and non-metals Oracy Activity: Present findings from simple practical tests; describe metal properties aloud Cross-Curricular Links: DT (materials); Literacy (explanatory writing); Art (polymer design) Assessment Plan: Practical task: identify metal/non-metal properties; write-up and diagram assessment

	Y5 / Y6 → Y10	Y4 / → Y9	Y4 / Y5 → Y9 / Y10	Y5 → Y10	Y4 / Y5 → Y9 / Y10	Y2-3 / Y5 → Y9 / Y10
	Year 7 Create					
	(Component 5) Physics: Energy Transfers- Forces and Gravity ■ - Follow basic lab safety rules and use equipment safely - Understand that food gives us energy - Identify ways energy is transferred (e.g. heat, sound, movement) - Compare fossil fuels and renewable energy sources - Suggest how to save energy at school or home - Use simple data to compare weights on different planets - Read and draw basic distance–time graphs with support Reading Activity: Pictorial safety rules; simple article on fossil fuels vs renewables Writing Activity: Fill in lab safety checklist; match energy types to examples; sentence starters for comparing energy sources Oracy Activity: Group discussion on saving energy; verbal lab safety quiz Cross-Curricular Links: Maths (units and graphs); Geography (fossil fuels); PSHE (energy choices) Assessment Plan (linked to AQA Entry Level): AQA Entry Level style: label safety symbols; multiple choice on energy sources; scaffolded speed graph	(Component 1) Biology: Cells and movement ■ - Label animal and plant cells - Match cell parts to their functions using diagrams - Describe why humans and animals have organs - Identify joints and describe simple movement (chicken wing model) Reading Activity: Labelled diagrams and simple cell fact sheets Writing Activity: Label a cell; write two sentences on joints using word bank Oracy Activity: Pair talk: 'What does a muscle do?'; describe body part movement Cross-Curricular Links: PE (movement); Art (cell diagrams); Literacy (vocabulary) Assessment Plan (linked to AQA Entry Level): Entry Level diagram labelling + oral description of muscle/joint action	(Component 1) Biology: Digestive system and Immune cells ■ - List important food groups and what they do - Identify and label main parts of the digestive system - Describe a balanced diet and how it helps health - Explain how bacteria help digestion - Recognise that white blood cells fight infection Reading Activity: KS2 nutrition posters; fact cards on digestion Writing Activity: Design a healthy plate; label digestive organs; simple sentence scaffold: 'White blood cells help by...' Oracy Activity: Group discussion: 'Why should we eat vegetables?' Cross-Curricular Links: PSHE (diet); DT (food tech); Literacy (instructions) Assessment Plan (linked to AQA Entry Level): Entry Level: food group sorting, diagram labelling, comprehension	(Component 1) Biology: Nervous and hormonal system ■ - Identify brain, nerves, and spinal cord on a diagram - Understand that signals travel from brain to body - Name some glands and match them to their roles - Describe one hormone and what it does (e.g. adrenaline) Reading Activity: Simple nervous system diagrams and factsheets Writing Activity: Match hormones to effects using scaffolded sentences Oracy Activity: Act out a reflex (with script); group Q&A on hormones Cross-Curricular Links: Drama (reaction time role play); Literacy; PSHE (body changes) Assessment Plan (linked to AQA Entry Level): Entry Level diagram completion + verbal quiz on hormones	(Component 3) Chemistry: Matter - A,E,C and The periodic Table- Particle model ■ - Recognise that everything is made of particles - Use pictures to describe solids, liquids, and gases - Identify some common elements and their symbols - Sort metals and non-metals based on properties - Use particle model to explain melting and freezing Reading Activity: Periodic table symbols; visual guide to particle models Writing Activity: Label particle diagrams; scaffolded explanation of melting Oracy Activity: Group: 'What happens to ice when it melts?'; element guessing game Cross-Curricular Links: Maths (state changes); Art (diagram drawing) Assessment Plan (linked to AQA Entry Level): Entry Level symbol matching + melting/freezing diagram fill-in	(Component 3) Chemistry: metals/ non metals - Polymers ■ - Name some metals and non-metals from everyday life - Describe simple metal reactions using symbols or words - Sort materials into conductors and insulators - Explain that metals react with acids to make gas - Recognise that polymers are made by humans Reading Activity: Metals vs non-metals chart; reaction picture sequences Writing Activity: Write symbol for salt formation; match reactions to products Oracy Activity: Describe a reaction you saw in the lab Cross-Curricular Links: DT (material properties); Maths (symbols); Literacy Assessment Plan (linked to AQA Entry Level): Entry Level reaction matching + short scaffolded sentence task
	Y5 / Y6 → Y10	Y4 / → Y9	Y4 / Y5 → Y9 / Y10	Y5 → Y10	Y4 / Y5 → Y9 / Y10	Y2-3 / Y5 → Y9 / Y10
	Year 7 Nurture					

Materials and Lab Safety ■ • Explore different materials using senses (rough, soft, hard) • Name some common classroom objects and what they're made of • Follow simple lab safety routines (e.g., goggles on, no touching) • Recognise safety symbols through colour and shape Reading Activity: Look-and-say safety symbol posters; picture books about materials Writing Activity: Adult scribing of material sorting; symbol matching with Velcro cards Oracy Activity: Name materials out loud in a 'pass the object' game; call and response safety chant Cross-Curricular Links: DT (object properties); Art (texture rubbings); PSHE (safe behaviour) Assessment Plan: Hands-on object sorting; role play lab safety steps; visual checklist	Body and Movement ■ • Name basic body parts using songs and actions • Understand that bones and muscles help us move • Point to joints and say when we use them • Copy movement tasks and describe how they feel Reading Activity: Lift-the-flap body books; picture guides of human body Writing Activity: Draw around own hand or foot and label with support Oracy Activity: Simon Says with body part focus; echo games using movement words Cross-Curricular Links: PE (body awareness); Music (songs with actions); Art (body tracing) Assessment Plan: Photo task: match pose to joint; adult observation during movement game	Healthy Food and Digestion ■ • Recognise fruit, vegetables, and unhealthy snacks • Sort foods into healthy/unhealthy • Sequence pictures of eating and digestion • Explain how eating well helps us feel better Reading Activity: Picture recipe cards; sensory food stories Writing Activity: Pictogram food diary; smiley/frowny food chart with stickers Oracy Activity: Name favourite food; group song: 'This is healthy!' Cross-Curricular Links: Cooking (food handling); PSHE (self-care); Literacy (naming) Assessment Plan: Sorting game with food models; adult Q&A and vocabulary recall	Light and Dark ■ • Name sources of light (sun, torch, candle) • Sort day and night objects • Explore shadows with torch and objects • Say how light helps us see Reading Activity: Big book: Day and Night; sensory contrast books (black/white) Writing Activity: Draw a sun and a moon; match pictures to day/night Oracy Activity: Shadow guessing game; storytelling in a dark den Cross-Curricular Links: Art (silhouette painting); Music (light/dark dynamics) Assessment Plan: Shadow play activity; 'What gives light?' oral quiz	Changes of State (Ice and Water) ■ • Touch and talk about solid, liquid and gas (ice, water, steam) • Watch and describe ice melting and water boiling • Sequence pictures of water cycle (with support) • Say simple words: melt, freeze, boil Reading Activity: Sensory book: Hot and Cold; simple weather stories Writing Activity: Use of symbols and arrows to sequence changes Oracy Activity: What's happening? talk during melting ice experiment Cross-Curricular Links: Geography (weather); Art (ice painting); DT (cooking: melting butter) Assessment Plan: Hands-on observation; photo matching tasks	Animals and Habitats ■ • Name some animals and say where they live (jungle, farm, sea) • Match animals to environments • Say what animals need to live (food, water, shelter) • Sort living and non-living things Reading Activity: Animal picture books; textured animal flashcards Writing Activity: Sticker scenes for animal habitats; matching animal tracks to animal Oracy Activity: Animal sounds game; talk about 'Where does it live?' Cross-Curricular Links: Geography (climates); Music (animal noises); Drama (habitat play) Assessment Plan: Habitat matching tray; verbal identification game
Year 8 Accelerate					

Unit 1: The Particulate Nature of Matter						
(Component 6)	(Component 6)	(Component 2)	(Component 2)	(Component 4)	(Component 4)	(Component 4)
Physics: Electricity ■ - Working Scientifically - Introduction to the lab. Lab safety and equipment - Investigate how circuits work and how number of components affect current, measure current in the circuit, - Evaluate models of circuits - Use physical models to explain circuits - Distinguish between series and parallel circuits Reading Activity: Safety posters and diagrams of circuit models; KS3 textbook: electricity chapters Writing Activity: Labelled diagrams of circuits; written comparison of series vs parallel circuits Oracy Activity: Explain function of circuit components using a model; discuss outcomes of practicals Cross-Curricular Links: Maths (voltage/current calculation); DT (circuit model making) Assessment Plan: Build and label working circuits; multiple-choice quiz on current flow; observation checklist	Physics: Magnetism and electromagnets-Waves ■ - Identify magnets and explain the use of electromagnetic waves. - Compare light and sound waves - Plan how to demonstrate that light travels in straight lines - Investigate reflection of light in mirrors and rough surfaces - Draw ray diagrams to show how an image is formed - Suggest some uses of lenses. - Explain refraction - Name parts of the camera and the eye and state their functions Reading Activity: BBC Bitesize wave section; eye anatomy charts Writing Activity: Refraction/Reflection diagram labelling; lens function summary Oracy Activity: Describe reflection with a mirror; group Q&A on wave behaviour Cross-Curricular Links: Art (light effects); PE (reaction time using visual cues) Assessment Plan: Ray diagram drawing task; practical investigation write-up; oral explanation of wave properties	Biology: Ecosystems Photosynthesis ■ - Define the terms: Ecosystem, community, population. - Identify the feeding relationship between living organisms. - Construct a food chain and read a food web. - Explain photosynthesis. - Write the word and the symbol equation of photosynthesis. - Explain the impact of deforestation. - Infer the effect of pollution. Reading Activity: KS3 eco-factsheet; food web examples Writing Activity: Complete a food chain diagram; photo. equation writing task Oracy Activity: Present food web orally; small group debate on pollution Cross-Curricular Links: Geography (environmental impact); PSHE (planet protection) Assessment Plan: Food chain sequencing cards; Q&A during class; mini-poster on photosynthesis	Biology: Heredity and reproduction ■ - Specify how life appeared on Earth. - Explain the theories of evolution. - Describe natural and selective breeding. - Name main parts of male and female reproductive systems and their functions. - Explain how the sperm and egg are adapted to their functions. - Describe fertilisation. - Describe how sexual intercourse leads to fertilisation and implantation. - Explain how asexual reproduction results in clones. Reading Activity: Darwin biography extract; annotated diagrams of sperm/egg Writing Activity: Life cycle chart; table of natural vs selective breeding Oracy Activity: Explain a reproductive process using props; evolution timeline discussion Cross-Curricular Links: History (Darwin); PSHE (puberty education); Art (draw reproductive parts) Assessment Plan: Labelled diagram tasks; written explanation of fertilisation; class quiz	Chemistry: Reactions of acids-Types of reactions and chemical energy ■ - Use the pH scale to measure acidity and alkalinity - Use indicators to identify acidity and alkalinity - Give examples of everyday acids and alkalis - Write word equations for reactions with acids - Predict if a displacement reaction may or may not take place. - Use word equations to model combustion reactions - explain the difference between temperature and energy - describe oxidation reactions of metals and non-metals - Interpret data on food intake for some activities - Define and differentiate between work energy and power - Investigate Energy transfers Reading Activity: pH chart guides; chemical reaction posters Writing Activity: Word equation writing activity; pH practical write-up Oracy Activity: Group demo of acid/alkali reaction; discussion: why energy conservation matters Cross-Curricular Links: Food Tech (acids in cooking); PE (energy in physical activity); Maths (energy graphs) Assessment Plan: pH colour-matching task; food energy sorting cards; mini practical with write-up	Chemistry: Nutrient cycles Fractional distillation and potable water ■ - Identify the composition of the Earth's atmosphere - Explain the use of fuels and human impact on the environment. - Explain the impact on potable water and how to purify it. Reading Activity: Water cycle posters; BBC Bitesize climate materials Writing Activity: Step-by-step purification instruction writing; pollution impact chart Oracy Activity: Debate on fuel use and water waste; explain distillation to peer Cross-Curricular Links: Geography (climate change); DT (build a water filter); Citizenship (resource awareness) Assessment Plan: Model filtration activity; quiz on atmospheric gases; presentation on water issues	

	Y5 / Y6 → Y10	Y4 / → Y9	Y4 / Y5 → Y9 / Y10	Y5 → Y10	Y4 / Y5 → Y9 / Y10	Y2-3 / Y5 → Y9 / Y10
	Year 8 Create					

(Component 6) Physics: Electricity ■ - Identify and follow three key safety rules in the science lab. - Assemble a simple electrical circuit - Test circuits by adding or removing bulbs and batteries, and record changes in brightness using pictures or symbols. - Match electrical circuit symbols to real components and describe how a basic circuit works using objects and group discussion. - Sort and explain the difference between series and parallel circuits. Reading Activity: Picture-based safety guide; symbol flashcards; basic diagram books Writing Activity: Fill-in-the-gap circuit diagram sheet; match symbols to words Oracy Activity: Talk through how a bulb lights; describe a working circuit in pairs Cross-Curricular Links: DT (build circuit board); PSHE (safety rules); Art (drawing circuits) Assessment Plan: Complete and label a circuit; sort pictures of series/parallel circuits; oral Q&A	(Component 6) Physics: Magnetism and electromagnets- Waves ■ - Test a range of materials with magnets and identify which ones are magnetic using practical exploration. - Show that light travels in straight lines by demonstrating with a torch and opaque objects. - Shine a torch on a mirror and describe what happens to the light beam using simple language or gesture. - Draw how light reflects off a mirror or bends in water using arrows and labelled diagrams. - Point to parts of the eye on a diagram or model and explain their basic function using word banks or sentence starters. Reading Activity: Magnet stories; picture books on light and shadow Writing Activity: Draw lines to match objects with what they reflect; label parts of the eye Oracy Activity: Describe what happens when light bounces off a surface; explain what a magnet sticks to Cross-Curricular Links: Art (light and shadow); Music (sound waves); Geography (light pollution) Assessment Plan: Sorting task with magnetic/non-magnetic objects; explain torch experiment	(Component 2) Biology: Ecosystems- Photosynthesis ■ - Describe what an ecosystem is by naming animals and plants that live together. - Create a simple food chain using pictures of animals and plants in the correct order. - Act out the process of photosynthesis using props and movements to show how plants make food. - Explain what happens to the environment when trees are cut down using images or sentence starters. - Identify how rubbish and smoke affect nature by sorting images or discussing real-world examples. Reading Activity: Simple plant books; eco-flashcards Writing Activity: Cut and stick food chains; label sun–plant–animal Oracy Activity: Group discussion on why trees are important; act out photosynthesis in a group Cross-Curricular Links: Geography (forests); Drama (eco roleplay); PSHE (caring for environment) Assessment Plan: Sequencing cards; oral quiz on food chains; draw what plants need to grow	(Component 2) Biology: Heredity and reproduction ■ - Describe how animal babies grow by matching them to their adult forms using pictures or models. - Identify where babies grow inside humans using a labelled diagram or model of the human body. - Explain in simple terms how a baby is made, using key words and supported discussion. - Recognise that babies come from eggs and sperm by matching terms to pictures or sentence stems. - Describe how plants and some animals can make clones through asexual reproduction using practical examples or drawings Reading Activity: Puberty and growth storybooks; animal life cycle posters Writing Activity: Fill-in growth stages; label body changes during puberty Oracy Activity: Answer simple questions about babies and changes; name body parts using flashcards Cross-Curricular Links: PSHE (body changes); Art (draw plant/animal life cycles); Literacy (storytelling) Assessment Plan: Sorting body changes; sequence baby development pictures; roleplay Q&A	(Component 4) Chemistry: Reactions of acids- Types of reactions and chemical energy ■ - Use colour charts to test different liquids with litmus paper and record the results using symbols or colours. - Match the colour red to acid and blue to alkali using flashcards or sorting tasks. - Observe and describe what happens when vinegar mixes with baking soda during a class experiment. - Explain that when acid reacts with metal, it creates bubbles (gas) using pictures or simple sentences. - Recognise that hot food gives us energy to work by linking foods to body activities through discussion or drawing. Reading Activity: Colour charts; experiment picture books Writing Activity: Label pH colours; describe fizzy reaction using symbols Oracy Activity: Explain what happened in the fizzy experiment; describe energy from food Cross-Curricular Links: Food Tech (cooking acids); Maths (temperature graphs); PE (energy use) Assessment Plan: Colour and label pH chart; name items as acid/alkali; show reaction and describe it	(Component 4) Chemistry: Nutrient cycles - Fractional distillation and potable water ■ - Recognise that clean water is important for living things by sorting clean and dirty water uses through pictures or discussion. - Filter dirty water using simple tools like paper or sand and describe what happens. - Identify common causes of pollution such as cars, smoke, and rubbish using image sorting or matching activities. - Name different types of fuels (e.g. wood, petrol) and describe how people use them in everyday life. - Suggest simple ways to save water and help clean up the Earth using drawings, posters, or group discussion. Reading Activity: Water safety posters; environment comic strip Writing Activity: Draw and label a water filter; match pollution to its source Oracy Activity: Talk about clean water in group; explain how we use fuel in daily life Cross-Curricular Links: Geography (pollution maps); DT (build water filter); PSHE (care for planet) Assessment Plan: Water filter practical; pollution causes quiz; oral feedback from filter demo
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	Y5 / Y6 → Y10	Y4 / → Y9	Y4 / Y5 → Y9 / Y10	Y5 → Y10	Y4 / Y5 → Y9 / Y10	Y2-3 / Y5 → Y9 / Y10
	Year 9 Accelerate					

	B1- Cell Biology B4- Bio-energies ■	C1- Atomic structure and the periodic table ■	P3- Particle model of matter P5- Motion ■	B2- Organisation ■	C2-Bonding, structure and properties of matter C4- Chemical changes (acids/bases) ■	P2- Electricity ■
	- Describe how microscopy techniques developed over the years. - Compare the light and electronic microscopes - Compare structures of plant and animal cells; prokaryotic and eukaryotic; bacteria with plant and animal cells - Describe, compare and investigate different methods of cell transport (diffusion, osmosis and active transport). - Write the word equation for photosynthesis - Investigate factors that limit photosynthesis. Reading: BBC Bitesize: Microscopes, Cell Structures- GCSE AQA textbook: Cell Biology and Photosynthesis chapters Writing: Compare and contrast light and electron microscopes- Summarise differences between cell transport methods- Complete word equation for photosynthesis with guided support Oracy: Pair-share: What do all cells need to survive? Explain osmosis using a diagram in groups. Debate: Is chloroplast the most important organelle? Cross Curricular: History – Timeline of microscopy invention. Maths – Calculate SA:Vol ratio Assessment: Practical write-up: Osmosis. Past paper Qs from B1 & B4.	- Define element, atom - Describe how the periodic table developed over time. - Explain between the atomic structure and the periodic table - Describe and explain the properties of the alkali metals, halogens and the noble gases and their position in the periodic table and the group. - Explain separation techniques - Explain why Atoms have no overall charge - Write chemical symbols and formulae for elements and compounds - Explain how patterns in reactions can be predicted with reference to the Periodic Table. - Use particles to show states of matter. - Separate mixtures by paper chromatography. Reading: BBC Bitesize: Atomic structure, Periodic table. GCSE AQA textbook: C1 Atomic Structure Writing: Label atomic diagrams. Create comparison chart of groups in periodic table. Write definitions: element, atom, isotope Oracy: Oral quiz: What’s the group and period? Group sorting task: Elements and properties. Explain in pairs: Why are noble gases unreactive? Cross Curricular: Art – Design periodic table posters. Geography – Use of elements in everyday materials Assessment: Formative mini-test (C1). Past paper Qs on atomic structure and periodic table	- Describe the particle model and calculate the density of materials. - Define and differentiate between force, work done, energy and power - Calculate speed - Investigate acceleration - State what is friction - Represent a journey on a distance-time graph - Define relative motion: trains and cars passing one another. - Discuss pressure in liquids, increasing with depth; upthrust effects, floating and sinking. - Infer how pressure is measured by ratio of force over area. Reading: GCSE AQA textbook: P3 and P5 sections. BBC Bitesize: Motion graphs and particle theory Writing: Draw and label motion graphs. Calculate speed using examples. Write a report on pressure in liquids Oracy: Describe a journey using motion graph. Explain in small groups: What is upthrust? Quick-fire Q&A: Speed = distance ÷ time Cross Curricular: PE – Motion and force in sports. Maths – Interpreting graphs and equations Assessment: Practical: Measure density of irregular object. Past paper Qs: P3 & P5. Quiz on key terms and formulas	- Describe how specialised cells become organised into tissues. - Describe the basic structures of carbohydrates, protein and lipid molecules. - Describe enzymes as biological catalysts. - Explain the role of enzymes digestion. - Investigate factors that affect enzyme action. - List the components of blood and describe their functions. - Describe structure and functions of the heart. - Describe non-communicable diseases. - State substances transported in plants and describe how this occurs - List factors that affect transpiration. Reading: AQA Biology textbook: Organisation and Enzymes. BBC Bitesize: Digestive and Circulatory Systems Writing: Label and describe diagrams of heart and digestive system. Write a paragraph explaining double circulation. Complete enzyme practical write-up Oracy: Describe journey of a red blood cell. Debate: What causes heart disease? Group explain: How enzymes work Cross Curricular: PSHE – Health and lifestyle. PE – Heart rate and exercise Assessment: Enzyme activity practical and write-up. Past paper Qs on B2. Quizzes and visual summaries.	- Define elements compounds, ions. - Investigating the Law of Conservation of Mass. - Writing symbol &word equations. - State what are acids and alkalis. - Investigate the nature of a given liquid. - Describe neutralisation. - Use indicators and the pH scale to sort substances by ph. - Balance symbol equations. - Explain how the melting point and boiling points of a substance depends on the particle arrangement and forces between them. Reading: AQA GCSE Chemistry: Bonding and Acids sections. BBC Bitesize: Chemical reactions Writing: Practice balancing symbol equations. Draw particle diagrams of solids, liquids, gases. Complete lab report on acid-alkali reactions Oracy: Class explanation: pH scale. Discuss in groups: Why are some compounds soluble? Oral walkthrough: Law of conservation of mass Cross Curricular: Maths – Balancing and interpreting equations. Food Tech – Acids in cooking and baking Assessment: Past paper Qs (C2, C4). Lab-based assessment on acid reactions	- State what is voltage and current and their units. - Describe the difference between alternating and direct current. - Use equations to calculate the power of an appliance - Explain why a large potential diff is used in the National grid - Calculate the size of a current from the charge flow and time taken - State what is potential difference, resistance and Ohm's law. - Compare series and parallel circuits. - Differentiate between direct and alternating current. - Label the wires in a plug - Calculate electric power supplied to a device from its current and pd. - Workout the output power of an electrical appliance Reading: AQA Physics P2 section. BBC Bitesize: Electricity basics and circuits Writing: Draw and label circuit diagrams. Complete Ohm’s Law calculations. Explain energy transfers in written form Oracy: Explain in pairs: Difference between AC and DC. Class discussion: Why is the National Grid important? Circuit problem-solving aloud Cross Curricular: DT – Safe use of electrical appliances. Maths – Calculations involving formulae Assessment: Circuit building practical with assessment checklist. Past paper Qs from P2. Mock test covering power, resistance, and circuit design

B1- Cell Biology B4- Bio-energies ■ • Match parts of plant and animal cells using colour diagrams. • Sort and describe key features of bacteria, animal, and plant cells. • Carry out sponge and sugar cube investigations to model diffusion and osmosis. • Explain that plants make food using sunlight, water, and air (photosynthesis). • Test how light affects plant growth and describe observations using tables or drawings. Reading: Simplified labelled diagrams with keywords. Basic information sheets with keywords on photosynthesis. Simple fact-matching activities about cells. Writing: Fill-in-the-blank cell labelling sheet. Write two sentences to describe what plants need to grow. Complete a scaffolded worksheet on plant growth results. Oracy: Partner talk: Explain why leaves are important. Whole-class discussion: What did your plant experiment show? Use sentence starters to describe what happens during osmosis. Cross-Curricular: Art – Draw and label cells using coloured pencils. Maths – Measure plant growth and record data in tables. English – Use sentence scaffolds to explain scientific ideas clearly. Assessment Plan: Practical assessment: Observe plant growth investigation. Verbal questioning on cell features using visual prompts. Structured written task: Complete a cloze passage on photosynthesis.	C1- Atomic structure and the periodic table ■ • Recognise that everything is made of atoms and name some elements. • Describe where metals and non-metals are on the periodic table. • Sort everyday objects into elements, compounds, and mixtures. • Use simple chromatography to separate colours. • Use particle diagrams to show states of matter. Reading: Element symbol flashcards with pictures. Colourful periodic table poster with facts. Simple instructions for chromatography practical. Writing: Label a diagram of solid, liquid, and gas particles. Complete sentence starters: 'A compound is...', 'An atom is...'. Fill in scaffolded reaction tables for metals. Oracy: Describe a reaction using props (e.g. baking soda + vinegar). Role-play an atom, using visual aids to explain charge. Share group results from chromatography and compare. Cross-Curricular: Maths – Count atoms, calculate simple totals in reactions. Art – Create a 'My Favourite Element' poster. English – Vocabulary building: element, atom, reaction, etc. Assessment Plan: Practical observation: Can they separate a mixture? Match key vocabulary to definitions. Verbal quiz using illustrated prompts.	P3- Particle model of matter P5- Motion ■ • Group materials by state: solid, liquid, gas. • Explain how heat can change state using chocolate or ice cubes. • Measure and record simple data: distance and time. • Use pictograms to show who walked fastest in class. • Describe how objects move using everyday language (push, pull, slow, fast). Reading: Short fact sheet with illustrations of particle behaviour. Timetables, stopwatches, and measuring tapes to read values. Speed/distance word problems with simple numbers. Writing: Label a diagram showing particles in different states. Write 2–3 sentences using the words: 'solid', 'melt', 'gas'. Record observations in a pre-filled table from the walking race. Oracy: Describe what happened to the chocolate cube when heated. Compare distances and speeds with a partner. Use sentence frames to explain: 'My group walked... because...' Cross-Curricular: Maths – Measure and compare times/distances. PE – Timed movement and recording physical activities. English – Use comparatives (faster, slower, longer, shorter). Assessment Plan: Practical task: Ice cube melting record. Mini quiz: Which is a gas? Which is a solid? Speed activity: Can they match a graph to a movement story?	B2- Organisation ■ • Match organs to body parts and their function. • Use pictures to group tissues into organs (e.g. heart, stomach, lungs). • Explain in simple terms how food is broken down with the help of enzymes. • Use a model or picture to describe what blood is made of. • Describe how the heart pumps blood and where it goes. • Sort healthy habits and foods to maintain a healthy heart and blood system. Reading: Body part flashcards with short descriptions. Simple visual information on heart and blood. Instructions for a digestion role play or jigsaw. Writing: Label diagrams of the digestive system and circulatory system. Fill-in-the-gap on enzyme use in digestion. Match keywords like blood, vein, artery to pictures and uses. Oracy: Group discussion: What foods help your heart? Partner explanation: How does the stomach help digest food? Role play: Journey of a blood cell. Cross-Curricular: PE – Healthy heart exercises. Maths – Count pulse beats and record change over time. English – Describe a process using first, then, next... Assessment Plan: Label key organs in a diagram. Q&A on blood components using flashcards. Watch and comment on digestion role play.	C2-Bonding, structure and properties of matter C4- Chemical changes (acids/bases) ■ • Use colour charts to sort acids and alkalis. • Match red to acid and blue to alkali on a pH scale. • Draw diagrams of atoms joining to make a molecule. • Mix vinegar and baking soda, observe the gas formed. • Describe simple chemical reactions with pictures and word cards. Reading: Safety posters about handling acids. Comic-style strips showing chemical changes. pH scale reference chart with symbols. Writing: Complete a scaffolded word equation: acid + metal = salt + gas. Label reaction diagrams. Write 2 sentences about a class experiment using sentence starters. Oracy: Talk through observations during vinegar and soda reaction. Pair-share: 'What happened to the solution when we added acid?' Use role cards to act out a molecule being formed. Cross-Curricular: Maths – Count atoms and molecules in simple formulas. English – Use conjunctions to describe reactions (because, so, then). Art – Draw cartoons of atoms joining. Assessment Plan: Observation of practical tasks (reaction). Oral explanation of what acids and alkalis do. Complete and explain a simple chemical equation worksheet.	P2- Electricity ■ • Match causes of pollution to their sources (factories, cars, smoke). • Use simple filtering tools to clean dirty water. • Label a water cycle diagram and describe it with support. • Talk about fuels (wood, gas, petrol) and how they are used. • Suggest ways to save water and protect nature. Reading: Picture books about the environment. Posters showing clean vs polluted settings. Diagram-based reading task: The water cycle. Writing: Label images showing clean and polluted environments. Write a sentence about how we can keep water clean. Complete sentence starters: 'Water is important because...' Oracy: Describe what happened during the filtering experiment. Talk in pairs: How can we reduce pollution? Take part in a group discussion on 'What if we run out of clean water?' Cross-Curricular: Geography – Weather, water cycle and pollution. PSHE – Caring for our world. Maths – Compare bar charts: water use at home. Assessment Plan: Group poster on saving water. Simple comprehension: match pollution types to consequences. Practical task: Show how filtering works.
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	B5- Homeostasis and Nervous System ■	C4- Chemical changes ■	P6- Waves ■		C6- The rate and extent of a reaction ■	P6- Electromagnetic waves ■
	- Describe how stem cells are used in medicine and issues surrounding this. - List different causes of poor health. - Describe how pathogens are spread. - Give examples of plant and animal diseases caused by bacteria, protist, viruses and fungi. - Explain the role of white blood cells in body defence. - Define Homeostasis and explain communication in the human body. - Infer how synapses function and investigate the reaction time.	- Define elements compounds, ions. - Describe ionic and covalent bonding. - Model bonding and compounds. - Relate properties of a compound to type of bonding and structure of molecules. - Define the term relative atomic mass. - Calculate relative atomic mass of elements and compounds. - Distinguish between conductors and insulators with examples of each. - Define specific heat capacity. - Investigate how to measure specific heat capacity. - Investigate reactions and reactivity of metals. - Evaluate and interpret information to describe how to extract different metals. - Use the reactivity series to predict displacement reactions. - Describe the structure of metals and alloys. - Describe how metals are extracted.	- Describe changes in energy stores and conservation. - Identify useful energy transfers. - Distinguish between renewable and non-renewable energy sources. - Describe ways in which energy can be stored and transferred. - State what is conservation of energy. - Define the terms: work, energy and power. - Efficiency, wasted energy and relative calculations. - Describe how today’s energy demands are generally met. - Describe and compare different sources of energy generation. - Distinguish between transverse and longitudinal waves. - Calculate speed using the wave equation.	- Define the terms: Ecosystem, community, population. - Apply “Sampling” using quadrats and transects. - Identify the feeding relationship between living organisms. - Construct a food chain and read a food web. - Explain photosynthesis. - Write the word and the symbol equation of photosynthesis. - Describe the water and carbon cycles. - Explain the impact of deforestation. - Infer the effect of pollution.	- Differentiate between endothermic and exothermic reactions. - Investigate factors that affect rate of reaction. - Define the term relative atomic mass. - Calculate relative atomic mass of elements and compounds. - Calculate the mass of solute in a certain solution. - Describe how to collect data on the rate of a chemical reaction. - Investigate factors that affect the rate of a reaction. - State the role of catalysts and explain their importance in industry. - Describe energy transfers between reactions and the surrounding. - Describe how a reversible reaction in a closed system can be at equilibrium. - Describe paper chromatography.	- Determine which combinations of the magnetic field attract and repel. - Investigate factors that affect the strength of an electromagnet. - Relate between atoms and Radioactivity - Describe half-life and write its equation. - Identify the Electromagnetic spectrum and state its uses. - State what is ionising radiation and name the 3 types of ionising radiation - Differentiate between Alpha, beta & gamma radiations.
	Reading: Read exam-style case studies and information texts related to the topic. Highlight and annotate key terms in GCSE science reading materials.		Reading: Read exam-style case studies and information texts related to the topic. Highlight and annotate key terms in GCSE science reading materials.	Reading: Read exam-style case studies and information texts related to the topic. Highlight and annotate key terms in GCSE science reading materials.		Reading: Read exam-style case studies and information texts related to the topic. Highlight and annotate key terms in GCSE science reading materials.
	Writing: Summarise topic information in bullet points or revision posters. Complete GCSE past paper short-answer questions.					Writing: Summarise topic information in bullet points or revision posters. Complete GCSE past paper short-answer questions.
	Oracy: Use talk partners to explain processes or concepts. Participate in structured group discussions or debates.	Reading: Read exam-style case studies and information texts related to the topic.	Writing: Summarise topic information in bullet points or revision posters.	Writing: Summarise topic information in bullet points or revision posters. Complete GCSE past paper short-answer questions.	Reading: Read exam-style case studies and information texts related to the topic. Highlight and annotate key terms in GCSE science reading materials.	Oracy: Use talk partners to explain processes or concepts. Participate in structured group discussions or debates.
	Cross Curricular: English: Scientific report writing, comprehension, speaking and listening. Maths: Interpreting data, graph plotting, calculations using formulas. Geography: Human impact on environment, resource use.	Writing: Summarise topic information in bullet points or revision posters.	Oracy: Use talk partners to explain processes or concepts.	Oracy: Use talk partners to explain processes or concepts. Participate in structured group discussions or debates.	Writing: Summarise topic information in bullet points or revision posters. Complete GCSE past paper short-answer questions.	Cross Curricular: English: Scientific report writing, comprehension, speaking and listening. Maths: Interpreting data, graph plotting, calculations using formulas.
	Assessment Plan: Diagnostic quiz at the beginning of the unit. Formative checkpoint tasks weekly.	Cross Curricular: English: Scientific report writing, comprehension, speaking and listening. Maths: Interpreting data, graph plotting, calculations using formulas.	Cross Curricular: English: Scientific report writing, comprehension, speaking and listening. Maths: Interpreting data, graph plotting, calculations using formulas.	Cross Curricular: English: Scientific report writing, comprehension, speaking and listening. Maths: Interpreting data, graph plotting, calculations using formulas.	Reading: Read exam-style case studies and information texts related to the topic. Highlight and annotate key terms in GCSE science reading materials.	Assessment Plan: Diagnostic quiz at the beginning of the unit. Formative checkpoint tasks weekly (e.g. diagrams, short answers, mini-practicals). End-of-unit summative assessment using GCSE Foundation Tier past paper questions.
		Assessment Plan: Diagnostic quiz at the beginning of the unit. Formative checkpoint tasks weekly (e.g. diagrams, short answers, mini-practicals). End-of-unit summative assessment using GCSE Foundation Tier past paper questions. presentations.	Assessment Plan: Diagnostic quiz at the beginning of the unit. Formative checkpoint tasks weekly (e.g. diagrams, short answers, mini-practicals). End-of-unit summative assessment using GCSE Foundation Tier past paper questions.	Assessment Plan: Diagnostic quiz at the beginning of the unit. Formative checkpoint tasks weekly (e.g. diagrams, short answers, mini-practicals). End-of-unit summative assessment using GCSE Foundation Tier past paper questions.	Writing: Summarise topic information in bullet points or revision posters. Complete GCSE past paper short-answer questions.	Assessment Plan: Diagnostic quiz at the beginning of the unit. Formative checkpoint tasks weekly (e.g. diagrams, short answers,
			- Self-assessment checklists and peer-assessed			

Year 10 Create					
B3- Infection and Response B5- Homeostasis and Nervous System ■ • Recognise that health can be affected by different factors. • List examples of diseases and how they spread. • Identify different ways our body fights infections. • Describe simple ways to keep healthy (e.g., washing hands, vaccination). • Understand that the body controls itself using messages (nerves). • Try a reaction time game to see how fast nerves work. Reading: Keyword matching sheets with symbols or diagrams. Comic strips or picture books about science topics. Reading simple texts or observing video transcripts with key terms highlighted. Writing: Fill-in-the-blank worksheets. Draw and label diagrams. Sequence cards to order steps in a process. Oracy: Pair discussions using prompt cards. Group presentations using models. Role-play explanations of processes. Cross-Curricular: English: Sequencing, vocabulary, describing. Maths: Measuring, comparing values, simple calculations. PSHE: Health, wellbeing, environmental impact. Art/DT: Model making, diagram drawing. Assessment Plan: Practical observations using checklists. Annotated picture sheets. Oral quizzes. Teacher-created investigate-level worksheets.	C2- Bonding, structure and properties of matter C4- Chemical changes ■ • Sort materials as metals or non-metals. • Identify if a material is an insulator or a conductor. • Model atoms joining together with physical items (bonding). • Use simple methods to find out how much of something is in a solution. • Carry out safe, simple chemical reactions and observe what happens. • Recognise that some reactions produce bubbles or colour changes. Reading: Keyword matching sheets with symbols or diagrams. Comic strips or picture books about science topics. Reading simple texts or observing video transcripts with key terms highlighted. Writing: Fill-in-the-blank worksheets. Draw and label diagrams. Sequence cards to order steps in a process. Oracy: Pair discussions using prompt cards. Group presentations using models. Role-play explanations of processes. Cross-Curricular: English: Sequencing, vocabulary, describing. Maths: Measuring, comparing values, simple calculations Assessment Plan: Practical observations using checklists. Annotated picture sheets. Oral quizzes. Teacher-created investigate-level worksheets.	P 1: Energy Transfers P6- Waves ■ • Describe different energy types and how energy moves. • Use simple tools to measure heat changes. • Recognise examples of renewable and non-renewable energy. • Use torches and mirrors to see how light behaves. • Recognise that sound is a wave and travels differently than light. • Calculate wave speed using diagrams and simple examples. Reading: Keyword matching sheets with symbols or diagrams. Comic strips or picture books about science topics. Reading simple texts or observing video transcripts with key terms highlighted. Writing: Fill-in-the-blank worksheets. Draw and label diagrams. Sequence cards to order steps in a process. Oracy: Pair discussions using prompt cards. Group presentations using models. Role-play explanations of processes. Cross-Curricular: English: Sequencing, vocabulary, describing. Maths: Measuring, comparing values, simple calculations Assessment Plan: Practical observations using checklists. Annotated picture sheets. Oral quizzes. Teacher-created investigate-level worksheets.	B7- Ecology ■ • Sort living things into food chains. • Make a poster demonstrating how animals and plants depend on each other. • Recognise the impact of pollution and deforestation. • Label the carbon and water cycles with support. • Use quadrats in a practical investigation in a garden or field. • Describe what plants need to grow and how they help the planet. Reading: Keyword matching sheets with symbols or diagrams. Comic strips or picture books about science topics. Reading simple texts or observing video transcripts with key terms highlighted. Writing: Fill-in-the-blank worksheets. Draw and label diagrams. Sequence cards to order steps in a process. Oracy: Pair discussions using prompt cards. Group presentations using models. Role-play explanations of processes. Cross-Curricular: English: Sequencing, vocabulary, describing. Maths: Measuring, comparing values, simple calculations. PSHE: Health, wellbeing, environmental impact. Geography: Pollution, cycles in nature. Art/DT: Model making, diagram drawing. Assessment Plan: Practical observations using checklists. Annotated picture sheets. Oral quizzes. Teacher-created investigate-level worksheets.	C5- Energy changes C6- The rate and extent of a reaction ■ C8- Chemical analysis ■ • Try out safe temperature experiments during reactions. • Recognise if a reaction gives out or takes in heat. • Match pictures to fast and slow changes (ice melting vs. fireworks). • Use colour changes to track a reaction. • Explain that reactions can go forward or backward. • Observe paper chromatography in action. Reading: Keyword matching sheets with symbols or diagrams. Comic strips or picture books about science topics. Reading simple texts or observing video transcripts with key terms highlighted. Writing: Fill-in-the-blank worksheets. Draw and label diagrams. Sequence cards to order steps in a process. Oracy: Pair discussions using prompt cards. Group presentations using models. Role-play explanations of processes. Cross-Curricular: English: Sequencing, vocabulary, describing. Maths: Measuring, comparing values, simple calculations Assessment Plan: Practical observations using checklists. Annotated picture sheets. Oral quizzes. Teacher-created investigate-level worksheets.	P7- Magnetism P6- Electromagnetic waves ■ • Use magnets to demonstrate attracting and repelling. • Try building a simple electromagnet with a nail and wire. • Identify light, radio and x-rays on a poster of the EM spectrum. • Illustrate different types of radiation using props. • Match Alpha, Beta, Gamma to pictures and descriptions. • Understand simple safety rules for working with radiation. Reading: Keyword matching sheets with symbols or diagrams. Comic strips or picture books about science topics. Reading simple texts or observing video transcripts with key terms highlighted. Writing: Fill-in-the-blank worksheets. Draw and label diagrams. Sequence cards to order steps in a process. Oracy: Pair discussions using prompt cards. Group presentations using models. Role-play explanations of processes. Cross-Curricular: English: Sequencing, vocabulary, describing. Maths: Measuring, comparing values, simple calculations Assessment Plan: Practical observations using checklists. Annotated picture sheets. Oral quizzes. Teacher-created investigate-level worksheets.
Y11 Accelerate					

B6- Inheritance, Variation
B6- Evolution ■
- Describe the role of chromosomes and state chromosome numbers for human somatic and sex cells. - Explain the importance of the cell cycle. - Compare and contrast cell differentiation in plant and animal cells. - State what is an allele - Differentiate between dominant ad recessive alleles, heterozygous and homozygous. - Use a Punnett square to show a genetic cross. - Explain why identical twins are not exactly the same in every way. - Evaluate selective breeding - Debate genetic engineering in agriculture and medicine. - Discuss the concerns and uncertainties about new genetic technologies such as cloning. - Explain how evolution occurs via natural selection. - Give examples where selective breeding has been used. - Describe what is a GM organism.
Reading: Textbook sections on genetics and evolution, glossary building of key terms (e.g. allele, homozygous)
Writing: Explanation of natural selection in exam-style Qs
Oracy: Structured debates on genetic engineering, discussions on selective breeding
Cross Curricular: English: Debating skills. PSHE: Ethics of cloning and GE. Art: Drawing genetic crosses and Punnett squares
Assessment Plan: End-of-unit assessment (short & long answer Qs). Practical write-up on inherited traits survey.

C7- Organic chemistry ■
C9- Chemistry of the atmosphere
P4- Atomic structure ■
- Recognise Hydrocarbons. - Identify crude oil and its uses. - Describe how the earth’s atmosphere evolved over time. - Explain what is the greenhouse effect. - State the consequences of air pollution and how to limit it. - Describe ways of distilling water. - Investigate the amount of dissolved salts in different water samples. - Describe the current model of the atom. - Define isotopes and explain nuclear radiation. - Write nuclear equations and explain half- life of nuclei.
Reading: Article on global warming, diagrams of atmospheric changes
Writing: Nuclear equation construction, pollution consequence reports
Oracy: Peer presentations on atom models and pollution
Cross Curricular: Geography: Climate change History: Industrial Revolution’s impact on atmosphere. Maths: Half-life calculations and graphing decay curves.
Assessment Plan: Mock Exam (full paper).

B5- Endocrine System ■
- Locate endocrine glands on the human body. - Describe the roles of hormones in body functioning. - Name some glands and their secreted hormones. - Explain the female menstrual cycle. - Describe IVF.
Reading: Hormonal regulation handouts
Writing: Menstrual cycle sequencing activity, hormone function table
Oracy: Group discussion on IVF and fertility treatments
Cross Curricular: PSHE: IVF ethics and puberty. PE: Impact of hormones on performance RSE: Menstrual cycle education
Assessment Plan: Extended answer on endocrine regulation

Revision

Revision

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Exam

Y11 Create					
B6- Inheritance, Variation B6- Evolution ■ - Define what a gene is and identify it as a unit of inheritance using simple vocabulary and visuals. - Identify and describe at least three observable inherited traits within a family using a diagram or chart. - Complete a basic Punnett square to show how a trait may be inherited from parents to offspring with guided support. - Explain how a characteristic (e.g. fur colour, beak shape) can help an animal survive in its environment, using a simple example. Reading: Picture-based key word mats Writing: Cloze activities (e.g. "An allele is...") Oracy: Group talk about traits in their own families; opinion circle on cloning Cross Curricular: Art: Family trees PSHE: Respect for difference and diversity. English: Sentence starters. Assessment Plan: Baseline quiz (verbal/supported). Pupil portfolio of diagrams and sentence completion	C7- Organic chemistry ■ C9- Chemistry of the atmosphere P4- Atomic structure ■ - Identify common products made from crude oil and describe at least two everyday uses of oil using images or sorting activities. - Compare the features of clean and polluted air and describe how air pollution can affect people and the environment, using word banks or visuals. - Carry out a simple test to compare different water samples and record the presence of dissolved substances using a table or symbols. - Describe the basic structure of an atom and match different types of radiation to their names and effects using diagrams or flashcards. Reading: Symbol-matching activities, simple diagrams Writing: Labelled pictures (e.g. water filter) Oracy: Role play – "clean air campaign" or "water engineer" Cross Curricular: Geography: Maps of pollution. PSHE: Looking after the environment. Maths: Measuring and comparing results Assessment Plan: Teacher-observed practical. Illustrated workbook pages. Mock paper adapted to Level 1 questions	B5- Endocrine System ■ - Identify major endocrine glands on a diagram of the human body and match each gland to the hormone it produces using key words or flashcards. - Describe at least two ways hormones affect the body (e.g. growth, mood, blood sugar) using picture prompts or sentence frames. - Recognise key physical and emotional changes that happen during puberty and label changes that happen in boys and girls using diagrams or matching tasks. - Describe what IVF is and identify how it can support people who cannot have babies naturally, using a simple storyboard or guided discussion. Reading: Hormone flashcards, comic strips on changes in puberty Writing: Fill-the-gap hormone charts Oracy: Circle time to talk about changes in the body and feelings Cross Curricular: RSE: Puberty and menstruation. Art: Draw the body's hormone pathways. PSHE: IVF and support for families Assessment Plan Annotated body map of gland. End-of-topic poster presentation. Supported quiz	Revision	Revision + Exam	