Curriculum Handbook for Science

Intent, Implementation, Impact/ Long Term Plan/SEND Provision/ SMSC Statement/ Progression of Skills

St. Martin's
C. of E. Primary School
Serve one another in love
Galatians 5v13

St. Martin's C of E (VA) Primary School

Science Curriculum

'A high-quality science education provides the foundations for understanding the world through the specific disciplines of biology, chemistry and physics. Science has changed our lives and is vital to the world's future prosperity, and all pupils should be taught essential aspects of the knowledge, methods, processes and uses of science. Through building up a body of key foundational knowledge and concepts, pupils should be encouraged to recognise the power of rational explanation and develop a sense of excitement and curiosity about natural phenomena. They should be encouraged to understand how science can be used to explain what is occurring, predict how things will behave, and analyse causes.' (National Curriculum, 2014)

Aims The national curriculum for science aims to ensure that all pupils:

- develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics
- develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them
- are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future.

Curriculum Intent

St. Martin's C of E (VA) Primary School recognises and values the importance of science and scientific enquiry. Science at St. Martin's aims to develop a fun, practical and engaging high-quality curriculum that inspires the next generation to succeed and excel in science. We do this through fully adhering to the aims of the National Curriculum and fostering a healthy curiosity and interest in the sciences.

At the heart of our progressive science curriculum is scientific investigation. Wherever possible, we intend to deliver lessons where children learn through varied systematic investigations, leading to them being equipped for life to ask and answer scientific questions about the world around them.

We believe that science encompasses the acquisition of knowledge, concepts, skills and positive attitudes. Throughout the programmes of study, the children will acquire and develop the key knowledge that has been identified within each unit and across each year group, as well as the application of scientific skills. We ensure that the 'Working Scientifically' skills are built-on and developed throughout children's time at the school, so that they can apply their knowledge of science when using equipment, conducting experiments and investigation, building arguments and explaining concepts confidently, being familiar with scientific terminology and, most importantly, to continue to ask questions and be curious about their surroundings.

Knowledge in Science is defined as:

Substantive Knowledge-

- Knowledge of the products of Science such as concepts, laws, theories and models. This is referred to as scientific knowledge and conceptual understanding in the national curriculum

Disciplinary Knowledge-

- This is specified in the working scientifically section of the National Curriculum and it includes knowing how to carry out practical procedures.
- Research shows that disciplinary knowledge is often framed as only 'skills' in school curriculums and pupils are assumed to pick these skills up by doing. However, this assumption fails to recognise that disciplinary thinking and carrying out practical investigations skilfully are dependent upon a domain of knowledge.
- Our Science Curriculum is organised in the three scientific subject disciplines of Biology, Chemistry and Physics. Each scientific discipline gives pupils a unique perspective to explain the world around them.
- Pupils need opportunities in lessons to recap and to orally rehearse and structure their thoughts, using scientific language. This is important in helping them to use scientific language clearly and precisely before writing it.

Curriculum Implementation

At St. Martin's, we structure and plan our lessons using White Rose Science schemes of learning to ensure firm foundations and sequence of learning.

At the beginning of each unit, the children document what they already know, how they know and what they would like to find out.

The progression of skills for working scientifically are developed through the year groups and scientific enquiry skills are of key importance within lessons.

At St. Martin's, teachers create a positive attitude to science learning within their classrooms and reinforce an expectation that all children are capable of achieving high standards in science. Our whole school approach to the teaching and learning of science involves the following:

- Science will be taught in planned, and arranged, topic blocks from the White Rose scheme. Our strategy is to enable all children to be catered for through adapted planning suited to their abilities.
- We plan for problem solving and real-life opportunities that enable children to find out for themselves. Children are encouraged to ask their own questions and be given opportunities to use their scientific skills and research to discover the answers. This curiosity is celebrated within the classroom. Planning involves teachers creating practical, engaging lessons with opportunities for precise questioning in class to test conceptual knowledge and skills, and assess children regularly to identify those children with gaps in learning.
- Our curriculum is progressive. We build upon the learning and skill development of the previous years. We use the White Rose Flashback 4 for Science, where teachers can identify misconceptions that need addressing.
- When working Scientifically, skills are embedded into lessons to ensure they are being developed throughout the children's school career, and new vocabulary and challenging concepts are introduced through direct teaching. This is developed through the years, in-keeping with the topics.

- Teachers demonstrate how to use scientific equipment, and the various 'Working Scientifically' skills in order to embed scientific understanding. Teachers find opportunities to develop children's understanding of their surroundings by accessing outdoor learning.

Curriculum Impact

The successful approach to the teaching of science at St. Martin's results in a fun, engaging, high quality science education, that provides children with the foundations for understanding the world that they can take with them once they complete their primary education.

So much of science lends itself to outdoor learning, and so we provide children with opportunities to experience this, particularly through our Beach School curriculum.

Children learn the possibilities for careers in science as a result of our community links and enrichment activities such as the 'Scarborough Science and Engineering Exhibition.'

Pupil voice is used to further develop the Science curriculum, through questioning of pupils' views and attitudes towards Science, to assess the children's enjoyment of science, and to motivate learners.

St. Martin's C of E (VA) Primary School
SEND Provision – Science

Cognition and Learning		Communication and Interaction	
Subject Challenges for SEND	**Provision for SEND**	**Subject Challenges for SEND**	**Provision for SEND**
The ability to explain a scientific concept/provide reasoning to explain a thought or opinion.	Use stem sentences to provide subject specific language in a particular format – this will enable children to accurately communicate their thoughts and opinions.	Expressing themselves and sharing their thoughts and opinions orally.	Use stem sentences to provide subject specific language in a particular format – this will enable children to accurately communicate their thoughts and opinions.
The ability to recall basic scientific information e.g. the five groups of animals (mammals, fish, birds, reptiles and amphibians).	Pre-teach can be used to revisit key scientific information as well as planned retrieval questions. The use of 'hooks' at the beginning of lessons informed by previous gap analysis should revisit objectives children are not secure with.		Use alternative recording devices e.g. whiteboards/Chromebooks to allow children the option of sharing their thoughts and opinions in an alternative way.
Understanding of subject specific vocabulary.	Pre-teach subject specific vocabulary e.g. dependent/independent variables. Draw particular attention to subject specific vocabulary which could be viewed as ambiguous. E.g. 'results table' or 'culture.' Support the understanding of key vocabulary through definitions/visual aids.	Acquiring, comprehending and using scientific language.	Allow children processing time when asking them a direct question. Some children need upwards of 10 seconds to process a question before they can answer. Use visuals to support children in using the correct scientific name for apparatus. Widgit Online can support with creating visuals. Create flashcards with the common name for an object on one side and the scientific name on the other side e.g. taste buds/fungiform papillae
Difficulty in producing accurate pieces of writing e.g. an explanatory text of a scientific concept.	Use writing frames, 'fill in the blank' sentences, sentence starters, vocabulary mats, visuals to sequence etc. Children can record work differently e.g. through the use of ICT (PowerPoints, Word documents, videos etc).	EAL pupils may find it difficult to access resources/learning.	Use a reduced number of simple instructions which are supported by visuals. Appropriate modelling to aid understanding. Differentiated written resources can be supported by visuals and could be translated using Word. (Teachers click Review – Translate – Translate Document). This will fully translate the document and open in a new window.
Understanding 'abstract' scientific concepts such as electricity/air resistance.	Where possible, begin the lesson by using concrete resources before you discuss the abstract scientific reasoning behind. For example, make a circuit with a bulb, battery and wires before you discuss the concept of electricity/drop different shapes objects before you discuss air resistance.		

St. Martin's C of E (VA) Primary School
SEND Provision – Science

Sensory and Physical		Social Emotional and Mental Health	
Subject Challenges for SEND	Provision for SEND	Subject Challenges for SEND	Provision for SEND
Fine motor skills/physical difficulties.	Teachers to be proactive in identifying appropriate resources/apparatus for each individual child's need. For example, when conducting an experiment, some children may require a larger measuring tape/thermometer. Consider alternative ways to measure information e.g. trundle wheel rather than measuring tape.	Low self-esteem in scientific ability.	Showcase different work and a focus on the creation process rather than on the end result. Teacher be conscious to praise effort rather than ability. Make use of learning objectives which focus upon the specific scientific skill e.g. focus upon the accurate plotting of a graph rather than the neatness of the bars coloured. Pre-teach key information and vocabulary so that children feel prepared for the lesson and can share their knowledge with their peers – resulting in raised self-esteem.
Sensory/physical difficulties accessing specific environments during scientific experiments.	Ensure any sensory difficulties are considered at the point of planning and appropriate alternative arrangements are made. For example, if a child will find the texture of certain materials e.g. cotton wool overwhelming, resource an alternative. Ensure that all environments are accessible to children with physical disabilities e.g. wheelchair accessible.	Difficulties with social skills may result in children finding group work challenging.	Carefully consider seating arrangements during group work to ensure that children are placed next to patient, non-dominant children. Additional adult support can be deployed as necessary. Ensure children have access to usual aides such as ear defenders to reduce noise.
Children with a visual impairment may find it difficult to view text/images/scientific equipment.	Ensure that font size used in resources matches the specific font size specified in the child's report provided by outside agencies. Enlarge images to appropriate sizes to aid access. Consider adapted resources e.g. free-standing magnifying glasses, measuring cylinders with enlarged scales etc.	Understanding safety issues/concerns that arise during scientific experiments e.g. taking care with thermometers due to dangers of mercury exposure.	Pre-teach safety concerns before the lesson with the aid of Social Stories, consequential visuals and clear behaviour expectations.

St. Martin's C of E (VA) Primary School
SMSC Subject Statement

Science

Spiritual

- Science supports spiritual development by providing many opportunities for children to think and spend time reflecting on the amazing wonders which occur in our natural world.

Moral

- Science supports moral development by showing children that different opinions need to be respected and valued. There are many moral and ethical issues that we cover in science including discussions about environmental and human issues.

Social

- Science supports social development by exposing children to the power of collaborative working in the science community which has led to some amazing and life changing breakthroughs in medicine. When undertaking experiments and research children work collaboratively

Cultural

- Science supports cultural development by looking at how scientists from a range of cultures have had a significant impact globally. It also helps children to understand how important science is to the economy and culture of the UK.

St. Martin's C of E (VA) Primary School
Science Long Term Plan

Key Stage 1			
Year 1	**Autumn**	**Spring**	**Summer**
	The Human Body (Biology) Seasonal Changes-Autumn (Biology) Materials (Chemistry) Seasonal Changes-Winter (Biology	Planting A (Biology) Animals (Biology) Seasonal Changes-Spring (Biology) Planting B (Biology)	Plants and Planting C (Biology) Growing and Cooking (Sustainability) Seasonal Changes-Summer (Biology) **Optional Unit of Work:** Caring for the Planet (sustainability)
Year 2	**Autumn**	**Spring**	**Summer**
	Animals' needs for survival (Biology) Humans (Biology) Materials (Chemistry) **Optional Unit of Work:** Plastic (Sustainability)	Plants-Light and Dark (Biology) Living things and their habitats (Biology) Plants-Light and Dark (Biology)	Plants-Bulbs and Seeds (Biology) Growing Up (Biology) Plants-Bulbs and Seeds (Biology) Growing Up (Biology) Wildlife (Sustainability)

St. Martin's C of E (VA) Primary School
Science Long Term Plan

Key Stage 2 (taught in year groups)						
Year 3	**Autumn 1**	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
	Animals including Humans – Skeletons and Nutrition and Diet (Biology)	Light (Physics)	Rocks and Fossils (Chemistry)	Soils (Chemistry) Forces Magnets (Physics) →	Plants A Plants B (Biology) →	Movement (Biology) Sustainability (Food Waste) Sustainability (Biodiversity)
Year 4	**Autumn 1**	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
	Electricity (Physics) Data Collection A	States of Matter (Chemistry)	Sound (Physics) Data Collection B)	Group and Classify Living Things (Biology)	Data Collection C Habitats (Biology)	The Digestive System (Biology) Food Chains (Biology)
Year 5	**Autumn 1**	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
	Forces (Physics)	Earth and Space (Physics)	Properties of Materials (Chemistry)	Animals including Humans (Biology)	Life Cycles Reproduction (A) (Biology)	Reversible and Irreversible Changes (Chemistry)
Year 6	**Autumn 1**	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
	Light (physics)	Electricity (Physics)	Animals including Humans- The Circulatory System / Diet, drugs and lifestyle (Biology)	Living things and their Habitats (Biology)	Evolution and Inheritance- Variation and Adaptations (Biology)	Themed Projects (link to Year 7)

New

Science schemes of learning

National curriculum mapping

September 2023

White Rose SCIENCE

Animals, including humans

White Rose SCIENCE

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
• 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	• 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	• 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	• 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	• Describe the changes as humans develop to old age	• Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood • 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
Autumn 1 Spring 2	Autumn 1, Autumn 2 Spring 2 Summer 2, Summer 4	Autumn 1, Autumn 2, Autumn 3	Summer 4, Summer 5	Spring 2	Summer 3, Summer 4

Living things and their habitats

White Rose SCIENCE

Year 2	Year 4	Year 5	Year 6
• 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 microhabitats • 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	• 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	• 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	• 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
Spring 2 Summer 2, Summer 4	Autumn 1, Autumn 2 Spring 2 Summer 1, Summer 2	Spring 3 Summer 1, Summer 4	Autumn 1

Plants

White Rose SCIENCE

Year 1	Year 2	Year 3
• 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	• 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	• 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
Spring 1, Spring 5 Summer 1, Summer 2	Spring 1, Spring 3 Summer 1, Summer 3	Summer 1, Summer 4

Materials

White Rose SCIENCE

Year 1	Year 2	Year 5
• 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	• 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	• 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 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
Autumn 3	Autumn 3	Spring 1 Summer 2

Rocks

Year 3

- 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

Autumn 5
Spring 1, Spring 2

States of matter

Year 4

- 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

Autumn 3

Electricity

Year 4	Year 6
• 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	• 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
Spring 3	Autumn 2

Earth and space

Year 5
• 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
Autumn 2

Seasonal changes

Year 1
• Observe changes across the 4 seasons • Observe and describe weather associated with the seasons and how day length varies
Autumn 2, Autumn 4 Spring 4 Summer 4

Sound

Year 4
• 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
Spring 1

Light

Year 3	Year 6
• 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 an opaque object • Find patterns in the way that the size of shadows change	• Recognise that light travels 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 that cast them
Spring 3	Spring 1

Forces and magnets

Year 3	Year 5
• Compare how things move on different surfaces • Notice that some forces need contact between 2 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 2 poles • predict whether 2 magnets will attract or repel each other, depending on which poles are facing	• 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
Summer 2, Summer 3	Autumn 1

Evolution and inheritance

Year 6
• 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 animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution
Summer 1, Summer 2, Summer 3

Working scientifically

White Rose SCIENCE

Ask questions

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
• Ask simple questions.	• **Ask simple questions and recognise that they can be answered in different ways.**	• Ask questions and understand there are different enquiry types they could use to answer them.	• **Ask relevant questions and use different types of scientific enquiry to answer them.**	• Ask scientific questions and begin to understand which questions would be best suited to each enquiry type.	• Ask relevant scientific questions and choose which enquiry type would be best suited to answer them.

Plan

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
• Verbally state what they are going to investigate.	• Make simple predictions based on a question. • Identify what they will change and keep the same.	• Make relevant predictions. • Identify what they will change, observe and keep the same. • With support, set up simple practical enquiries.	• Make predictions based on simple scientific knowledge. • Identify what they will change, observe or measure and keep the same. • **Set up simple practical enquiries, comparative and fair tests.**	• Make predictions based on scientific knowledge. • With support, plan different types of scientific enquiry. Where appropriate, identify the dependent, independent and controlled variables.	• Make predictions based on scientific knowledge. • **Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.**

Make observations

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
• Observe closely.	• **Observe closely, using simple equipment.**	• Begin to use scientific equipment to make observations.	• **Make systematic and careful observations.**	• Use a range of scientific equipment to make systematic and careful observations.	• Use a range of scientific equipment to make systematic and careful observations with increased complexity.

Take measurements

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
• Carry out simple tests using non-standard measurements when appropriate.	• **Perform simple tests** using standard units when appropriate.	• Carry out tests and simple experiments and take measurements using standard units.	• **Take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.**	• Take accurate measurements using a range of scientific equipment. Start to take repeat readings when appropriate.	• **Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.**

Gather, record and classify data

White Rose SCIENCE

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
• Gather and record simple data. • Sort objects and living things into groups based on simple properties.	• **Gather and record data to help in answering questions.** • **Identifying and classifying.**	• Gather and record data in different ways to help answer questions. • **Recording findings using simple scientific language, drawings, labelled diagrams, bar charts, and tables.**	• **Gather, record and classify data in a variety of ways to help in answering questions.** • **Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.**	• Gather, record and classify data with increasing complexity to help in answering questions. • **Record data using scientific diagrams and labels, classification keys, tables, bar and line graphs.**	• **Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.**

Present findings

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
• Explain what they found out to an adult or a partner.	• **Talk about what they have found out and how they found it out. (non-statutory)**	• Report on findings from enquiries, including oral and written explanations.	• **Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.**	• Report and present findings from enquiries, including conclusions. • Begin to identify causal relationships in oral and written forms such as displays and other presentations.	• **Report and present findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations.**

Answer questions and make conclusions

White Rose SCIENCE

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
• Answer simple questions.	• **Use their observations and ideas to suggest answers to questions.**	• Make simple conclusions. • Use results, findings or observations to answer questions.	• **Use straight-forward scientific evidence to answer questions or to support their findings.** • **Use results to draw simple conclusions.** • **Begin to identify differences, similarities or changes related to simple ideas or processes.**	• Use scientific evidence to answer questions. • Make conclusions based on scientific evidence and from their own testing and findings. • **Identify differences, similarities or changes related to simple ideas or processes.**	• Use scientific evidence to answer questions. • Make conclusions based on scientific evidence and from their own testing and findings. • **Identify scientific evidence that has been used to support or refute ideas or arguments.**

Evaluate

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
		• Suggest questions for further investigation.	• Begin to **make predictions for new values, suggest improvements and raise further questions.**	• **Make predictions for new values, suggest improvements and raise further questions.**	• **Use test results to make predictions to set up further comparative and fair tests.** • Suggest investigation improvements including accuracy of results. • Provide some simple examples of how to extend the investigation.