Creeting St Mary CofE School - Science Progression of Skills and Knowledge

All to follow NC programme of study and use this as basis of study. Use Developing Experts as reference/resource. Assessments (Years 2-6) should be carried out at the end of each unit and reported to Headteacher and Science co-ordinator.

2025/26 2026/27

Birch Class

Birch class work will be based on The Developing Experts Scheme. The work will be spread across the National Curriculum requirements for both year 5 and year 6 so everything is covered over a two year rolling programme. The topics for each year will be covered in an order to suit the teacher and to fit in with any other topics. They will not necessarily take a half term as some units are longer than others. Each unit of work will be tested on completion.

Working Scientifically – to be taught across all units.

- • Planning different types of scientific enquires to answer questions, including recognising and controlling variables where necessary
- • Taking measurements, using a range of scientific equipment with increasing accuracy and precision, taking repeat readings where appropriate
- • Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, and bar and line graphs
- • Using test results to make predications to set up further comparative and fair tests
- • Reporting and presenting findings from enquires, including conclusions, casual relationships and explanations of results, in oral and written forms such as displays and other presentations.
- • Identifying scientific evidence that has been used to support or refute ideas or arguments.

Forces – Year 5 unit

- • 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.

- • Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.

Changes of Materials – Year 5 unit

- • Know that some materials will dissolve in liquid to from a solution, and describe how to recover a substance from a solution.

- • Use knowledge of solids, liquids and gasses to describe how mixtures might be separated, including through filtering, sieving and evaporating.

- • 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.

Animals including Humans (Biology and lifestyle) – Year 6 unit

- • Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood

- • Describe the ways in which nutrients and water are transported within animals, including humans

- • Recognise the impact of diet, exercise, drugs and lifestyle on the way bodies function

Light – Year 6 unit

- • 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 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

Living Things and their Habitats (Life cycles) – Year 5 unit

- • Describe the differences in the life cycle of a mammal, an amphibian, and insect and a bird.

Evolution and Inheritance – Year 6 unit

- • 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.

- • Identify how plants and animals are adapted to suit their environment in different ways and that adaptation may lead to evolution.

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Working Scientifically – to be taught across all units and especially the Looking after our Environment unit

- • Planning different types of scientific enquires to answer questions, including recognising and controlling variables where necessary
- • Taking measurements, using a range of scientific equipment with increasing accuracy and precision, taking repeat readings where appropriate
- • Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, and bar and line graphs
- • Using test results to make predications to set up further comparative and fair tests
- • Reporting and presenting findings from enquires, including conclusions, casual relationships and explanations of results, in oral and written forms such as displays and other presentations.
- • Identifying scientific evidence that has been used to support or refute ideas or arguments.

Earth and Space – Year 5 unit

- • 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 Earth, Sun 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

Properties of Materials – Year 5 unit

- • 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.

- • Give reasons based on evidence for comparative and fair tests, for the particular uses of everyday materials, including metals, wood, and plastic

Electricity – Year 6 unit

- • Associate the brightness of a lamp or the volume of a buzzer with the number of voltage 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 the switches.

- • Use recognised symbols when representing a simple circuit in a diagram

Living /things and their Habitats – Year 6 unit

- • 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

Snap Science – Can you sort this mess – L1, L2, L3, L4, L5, L6 L7, L8, EL1, EL2

- • Give reasons for classifying plants and animals based on specific characteristics

Snap Science – Can you sort this mess – L3, L4, L5, L6, L8, L9, L10, EL1, EL2this

Animals including Humans (reproduction) – Year 5 unit

- • Describe the life process of reproduction in some plants and animals

- • Describe the changes as humans develop towards old age.

Looking After our Environment – Year 6 unit

This unit takes children through six lessons and is designed to complement the DFE's sustainability curriculum unit. To align with the National Curriculum this unit is delivered to further develop children's working scientifically skills.

Chestnut Class

2025/26 2026/27

Follow national Curriculum for Year 4.

Six units of work to be covered . Each unit to be assessed at end of unit. Units can be done in any order to fit in with other subjects.

Working Scientifically – to be taught across all units

- • Asking relevant questions and using different types of scientific enquires to answer them.
- • Setting up simple practical enquires, 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 enquires, 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 straight forward scientific evidence to answer questions or to support their findings

Living Things and Their Habitats – 2 X Year 4 units – Living things and their Habitats and **Living things and their Habitats - Conservation**

- • Recognise that living things can be grouped in a variety of ways.

- • Explore ad use classification keys to help group, identify and anme 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.

Animals Including Humans – Year 4 unit

- • 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

States of Matter – Year 4 unit

- • 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

- • Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature

Sound – Year 4 unit

- • 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 the sound and features of the object that produced it

- • Find patterns between the volume of the sound and the strength of the vibrations that produced it.

- • Recognise that sounds get fainter as the distance from the sound source increases

Electricity – Year 4 unit

- • Identify common appliances that run on electricity

- • Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulb, 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.

Chestnut Class

2025/26 2026/27

Working Scientifically – to be taught across all units and in particular Scientific Enquiry - Year 3 unit

- • Asking relevant questions and using different types of scientific enquires to answer them.
- • Setting up simple practical enquires, 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 enquires, 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 straight forward scientific evidence to answer questions or to support their findings

Plants - Year 3 unit

- • 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 plant

- • Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed disper

Animals including humans - Year 3 unit

- • 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 animals have skeletons and muscles for support, protection and movement.

Rocks- Year 3 unit

- • 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.

Light - Year 3 unit

- • 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

Forces and Magnets - Year 3 unit

- • Compare how things move on different surfaces

- • Notice that some forces need contact between two objects, but magnetic forces can act at a distance

- • 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

Scientific Enquiry – Year 3 unit

This unit takes children through six lesson where they learn the scientific skills they will need to apply during key stage 2

Oak Class

2025/26 2026/27

Follow National Curriculum for year 1.

Assessment to take place at end of each unit for Year 2 children.

Working Scientifically – to be covered in all units

- • 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

Plants – Year 1 unit

- • 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

Animals Including Humans – 2 X Developing Expert Year 1 units – All about Animals

and All about Me

- • Identify and name a variety of common animals, including fish, amphibians, reptiles, birds and mammals.

- • Identify and name a variety of common animals that ate carnivores, herbivores and omnivores

- • Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds, 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.

Everyday Materials – 2 X Developing Experts Year 1 units – Everyday Materials 1 and **Everyday Materials 2**

- • Distinguish between and 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.

Seasonal Changes – Developing Expert Year 1 unit

- • Observe changes across the four seasons

- • Observe and describe weather associated with the seasons and how day length varies

Oak Class

2025/26 2026/27

Working Scientifically – to be covered in all units

- • 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

Living things and their Habitats – 2 X units from Developing Experts Year 2 – Living things and their Habitats and **Living things and their Habitats around the World.**

- • 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.

Plants – Year 2 unit

• • 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

Animals including humans – 2 X Developing Expert Year 2 units – Animals including Humans 1 - Growth and **Animals including Humans 2 -Life cycles**

• • 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 – Year 2 unit from Developing experts

• • Identify and compare the uses 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