

ENSTONE PRIMARY SCHOOL SCIENCE PLANNING CYCLE from September 2026

Enstone Primary School Curriculum Rationale for Science

At Enstone Primary School, we use the **White Rose Science** scheme to support the teaching of science. The curriculum is carefully planned to provide a progressive sequence of knowledge, practical enquiry and scientific thinking from Reception to Year 6. Through engaging, hands-on learning experiences, pupils develop secure scientific knowledge alongside the skills of observation, investigation, questioning and evaluation required by the National Curriculum.

Curriculum Intent

Our intent is to inspire curiosity about the natural and physical world while developing pupils' understanding of key scientific concepts and processes. We aim to foster a love of scientific enquiry by encouraging children to ask questions, make predictions, carry out investigations and draw conclusions from evidence. Pupils develop an appreciation of the role that science plays in everyday life and its importance in understanding and caring for the world around them.

Curriculum Implementation

Science learning is planned progressively to ensure that substantive knowledge and disciplinary skills develop systematically throughout the primary years. Practical enquiry is central to the curriculum, enabling pupils to observe over time, identify and classify, carry out comparative and fair tests, seek patterns, research using secondary sources and interpret evidence. Scientific vocabulary is explicitly taught and revisited to enable pupils to communicate their understanding accurately and confidently. Wherever appropriate, meaningful links are made with mathematics, geography, design technology and outdoor learning.

Curriculum Impact

Through this approach, pupils develop secure scientific knowledge alongside the enquiry skills needed to think and work as scientists. They become increasingly confident in planning investigations, collecting and analysing evidence, drawing conclusions and communicating their findings using appropriate scientific language. By the end of each key stage, pupils are well prepared for further scientific learning and have developed curiosity, resilience and an informed understanding of the world around them.

Glyme Class – Reception

From the EYFS Statutory Curriculum					
The Natural World - Explore the natural world around them, making observations and drawing pictures of animals and plants - Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been - Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.					
Annual cycle following Reception White Rose Units					
Me and my small world Animals, including humans What's in my basket? Plants Senses Animals, including humans	Let's go outside Seasonal changes What's changed? Materials Night and day Seasonal changes Animals, including humans	Changes in winter Seasonal changes Let it flow Materials From desert to jungle Animals, including humans	Watch it grow Plants Animal detectives Animals, including humans Pushes and Pulls Materials	From city to sea Animals, including humans Look all around Seasonal changes Test it out! Materials	Happy and healthy Animals, including humans Our wonderful world Materials Plants We're going on an animal hunt Animals, including humans

Windrush Class – Years 1 and 2

Working Scientifically: Key Stage 1 statutory requirements from National Curriculum 2014
During years 1 and 2, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content: • asking simple questions and recognising that they can be answered in different ways • observing closely, using simple equipment • performing simple tests • identifying and classifying • using their observations and ideas to suggest answers to questions • gathering and recording data to help in answering questions

National Curriculum 2014 – Year 1 content to be covered

Animals, including humans

- Identify and name a variety of common animals, including fish, amphibians, reptiles, birds and mammals.
- Identify and name a variety of common animals that are carnivores, herbivores and omnivores.
- Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets)
- Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.

Plants

- Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees.
- Identify and describe the basic structure of a variety of common flowering plants, including trees.

Seasonal Changes

- Observe changes across the four seasons
- Observe and describe weather associated with the seasons and how day length varies.

Everyday Materials

- Distinguish between an object and the material from which it is made.
- Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock.
- Describe the simple physical properties of a variety of everyday materials.
- Compare and group together a variety of everyday materials on the basis of their simple physical properties.

National Curriculum 2014 – Year 2 content to be covered

Animals, including humans

- notice that animals, including humans, have offspring which grow into adults
- find out about and describe the basic needs of animals, including humans, for survival (water, food and air)
- describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene

Uses of Everyday Materials

- identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses
- find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.

Plants

- observe and describe how seeds and bulbs grow into mature plants
- find out and describe how plants need water, light and a suitable temperature to grow and stay healthy

Living Things and Their Habitats

- explore and compare the differences between things that are living, dead, and things that have never been alive
- identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other

- identify and name a variety of plants and animals in their habitats, including micro-habitats - describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food		
Two year rolling cycle – WHITE ROSE SCIENCE		
Academic year 2026-27 – Following Y2 Cycle		
Autumn 1 ANIMALS' NEEDS FOR SURVIVAL HUMANS	Spring 1 PLANTS – LIGHT AND DARK	Summer 1 PLANTS – BULBS AND SEEDS GROWING UP
Autumn 2 MATERIALS PLASTIC (optional extra unit on sustainability)	Spring 2 LIVING THINGS AND THEIR HABITATS (revisit PLANTS LIGHT AND DARK)	Summer 2 (revisit BULBS AND SEEDS) (revisit GROWING UP) WILDLIFE (sustainability)
Academic year 2027-28 – Following Y1 Cycle		
Autumn 1 THE HUMAN BODY SEASONAL CHANGES	Spring 1 PLANTING A ANIMALS	Summer 1 PLANTS PLANTING C
Autumn 2 MATERIALS SEASONAL CHANGES	Spring 2 CARING FOR THE PLANET (sustainability) SEASONAL CHANGES PLANTING B	Summer 2 GROWING AND COOKING SEASONAL CHANGES

Cherwell Class – Years 3 and 4

Working Scientifically: Key Stage 2 statutory requirements from National Curriculum 2014
During years 3 and 4, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content: - asking relevant questions and using different types of scientific enquiries to answer them - setting up simple practical enquiries, comparative and fair tests - making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers - gathering, recording, classifying and presenting data in a variety of ways to help in answering questions - recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables - reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions - using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions

- identifying differences, similarities or changes related to simple scientific ideas and processes
- using straightforward scientific evidence to answer questions or to support their findings

National Curriculum 2014 – Y3 content to be covered

Animals, including humans

- identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat
- identify that humans and some other animals have skeletons and muscles for support, protection and movement

Forces

- compare how things move on different surfaces
- notice that some forces need contact between two objects, but magnetic forces can act at a distance

Light

- recognise that they need light in order to see things and that dark is the absence of light
- notice that light is reflected from surfaces
- recognise that light from the sun can be dangerous and that there are ways to protect their eyes
- recognise that shadows are formed when the light from a light source is blocked by a solid object
- find patterns in the way that the size of shadows change

Rocks

- compare and group together different kinds of rocks on the basis of their appearance and simple physical properties
- describe in simple terms how fossils are formed when things that have lived are trapped within rock
- recognise that soils are made from rocks and organic matter

Magnets

- observe how magnets attract or repel each other and attract some materials and not others
- compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials
- describe magnets as having two poles
- predict whether two magnets will attract or repel each other, depending on which poles are facing

Plants

- identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers
- explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant
- investigate the way in which water is transported within plants
- explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal

National Curriculum 2014 – Y4 content to be covered

States of Matter

- compare and group materials together, according to whether they are solids, liquids or gases

- observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C)
- identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature

Living Things and Their Habitats

- recognise that living things can be grouped in a variety of ways
- explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment
- recognise that environments can change and that this can sometimes pose dangers to living things

Electricity

- identify common appliances that run on electricity
- construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers
- identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery
- recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit
- recognise some common conductors and insulators, and associate metals with being good conductors

Sound

- identify how sounds are made, associating some of them with something vibrating
- recognise that vibrations from sounds travel through a medium to the ear
- find patterns between the pitch of a sound and features of the object that produced it
- find patterns between the volume of a sound and the strength of the vibrations that produced it
- recognise that sounds get fainter as the distance from the sound source increases

Animals, including humans

- describe the simple functions of the basic parts of the digestive system in humans
- identify the different types of teeth in humans and their simple functions
- construct and interpret a variety of food chains, identifying producers, predators and prey

Two year rolling cycle – WHITE ROSE SCIENCE

ACADEMIC YEAR 2026-27 – FOLLOWING Y4 CYCLE

Autumn 1 GROUP AND CLASSIFY LIVING THINGS DATA COLLECTION A	Spring 1 SOUND DATA COLLECTION B	Summer 1 DATA COLLECTION C HABITATS DEFORESTATION (optional extra sustainability unit)
Autumn 2 STATES OF MATTER	Spring 2 ELECTRICITY ENERGY (optional extra sustainability unit)	Summer 2 THE DIGESTIVE SYSTEM FOOD CHAINS

ACADEMIC YEAR 2027-28 – FOLLOWING Y3 CYCLE

Autumn 1 SKELETONS MOVEMENT	Spring 1 FOSSILS SOILS	Summer 1 PLANTS A
--	---	------------------------------------

NUTRITION AND DIET		
Autumn 2 FOOD WASTE (optional extra sustainability unit) ROCKS	Spring 2 LIGHT	Summer 2 FORCES MAGNETS PLANTS B BIODIVERSITY (optional extra sustainability unit)

YEARS 5 and 6 TWO YEAR ROLLING CYCLE USING MIXED Y5 AND Y6 UNITS

Working Scientifically: Key Stage 2 statutory requirements from National Curriculum 2014

During years 5 and 6, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:

- asking relevant questions and using different types of scientific enquiries to answer them
- setting up simple practical enquiries, comparative and fair tests
- making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers
- gathering, recording, classifying and presenting data in a variety of ways to help in answering questions
- recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables
- reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions
- using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions
- identifying differences, similarities or changes related to simple scientific ideas and processes
- using straightforward scientific evidence to answer questions or to support their findings

Academic year 2026-27

National Curriculum 2014 – content to be covered

Autumn	Spring	Summer
Y5 Properties and Changes of Materials • compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets • know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution • use knowledge of solids, liquids and gases to decide how mixtures might be	Y5 Earth and Space • describe the movement of the Earth, and other planets, relative to the Sun in the solar system • describe the movement of the Moon relative to the Earth • describe the Sun, Earth and Moon as approximately spherical bodies • use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky	Y5 Living Things and Their Habitats • describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird • describe the life process of reproduction in some plants and animals Y6 Animals, including humans • identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood

separated, including through filtering, sieving and evaporating • give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic • demonstrate that dissolving, mixing and changes of state are reversible changes • explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda	Y5 Animals, including humans • describe the changes as humans develop to old age	• recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function • describe the ways in which nutrients and water are transported within animals, including humans
White Rose Units		
Autumn YEAR 5: PROPERTIES OF MATERIALS YEAR 5: PLASTIC POLLUTION YEAR 5: REVERSIBLE AND IRREVERSIBLE CHANGES	Spring YEAR 5: SPACE YEAR 5: GLOBAL WARMING YEAR 5: ANIMALS INCLUDING HUMANS	Summer YEAR 5: LIFECYCLES YEAR 5: REPRODUCTION A (REPRODUCTION B) YEAR 6: THE CIRCULATORY SYSTEM YEAR 6: DIET, DRUGS AND LIFESTYLES
YEARS 5 and 6 TWO YEAR ROLLING CYCLE		
Academic Year 2027-28		
National Curriculum 2014 – content to be covered		
Autumn	Spring	Summer
Y6 Light • recognise that light appears to travel in straight lines • use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye • explain that we see things because light travels from light sources to our eyes or	Y5 Forces • explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object • identify the effects of air resistance, water resistance and friction, that act between moving surfaces	Y6 Evolution and Inheritance • recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago • recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents

from light sources to objects and then to our eyes - use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them Y6 Electricity - associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit - compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches - use recognised symbols when representing a simple circuit in a diagram	- recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect Y6 Living Things and Their Habitats - describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals - give reasons for classifying plants and animals based on specific characteristics	identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution
White Rose Units		
Autumn YEAR 6: LIGHT (LIGHT POLLUTION) YEAR 6: ELECTRICITY (RENEWABLE ENERGY)	Spring YEAR 5: FORCES YEAR 6: LIVING THINGS AND THEIR HABITATS	Summer YEAR 6: VARIATION YEAR 6: ADAPTATIONS YEAR 6: FOSSILS

Assessment notes: We will use the White Rose assessments that are provided for each unit. These will be used as a pre-planning elicitation, in order that planning for the teaching unit can be very targeted and we don't waste time teaching things that the children already know. They will then be used again at the end of the unit (purple pen) to see how the assessment improves. Roughly speaking, we are looking for at least 8 out of 10 to be expected. To judge greater depth, children should be given GD questions to answer, either verbally or in writing. (LW will find some exemplifications that we can use).