

# *St. Joseph's R.C. Primary School*



## ***Science Policy***

**December 2025**

**Review: December 2027**

## **Policy Review**

This policy will be reviewed in full by the Governing Body on 2 yearly basis.

The policy was last reviewed and agreed by the Governing Body in December 2025.

It is due for review in December 2027.

Hayley Francis

Date:

Head Teacher

Lindsay Wise

Date:

Chair of Governors

## **Introduction:**

This policy outlines the teaching, organisation and management of Science taught and learnt at St Joseph's RC Primary School. The school's policy for Science follows The National Curriculum 2014 for Science Guidelines and the Early Years Foundation Stage Framework and 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 a variety of different scientific enquiries that help them to answer 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.
- are encouraged to understand how Science can be used to explain what is occurring, predict how things will behave, and analyse causes.

## **Aims:**

A high-quality Science education provides foundations for understanding the world. Through building key knowledge and understanding of concepts, pupils should be encouraged to recognise the power of rational explanation and develop a sense of curiosity about natural phenomena.

- For staff to work cooperatively to deliver a broad and balanced Science education which incorporates a range of teaching styles to suit individual needs.
- For children to have the right to equal opportunities in Science in our school regardless of their background, religion, race, gender, physical or intellectual ability.
- For children to become curious about the world around them and the things that they observe, experience and explore (science capital).
- For children to use their experiences to develop understanding of the key scientific ideas.
- For children to develop skills of sorting, classifying, planning, predicting, questioning and drawing conclusions from data.
- For children to acquire and refine practical skills necessary to investigate ideas and questions safely.
- For children to practise mathematical skills and enhance literacy skills (where possible) within real contexts.

- For children to develop language skills through talking about their work and presenting their findings.
- For children to use progressively technical scientific and mathematical vocabulary and draw diagrams and charts to communicate scientific ideas.
- For children to use a range of media including ICT to extract scientific information.
- For children to work cooperatively with others, listening to their ideas and treating these with respect.
- For children to develop respect for the environment and living things, including themselves and each other.
- For children to develop responsibility for their own health and safety and that of others when undertaking scientific activities.

## 1. Teaching Science

At St Joseph's, we use a long term Science curriculum plan delivered over a one year plan in the Early Years, KS1 and KS2 to ensure that all units are covered. Our plans show the breadth of study as well as how 'Working Scientifically' is embedded within each unit of work.

To provide adequate time for developing scientific knowledge, skills and understanding, each teacher will use and deliver Science lessons weekly from the Collins Hub scheme of work that we use as a school.

At Foundation level, Science is an integral part of topic learning and should be embedded throughout activities under the heading of 'understanding the world'.

Where possible, cross-curricular links will also be made to other subjects so that pupils can develop and apply their scientific skills.

There are a variety of ways in which the teaching may be effective and our school aims to encourage learning through investigation, with an emphasis on first-hand experience. Science lessons have no imposed formal structure but should typically contain some of the following elements:

*Discussion:* what they already know from experience, what they have learnt so far, what they will be finding out next.

*Teaching:* directly to the whole class or through group or individual work. Practical tasks or investigative work: working within groups or individually, practising scientific skills, finding out answers, being encouraged to think scientifically. Where groups are required, the teacher should consider which type of grouping will best suit the needs of the children.

*Recording:* writing about what they have found out, drawing charts and tables and diagrams, using the computer and other media to record what they have done or found out about.

*Communicating:* sharing ideas, predictions, knowledge, and what they have found out with each other, the teacher, other classes and adults as appropriate.

## 2. Planning

### Long term plans:

The units of work to be completed are set out in the programme of study and are planned over the course of the year.

### Medium term plans:

Medium term plans (or half termly plans) should show an overview of what will be covered including the objectives that will be taught. Objectives should relate to the National Curriculum. Opportunities for 'Scientific Enquiry' should be included wherever possible.

Short term plans:

Short term plans (or weekly plans) should contain more detailed information about what will happen in the lesson. These lesson plans are available from the Collins Hub website.

### **3. Assessment and record keeping**

It is the responsibility of the teacher who is teaching Science to maintain an overview of each child's progress in Science and to follow the programme of study set out for that year group. The Science subject leader is then responsible for monitoring termly science data from Arbor and Evidence Me; completing Science book looks and monitoring teaching and learning in Science throughout the school to ensure sufficient progress is being made and pupils are being challenged whilst enjoying their learning.

**Formative assessment (informal):**

Assessment in Science can take both formal and informal forms. Informal assessment can be done through observations of the children, marking their work and questioning children to identify what they have understood.

**Summative assessment (formal):**

Arbor and Evidence Me is used and teachers input data at the end of each term. Individual progress is also reported back to parents through parents' evenings and yearly written reports.

### **4. Resources**

The school holds a central bank of teachers' resource books and frequently used resources. The Science Lead is responsible for maintaining this area and ordering any necessary items that have been identified as a need.

All staff members should be responsible for collecting and returning necessary items to the correct place to ensure that resources are easy for all staff to find.

### **5. Health and Safety**

The safe use of equipment and consideration of others is promoted at all times.

When planning activities, safety issues should be identified in detail in the weekly plans and acted upon accordingly.

Activities which take place away from the school's premises will require a risk assessment form to be filled in and uploaded onto EVOLVE that will be processed by the EVC.

### **6. Inclusion**

We aim to provide for all children so that they achieve as significantly as they can in Science according to their individual abilities. We will identify which children or groups of children are under-achieving and take appropriate steps to improve their attainment.

### **7. Equal Opportunities**

St Joseph's has universal ambitions for every child, whatever their gender, background or circumstances. Children learn and thrive when they are healthy, safe and engaged.

In order to engage all children, cultural diversity, home languages, gender and religious beliefs are all celebrated. We believe in '**valuing what the child brings to school**' and recognise the importance of supporting a child's first language, not only to foster self-esteem, but to assist in the learning of Science.

#### **8. Role of Science subject leader:**

- To produce and update a Science policy.
- To encourage and support staff in the teaching of Science.
- To coordinate and arrange staff in-service training as required.
- To audit resources, identify needs and order equipment in school after consultation with colleagues, and to undertake periodic inspections of them. To familiarise all staff with their location, their uses and any safety issues involved.
- To analyse data in all key stages to ensure at least good progress is made by all pupils
- To "sample" the work of children across the age range (curriculum monitoring).
- To review and evaluate the effectiveness of teaching and learning of Science.
- To provide guidance on the implementation of the Science policy.
- To attend relevant courses.
- To monitor the planning and delivery of lessons.

To ensure all pupils regardless of gender, ethnicity, background or intellectual ability, have equal opportunity in any scientific activity.

#### **9. Parental Involvement**

We aim to involve parents directly in the life of the school, and thus in the development of children's skills, knowledge and understanding in Science. Teacher observations on Evidence Me may be shared with parents. There are also opportunities each term when parents can discuss their children's progress with their teacher. Termly Topic Webs and Knowledge Organisers provide information about the Science curriculum being covered and how parents can support their children.

Parents are informed of any science home tasks through Evidence Me notices created weekly by the class teachers.

#### **10. Summary**






























End of Key Stage results are published in accordance with Government legislation.

This policy should be read in conjunction with the following school policies:

- Teaching and Learning Policy
- Assessment and Record Keeping
- Marking Policy
- Computing Policy
- Special Educational Needs Policy
- Equal Opportunities Policy
- Continuing Professional Development Policy

## Appendix 2

### Curriculum Overview Science Long Term Plan by Year Group

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
R	<b>Objects and Materials</b> 		<b>Light, Space, Electricity and Movement</b> 		<b>Animals and Plants</b> 	
1	<b>Animals including Humans</b> 		<b>Weather and Seasons</b> 	<b>Plants</b> 	<b>Uses of Everyday Materials</b> 	<b>Senses</b> 
2	<b>Animals and their Habitats</b> 	<b>Materials</b> 	<b>Animals inc. Humans</b> 	<b>Healthy Living</b> 	<b>Plants</b> 	
3	<b>Animals inc. Humans</b> 	<b>Rocks</b> 	<b>Plants</b> 		<b>Forces and Magnets</b> 	<b>Light</b> 
4	<b>Electricity</b> 	<b>Sound</b> 	<b>States of Matter</b> 		<b>Animals inc. Humans</b> 	<b>Living Things and Their Habitats</b> 
5	<b>Animals inc. Humans</b> 	<b>Earth and Space</b> 	<b>Living Things and Their Habitats</b> 	<b>Properties and Changes of Materials</b> 	<b>Properties and Changes of Materials</b> 	<b>Forces</b> 
6	<b>Light</b>		<b>Electricity</b>		<b>Evolution and Inheritance</b>	
	<b>Electricity</b>		<b>Living Things and Their Habitats</b>		<b>Animals inc. Humans</b>	

R	Autumn	Spring	Summer
	<b>Light, Space, Electricity and Movement</b>	<b>Objects and Materials</b>	<b>Animals and Plants</b>
Reception	<b>Lesson 1:</b> What happens at night? <b>WALT:</b> use appropriate language to talk about what happens at night, including dark, light, the Sun, the Moon and stars.	<b>Lesson 1:</b> Who lives here? <b>WALT:</b> describe a range of homes and give reasons why different homes are suitable for the people who live there.	<b>Lesson 1:</b> What does an earthworm do? <b>WALT:</b> talk about their observations of earthworms and what they notice them doing
	<b>Lesson 2:</b> What is in the sky? <b>WALT:</b> name and describe a range of living and non-living things that are in the sky	<b>Lesson 2:</b> Which hat is best to wear today? <b>WALT:</b> give reasons why a particular hat is suitable for a particular type of weather, based on the observable simple properties of the material from which it is made.	<b>Lesson 2:</b> Who has stripes? <b>WALT:</b> talk about a range of familiar striped animals and start to suggest why the stripes may help to keep those animals safe.
	<b>Lesson 3:</b> What is the moon? <b>WALT:</b> describe the Moon's appearance and what an astronaut does	<b>Lesson 3:</b> What melts? <b>WALT:</b> name some materials that melt and describe what they observe during the melting process.	<b>Lesson 3:</b> What is inside an egg? <b>WALT:</b> identify some animals that lay eggs and talk about the young animals that hatch from them.
	<b>Lesson 4:</b> What makes it move? <b>WALT:</b> demonstrate how a push or a pull is needed to make an object move.	<b>Lesson 4:</b> What happens when you mix it? <b>WALT:</b> use comparative and descriptive language to talk about what they notice when they mix two or more materials together.	<b>Lesson 4:</b> What am I made of? <b>WALT:</b> name the main parts of their bodies, describe their functions and know what to do to look after themselves.
	<b>Lesson 5:</b> How does my toy work? <b>WALT:</b> demonstrate and describe, using the words 'push', 'pull' and 'twist', what they need to do to make a toy move.	<b>Lesson 5:</b> What goes through? <b>WALT:</b> talk about the size of an object, how it goes through a sieve and therefore how the sieve can be used to separate objects.	<b>Lesson 5:</b> Is all of a plant green? <b>WALT:</b> describe a range of familiar plants, including flowering and non-flowering species, naming and describing some simple features of these.
	<b>Lesson 6:</b> What floats? <b>WALT:</b> talk about objects that float and sink, referring to the size, shape and mass of the object, and what it is made from, and link this to their first-hand experience.		<b>Lesson 6:</b> Who are my parents? <b>WALT:</b> talk about and name several different animals, matching the young to the adult.

1	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	Animals including Humans		Weather and Seasons	Plants	Naming and Describing Materials	Properties and uses of materials
Year 1	<b>Lesson 1: WHO'S WHO IN THE ANIMAL WORLD?</b> <b>WALT:</b> identify and name a variety of common animals	<b>Lesson 1: IS EVERYONE'S BODY THE SAME?</b> <b>WALT:</b> identify, name and compare parts of our bodies	<b>Lesson 1: ARE ALL LEAVES THE SAME?</b> <b>WALT:</b> Recognise leaves vary in colour, texture and shape and can help identify plants	<b>Lesson 1: WHAT WILD AND GARDEN PLANTS CAN WE FIND AROUND OUR SCHOOL?</b> <b>WALT:</b> identify, name, describe and compare some familiar garden plants in the local environment	<b>Lesson 1: WHAT MATERIAL IS THIS?: PART 1</b> <b>WALT:</b> identify and name three everyday materials	<b>Lesson 1: CAN THE SAME OBJECT BE MADE FROM DIFFERENT MATERIALS?</b> <b>WALT:</b> Understand objects can be sorted in many ways, including by purpose or type of material
	<b>Lesson 2: WHAT'S SO SPECIAL ABOUT BIRDS?</b> <b>WALT:</b> observe the main features of birds, including feathers, and to compare these in different kinds of birds	<b>Lesson 2: HOW CAN WE EXPLORE THE WORLD USING OUR SENSE OF TOUCH?</b> <b>WALT:</b> understand we can use any part of our skin to feel things	<b>Lesson 2: WHICH ANIMALS SHARE OUR SPACE?</b> <b>WALT:</b> Understand animals have different habitats and the changes that happen around us during Autumn	<b>Lesson 2: WHAT PARTS OF A PLANT GROW ABOVE GROUND?</b> <b>WALT:</b> identify the stem, leaf and flower to be the parts of a plant that grow above ground	<b>Lesson 2: WHAT MATERIAL IS THIS?: PART 2</b> <b>WALT:</b> identify and name three everyday materials	<b>Lesson 2: WHAT PROPERTIES DO MATERIALS HAVE?</b> <b>WALT:</b> Describe how different materials have physical properties that make them useful for different purposes
	<b>Lesson 2: WHAT MAKES AN AMPHIBIAN AN AMPHIBIAN?</b> <b>WALT:</b> Understand what makes amphibians a distinct group and compare different amphibians	<b>Lesson 3: WHAT CAN WE HEAR?</b> <b>WALT:</b> identify, compare and group the sounds collected during a sound walk	<b>Lesson 3: DO ALL TREES SHED THEIR LEAVES?</b> <b>WALT:</b> Identify the difference between deciduous and evergreen trees and describe the changes in Winter	<b>Lesson 3: WHAT PARTS OF A PLANT GROW UNDER THE GROUND?</b> <b>WALT:</b> understand that roots grow under the ground and different plants have different roots	<b>Lesson 3: IS ALL PAPER THE SAME</b> <b>WALT:</b> identify and name paper in a variety of forms	<b>Lesson 3: DOES IT BEND OR STRETCH?</b> <b>WALT:</b> identify what materials can bend or stretch and understand what purpose they can provide
	<b>Lesson 4: DO FISH HAVE FINGERS?</b> <b>WALT:</b> describe and compare different kinds of fish	<b>Lesson 4: WHAT SMELLS DO WE LIKE AND DISLIKE?</b> <b>WALT:</b> describe and compare a variety of different smells, identifying which are the most and least liked by the class	<b>Lesson 4: ARE ALL FLOWERS THE SAME?</b> <b>WALT:</b> Understand that different plants flower at different times and what takes shape during Spring	<b>Lesson 4: WHY ARE TREES PLANTS?</b> <b>WALT:</b> describe how trees have roots, stems, leaves and most have flowers	<b>Lesson 4: IS ALL FABRIC THE SAME?</b> <b>WALT:</b> identify and name a variety of fabrics	<b>Lesson 4: DO ALL MATERIALS GET WET?</b> <b>WALT:</b> understand some materials are absorbent as they soak up liquid, or when they are waterproof
	<b>Lesson 5: Are humans mammals?</b> <b>WALT:</b> Understand humans are mammals and compare different mammals and their offspring	<b>Lesson 5: WHAT DIFFERENCES CAN OUR TONGUES TASTE?</b> <b>WALT:</b> describe, compare and group different edible materials by using the sense of taste	<b>Lesson 5: WHICH BIRDS VISIT OUR BIRD FEEDERS?</b> <b>WALT:</b> Identify the different birds that visit throughout the year	<b>Lesson 5: WHAT ARE THE SIMILARITIES AND DIFFERENCES BETWEEN PLANTS THAT HAVE FLOWERS?</b> <b>WALT:</b> identify the similarities and differences between plants flowers, stems, leaves and roots	<b>Lesson 5: HOW CAN WE GROUP OBJECTS MADE FROM DIFFERENT MATERIALS?</b> <b>WALT:</b> describe how the same type of object can be made using different materials	
			<b>Lesson 6: HOW HAS OUR SPACE CHANGED OVER TIME?</b> <b>WALT:</b> Describe what happens to the sun, temperature and plants during the Summer			

2	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	Local Habitats	Choosing Materials	Growing Up	Changing Materials	Plants	
Year 2	<p><b>Lesson 1:</b> ARE THE THINGS I FIND ALIVE, HAVE NEVER BEEN ALIVE, OR WERE ONCE ALIVE?  <b>WALT:</b> Understand all things are either alive, have never been alive or have once lived but have now died</p>	<p><b>Lesson 1:</b> IS THAT A GOOD CHOICE OF MATERIAL?  <b>WALT:</b> Recognise what purposes materials would be useful based on their properties</p>	<p><b>Lesson 1:</b> HOW DO ANIMALS CHANGE AS THEY GROW?  <b>WALT:</b> recognise that animals, including humans, have offspring which grow into adults</p>	<p><b>Lesson 1:</b> HOW CAN I CHANGE THE SHAPE OF AN OBJECT?  <b>WALT:</b> Discover how the shapes of solid objects made from different materials can be changed by squashing, bending, twisting and stretching</p>	<p><b>Lesson 1:</b> HOW DO PLANTS CHANGE AND GROW OVER TIME?  <b>WALT:</b> observe and describe how seeds (and bulbs) grow into mature plants</p>	<p><b>Lesson 1:</b> HOW CAN WE CARE FOR OUR PLANTS?  <b>WALT:</b> Understand seeds germinate into seedlings and then grow into mature plants</p>
	<p><b>Lesson 2:</b> WHAT LIVES IN MY TREE?  <b>WALT:</b> recognise how trees can act as a habitat as it provides shelter, food and water</p>	<p><b>Lesson 2:</b> WHICH BALL BOUNCES HIGHEST?  <b>WALT:</b> identify objects made of materials that can be used for specific purposes</p>	<p><b>Lesson 2:</b> WHAT DO ANIMALS NEED TO SURVIVE?  <b>WALT:</b> describe the basic needs of animals, including humans, for survival</p>	<p><b>Lesson 2:</b> WHAT PROPERTIES ALLOW A MATERIAL TO BE CHANGED?  <b>WALT:</b> Identify what materials allow an object to be changed by squashing, bending, twisting and stretching</p>	<p><b>Lesson 2:</b> HOW ARE SEEDS AND BULBS DIFFERENT?  <b>WALT:</b> Identify the physical similarities and differences between seeds and bulbs</p>	<p><b>Lesson 2:</b> DO MATURE PLANTS NEED LIGHT?  <b>WALT:</b> Carry out tests to determine whether mature plants require light to grow healthily</p>
	<p><b>Lesson 3:</b> WHAT ANIMALS LIVE IN THIS WOODY HABITAT?  <b>WALT:</b> understand how animals are suited to different parts of a woody habitat</p>	<p><b>Lesson 3:</b> WHICH MATERIALS ARE GOOD FOR A TODDLER'S PLAY DUNGAREES?  <b>WALT:</b> test different fabrics to find out how much light passes through</p>	<p><b>Lesson 3:</b> HOW CAN WE SORT FOOD INTO GROUPS?  <b>WALT:</b> sort food into different types</p>	<p><b>Lesson 3:</b> WHICH MATERIAL IS FIT FOR PURPOSE?  <b>WALT:</b> Discover how the shapes of solid objects made from different materials can be changed and what purpose they will be fit for</p>	<p><b>Lesson 3:</b> WHAT DO SEEDS NEED TO GERMINATE?  <b>WALT:</b> Test to determine which conditions are required for germination</p>	<p><b>Lesson 3:</b> DOES TEMPERATURE AFFECT THE GROWTH OF MATURE PLANTS?  <b>WALT:</b> Record the height of mature plants to identify what plants can live in hot conditions</p>
	<p><b>Lesson 4:</b> WHAT ANIMALS LIVE IN THIS GRASSY HABITAT?  <b>WALT:</b> understand how animals are suited to different parts of a grassy habitat</p>	<p><b>Lesson 4:</b> WHO DEVELOPS NEW MATERIALS?  <b>WALT:</b> Observe how inventors create new materials based on their properties</p>	<p><b>Lesson 4:</b> HOW DO HUMANS STAY CLEAN?  <b>WALT:</b> describe different ways to stay hygienic</p>	<p><b>Lesson 4:</b> WHAT CAN PUSHES AND PULLS DO?  <b>WALT:</b> Describe actions that inventors use to change the shape of different materials</p>	<p><b>Lesson 4:</b> HOW TALL WILL THEY GROW?  <b>WALT:</b> Produce a bar chart showing the relationship between seed size and the height of the mature plant that grows from it</p>	<p><b>Lesson 4:</b> DO MATURE PLANTS NEED WATER?  <b>WALT:</b> Understand the importance of water for a plant and identify the changes that happen when it becomes dehydrated</p>
	<p><b>Lesson 5:</b> WHAT IS IN YOUR HABITAT?  <b>WALT:</b> recognise and compare the main components of some different habitats</p>		<p><b>Lesson 5:</b> HOW CAN HUMANS STAY ACTIVE?  <b>WALT:</b> observe the effects of exercise and plan for regular exercise</p>		<p><b>Lesson 5:</b> WHAT HAVE WE LEARNT ABOUT HOW A SEED GERMINATES?  <b>WALT:</b> use results to learn what happens when a seed germinates</p>	<p><b>Lesson 5:</b> WHAT HAVE WE LEARNT ABOUT WHAT MATURE PLANTS NEED TO GROW HEALTHILY?  <b>WALT:</b> Explain the importance of light and water to enhance a plants growth</p>
	<p><b>Lesson 6:</b> WHAT DO ANIMALS THAT LIVE IN THE WOODS EAT?  <b>WALT:</b> construct examples of food chains for animals that live in the woods</p>		<p><b>Lesson 6:</b> HOW CAN HUMANS STAY HEALTHY?  <b>WALT:</b> present information about staying healthy in a book for younger children</p>			

3	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	Animals inc. Humans	Rocks	Plants		Forces and Magnets	Light
Year 3	<b>Lesson 1: WHAT WOULD YOU NEED TO SURVIVE?</b> <b>WALT:</b> identify the important things that need to be considered in order to survive	<b>Lesson 1: WHAT DIFFERENT TYPES OF ROCK ARE THERE?</b> <b>WALT:</b> examine different rocks in order to describe, compare and contrast their properties	<b>Lesson 1: WHAT DO WE KNOW ABOUT PLANTS?</b> <b>WALT:</b> describe what we know about the different parts of plants and to ask questions about plants for further investigation	<b>Lesson 1: WHY DO PLANTS NEED STEMS?</b> <b>WALT:</b> present information about the functions of the stem	<b>Lesson 1: HOW CAN YOU MAKE IT START TO MOVE?</b> <b>WALT:</b> explore how a force is required to make something start to move	<b>Lesson 1: WHAT DO WE NEED TO SEE?</b> <b>WALT:</b> explore how we need light to see things and why some things are easier to see than others
	<b>Lesson 2: WHAT DO WE NEED TO EAT TO STAY HEALTHY?</b> <b>WALT:</b> classify food and understand a balanced diet	<b>Lesson 2: WHICH ROCK IS WHICH?</b> <b>WALT:</b> sort rocks according to their properties using a key	<b>Lesson 2: WHAT DO WE KNOW ABOUT LEAVES?</b> <b>WALT:</b> make detailed observations of the similarities and differences in a variety of leaves, and relate these to the function of leaves	<b>Lesson 2: WHERE DO NEW PLANTS COME FROM?</b> <b>WALT:</b> name the main stages of a flowering plant's life cycle and present them in a sequenced diagram	<b>Lesson 2: WHAT'S MAKING IT MOVE?</b> <b>WALT:</b> explore how air can make things move	<b>Lesson 2: WHICH IS THE SHINIEST?</b> <b>WALT:</b> investigate how different objects reflect different amounts of light
	<b>Lesson 3: HOW DOES AN ADVENTURER STAY HEALTHY?</b> <b>WALT:</b> classify food and understand a balanced diet	<b>Lesson 3: HOW ARE ROCKS USED AROUND OUR SCHOOL?</b> <b>WALT:</b> recognise where and how rocks are used and explain how their properties make them suitable for their purpose	<b>Lesson 3: WHAT WOULD HAPPEN IF A PLANT LOST ITS LEAVES?</b> <b>WALT:</b> plan and set up a fair test investigation to find out the effect of removing the leaves from a growing plant	<b>Lesson 3: WHAT DO FLOWERS HAVE IN COMMON?</b> <b>WALT:</b> identify and compare the parts of flowers and describe their functions	<b>Lesson 3: HOW WELL CAN AN OBJECT SLIDE ON DIFFERENT MATERIALS?</b> <b>WALT:</b> explore how objects move on different materials	<b>Lesson 3: HOW CAN WE MAKE THINGS EASIER TO SEE AT NIGHT?</b> <b>WALT:</b> design and produce reflective strips for night safety
	<b>Lesson 4: WHY DO WE HAVE A SKELETON?</b> <b>WALT:</b> identify the similarities and differences between skeletons and explore their functions	<b>Lesson 4: ARE ALL ROCKS AS HARD AS ONE ANOTHER?</b> <b>WALT:</b> test and compare rocks to identify which is the hardest	<b>Lesson 4: ARE ALL ROOTS THE SAME?</b> <b>WALT:</b> describe in detail the similarities and differences in a variety of roots, and to relate these to the function of roots	<b>Lesson 4: WHAT DO BEES DO?</b> <b>WALT:</b> describe and model the process of insect pollination	<b>Lesson 4: WHICH MATERIALS ARE MAGNETIC?</b> <b>WALT:</b> explore which materials are magnetic	<b>Lesson 4: WHAT DO MIRRORS DO?</b> <b>WALT:</b> explain how a mirror works and describe how images in mirrors may look 'different'
	<b>Lesson 5: CAN YOU DESIGN A NEW VERTEBRATE SPECIES?</b> <b>WALT:</b> apply knowledge of skeletons to design a vertebrate and its skeleton	<b>Lesson 5: ARE ALL ROCKS WATERPROOF?</b> <b>WALT:</b> find out which rocks are waterproof	<b>Lesson 5: WHERE DOES THE WATER GO?</b> <b>WALT:</b> explain observations of water being transported in plants and make predictions based on observations	<b>Lesson 5: HOW ARE SEEDS DISPERSED?</b> <b>WALT:</b> demonstrate understanding of methods of seed dispersal by designing a seed	<b>Lesson 5: WHAT CAN MAGNETS DO?</b> <b>WALT:</b> measure the strength of a magnet in different ways	<b>Lesson 5: HOW CAN I MAKE A SHADOW?</b> <b>WALT:</b> identify how shadows are formed
	<b>Lesson 6: HOW DO MUSCLES HELP US MOVE?</b> <b>WALT:</b> identify different muscles in our body and what they do	<b>Lesson 6: HOW DO ROCKS CHANGE OVER TIME?</b> <b>WALT:</b> investigate how rocks change over time			<b>Lesson 6:</b>  <b>HOW STRONG ARE THE MAGNETS?</b> <b>WALT:</b> carry out an investigation comparing the strength of different magnets	<b>Lesson 6: CAN YOU CHANGE THE SHAPE OF A SHADOW?</b> <b>WALT:</b> identify what affects the shape of a shadow

4	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	Electricity	Sound	States of Matter		Animals inc. Humans	Living Things and Their Habitats
Year 4	<b>Lesson 1: WHAT MAKES IT WORK?</b> <b>WALT:</b> sort electrical products according to their power source	<b>Lesson 1: WHAT DO WE KNOW ABOUT SOUNDS?</b> <b>WALT:</b> describe what we know about sounds	<b>Lesson 1: WHAT ARE MY PROPERTIES?</b> <b>WALT:</b> classify materials as solids or liquids by observing their properties	<b>Lesson 1: WHAT STATE AM I IN?</b> <b>WALT:</b> classify materials as solids, liquids or gases	<b>Lesson 1: WHAT DO WE KNOW ABOUT FOOD?</b> <b>WALT:</b> share what we know about food and nutrition and to ask questions about what happens to food after it has been eaten	<b>Lesson 1: WHAT IMPACT DO HUMANS HAVE LOCALLY?</b> <b>WALT:</b> give examples of positive and negative ways in which humans change the environment
	<b>Lesson 2: CAN YOU LIGHT THE BULB?</b> <b>WALT:</b> make and record electric circuits	<b>Lesson 2: HOW ARE SOUNDS MADE?</b> <b>WALT:</b> explore different ways of making sounds	<b>Lesson 2: WHAT HAPPENS TO THE ICE HANDS?</b> <b>WALT:</b> plan a fair test investigation to test ideas about melting ice	<b>Lesson 2: HOW CAN WE GET IT DRY?</b> <b>WALT:</b> collect data to answer a question about drying washing and investigate evaporation	<b>Lesson 2: WHERE DOES THE FOOD GO INSIDE YOUR BODY?</b> <b>WALT:</b> investigate where our food goes after it has been eaten	<b>Lesson 2: HOW CAN WE FIND OUT ABOUT LITTER?</b> <b>WALT:</b> plan a litter survey
	<b>Lesson 3: HOW DOES A CIRCUIT WORK?</b> <b>WALT:</b> explain, using a model, how an electrical circuit works	<b>Lesson 3: HOW DO SOUNDS TRAVEL?</b> <b>WALT:</b> investigate how sounds travel	<b>Lesson 3: WHAT MAKES A DIFFERENCE TO HOW FAST ICE MELTS?</b> <b>WALT:</b> collect, present and interpret data about melting ice	<b>Lesson 3: WHAT IS EVAPORATION?</b> <b>WALT:</b> describe and explain findings from an evaporation investigation	<b>Lesson 3: WHAT SORT OF TEETH DO WE HAVE?</b> <b>WALT:</b> identify the different teeth that humans have	<b>Lesson 3: WHAT TYPES OF LITTER ARE DROPPED LOCALLY?</b> <b>WALT:</b> carry out a litter survey, collecting and presenting data
	<b>Lesson 4: WHY DOESN' T IT WORK?</b> <b>WALT:</b> identify and correct problems with circuits	<b>Lesson 4: HOW CAN WE MAKE A SOUND LOUDER AND QUIETER?</b> <b>WALT:</b> explore how we can make instruments louder and quieter	<b>Lesson 4: WHAT ARE MELTING AND FREEZING?</b> <b>WALT:</b> define melting and freezing	<b>Lesson 4: WHAT IS BOILING?</b> <b>WALT:</b> identify different materials from their boiling point	<b>Lesson 4: WHY DO WE HAVE DIFFERENT TYPES OF TEETH?</b> <b>WALT:</b> identify the different types teeth that humans have and understand their functions	<b>Lesson 4: WHY DOES CLEARING LITTER MATTER?</b> <b>WALT:</b> research and present information about the impact of litter on animals
	<b>Lesson 5: WHAT DOES A SWITCH DO?</b> <b>WALT:</b> describe what a switch does and how it works	<b>Lesson 5: HOW DO SOUNDS CHANGE AS WE MOVE AWAY FROM THE SOURCE?</b> <b>WALT:</b> measure how the loudness of a sound changes as the distance from the source increases	<b>Lesson 5: ARE SPACES REALLY EMPTY?</b> <b>WALT:</b> explain observations of air using scientific knowledge about materials	<b>Lesson 5: WHERE DID THE WATER COME FROM?</b> <b>WALT:</b> identify where condensation is happening	<b>Lesson 5: HOW CAN WE LOOK AFTER OUR TEETH?</b> <b>WALT:</b> recognise how to look after our teeth and explain its importance	<b>Lesson 5: WHAT HAPPENS WHEN A FOOD CHAIN IS BROKEN?</b> <b>WALT:</b> demonstrate understanding of the potential human impact on food chains in a UK habitat
	<b>Lesson 6: WHAT CAN WE USE INSTEAD OF WIRES?</b> <b>WALT:</b> sort materials by testing for a property that makes them suited to replace a wire in a circuit	<b>Lesson 6: HOW CAN WE CHANGE THE PITCH OF A PLUCKED NOTE?</b> <b>WALT:</b> explore the different notes that plucked bands make and discover how to alter the pitch of a sound			<b>Lesson 6: WHAT DO ANIMALS EAT?</b> <b>WALT:</b> construct food chains and webs for a particular habitat	<b>Lesson 6: WHAT IS THE IMPACT OF HABITAT DESTRUCTION IN OTHER PARTS OF THE WORLD?</b> <b>WALT:</b> demonstrate an understanding of human impact on food chains and habitats in another part of the world

5	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	Earth and Space	Plant and Animal Life Cycles	Properties and Uses of Materials	Human Growth	Separating Mixtures and Changes of Materials	Forces and Mechanisms
Year 5	<p><b>Lesson 1: WHAT'S IN SPACE?</b> <b>WALT:</b> describe the shapes, positions and movement of the planets in the solar system and some of the differences between these and stars</p>	<p><b>Lesson 1: HOW DO FLOWERING PLANTS REPRODUCE?</b> <b>WALT:</b> describe the process of sexual reproduction in many flowering plants, naming parts of the flower and explaining their importance within the process</p>	<p><b>Lesson 1: WHICH MATERIALS ARE USED IN OUR SCHOOL BUILDINGS, WHAT FOR AND WHY?</b> <b>WALT:</b> recognise that materials are used in many ways and for purposes within buildings</p>	<p><b>Lesson 1: HOW DO NEWBORN BABIES CHANGE INTO TEENAGERS?</b> <b>WALT:</b> Understand the different developmental stages in humans from <u>newborn</u> to teenager</p>	<p><b>Lesson 1: HOW CAN WE SEPARATE MIXTURES?</b> <b>WALT:</b> explain that materials can mix and to demonstrate that mixtures of solid materials can be separated by the technique of sieving</p>	<p><b>Lesson 1: HOW CAN WE MEASURE FORCES?</b> <b>WALT:</b> measure, using appropriate units, friction between moving surfaces as part of an investigation into how the surface area and materials affect friction</p>
	<p><b>Lesson 2: HOW DO PLANETS MOVE?</b> <b>WALT:</b> Understand the orbital paths of the planets in our solar system</p>	<p><b>Lesson 2: ARE ALL FLOWERS ON ALL PLANTS THE SAME?</b> <b>WALT:</b> recognise that flowers are not all the same and identify how they are different</p>	<p><b>Lesson 2: WEIGHTY PROBLEM: WHICH IS THE BEST CARRIER BAG?</b> <b>WALT:</b> plan a fair test to investigate different carrier bags and collect evidence to make recommendations regarding their use</p>	<p><b>Lesson 2: HOW DO GIRLS BECOME WOMEN?</b> <b>WALT:</b> Understand how the female body changes through puberty</p>	<p><b>Lesson 2: WHAT HAPPENS WHEN WE MIX LIQUIDS AND SOLIDS?</b> <b>WALT:</b> identify through investigation some solids that dissolve and others that do not, and describe how to tell that a solid has dissolved</p>	<p><b>Lesson 2: WHY DOES AN OBJECT FALL?</b> <b>WALT:</b> use evidence to explain how objects fall through the air</p>
	<p><b>Lesson 3: WHAT DO WE KNOW ABOUT THE LIFE CYCLES OF AMPHIBIANS?</b>  <b>WALT:</b> define an amphibian and describe its life cycle</p>	<p><b>Lesson 3: DO ALL PLANTS REPRODUCE BY PRODUCING SEEDS?</b> <b>WALT:</b> describe how plants can reproduce asexually, by creating new plants from different parts of the parent plant rather than by producing seeds</p>	<p><b>Lesson 3: WHICH IS THE BEST TYPE OF PLATE TO USE?</b> <b>WALT:</b> plan and carry out comparative tests to find out which material is best for picnic plates</p>	<p><b>Lesson 3: HOW DO BOYS BECOME MEN?</b> <b>WALT:</b> Understand how the male body changes through puberty</p>	<p><b>Lesson 3: WHAT MAKES A DIFFERENCE TO HOW FAST SUGAR OR SALT DISSOLVES?</b> <b>WALT:</b> identify, through investigation, some variables that affect the rate at which salt or sugar dissolves</p>	<p><b>Lesson 3: WHAT MAKES THINGS MOVE?</b> <b>WALT:</b> use arrows to represent forces that make objects move in different directions</p>
	<p><b>Lesson 4: WHAT DO WE KNOW ABOUT THE LIFE CYCLES OF INSECTS?</b> <b>WALT:</b> define what insects are and describe the different types of life cycle, including the process of metamorphosis</p>	<p><b>Lesson 4: HOW DO AMPHIBIANS AND INSECTS REPRODUCE?</b> <b>WALT:</b> describe the life process of reproduction in amphibians and most insects and recognise this process as sexual reproduction</p>	<p><b>Lesson 4: COOL BOX CONUNDRUM: CAN THE SAME CONTAINER KEEP COLD THINGS COLD AND HOT THINGS HOT?</b> <b>WALT:</b> use evidence from investigations to explain how a cool bag works as an insulator</p>	<p><b>Lesson 4: WHAT IS THE HUMAN LIFECYCLE?</b> <b>WALT:</b> Understand the different stages through adulthood to old age</p>	<p><b>Lesson 4: HOW CAN WE GET DRINKABLE WATER FROM SEAWATER?</b> <b>WALT:</b> explain the processes of evaporation and condensation and how these might help to produce drinkable water from a plentiful supply of seawater</p>	<p><b>Lesson 4: HOW CAN WE SLOW DOWN FALLING OBJECTS?</b> <b>WALT:</b> use test results about air resistance as a starting point for further investigative work</p>
	<p><b>Lesson 5: WHAT DO WE KNOW ABOUT THE LIFE CYCLES OF BIRDS?</b> <b>WALT:</b> define what a bird is and describe its life cycle</p>	<p><b>Lesson 5: HOW DOES THE HUMAN LIFE CYCLE COMPARE WITH THAT OF OTHER MAMMALS?</b> <b>WALT:</b> recognise patterns in data about the life cycles of humans and other mammals</p>	<p><b>Lesson 5: MYSTERY MATERIAL: WHAT WILL HAPPEN IF WE ADD WATER TO THE MATERIAL?</b> <b>WALT:</b> observe, measure, describe and explain the changes that happen to a mystery material when water is added</p>		<p><b>Lesson 5: HOW CAN WE PURIFY MATERIALS?</b> <b>WALT:</b> demonstrate and explain how pure salt can be separated from a rock salt mixture, using techniques based on the properties of the materials involved</p>	<p><b>Lesson 5: DOES THE SHAPE OF AN OBJECT AFFECT ITS MOVEMENT IN A LIQUID?</b> <b>WALT:</b> measure the effects of water resistance</p>
	<p><b>Lesson 6: WHAT MAKES A SUCCESSFUL LIFE CYCLE?</b> <b>WALT:</b> create a life cycle for an imaginary animal that will help to ensure its long-term success</p>				<p><b>Lesson 6: WHAT WILL HAPPEN IF WE ADD A SPRINKLE OF SALT TO A COMBINATION OF LIQUIDS?</b> <b>WALT:</b> describe and explain observations of</p>	<p><b>Lesson 6: DO ALL HEAVY THINGS SINK?</b> <b>WALT:</b> identify and explain the effect of up thrust on objects in water</p>

6	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	Light	Electricity	Evolution and Inheritance		Living Things and Their Habitats	Animals inc. Humans
Year 6	<p><b>Lesson 1: WHAT IS LIGHT AND WHAT DOES IT DO?</b>  <b>WALT:</b> consolidate the key ideas from Year 3 about the behaviour of light, including light sources and shadows</p>	<p><b>Lesson 1: HOW MANY SIMPLE CIRCUITS CAN YOU MAKE?</b>  <b>WALT:</b> represent a simple circuit in a diagram and describe how it works</p>	<p><b>Lesson 1: WHY DO LIVING THINGS VARY?</b>  <b>WALT:</b> identify ways in which living things of the same kind vary and to begin to think about why these variations exist</p>	<p><b>Lesson 1: HOW DO LIVING THINGS SURVIVE?</b>  <b>WALT:</b> explore ways in which living things are adapted to suit the environments in which they live and to help them survive</p>	<p><b>Lesson 1: CAN YOU SORT THIS MESS?</b>  <b>WALT:</b> demonstrate understanding of the process of classification</p>	<p><b>Lesson 1: WHAT DOES MY CIRCULATORY SYSTEM DO?</b>  <b>WALT:</b> describe how the human circulatory system works</p>
	<p><b>Lesson 2: CAN YOU SEE MORE THAN JUST YOUR FACE IN A MIRROR?</b>  <b>WALT:</b> describe how a mirror reflects an image of an object</p>	<p><b>Lesson 2: WHAT DOES A SWITCH DO?</b>  <b>WALT:</b> use a switch in a simple circuit, show it in a diagram and describe how it works</p>	<p><b>Lesson 2: CAN YOU BREED A DOG FOR A SPECIFIC PURPOSE?</b>  <b>WALT:</b> recognise how organisms can be bred to select particular characteristics in their offspring</p>	<p><b>Lesson 2: WHY DO LIVING THINGS BECOME EXTINCT?</b>  <b>WALT:</b> evaluate variables that contribute to the extinction of living things</p>	<p><b>Lesson 2: CAN YOU FACE THE GARDEN CENTRE CHALLENGE?</b>  <b>WALT:</b> apply the process of classification to plants</p>	<p><b>Lesson 2: WHAT IS A HEART AND WHAT DOES IT DO?</b>  <b>WALT:</b> investigate and describe the main functions of the heart</p>
	<p><b>Lesson 3: CAN LIGHT GO ROUND CORNERS?</b>  <b>WALT:</b> apply understanding of how light travels to explain how a periscope and other applications of mirrors work</p>	<p><b>Lesson 3: HOW STRONG IS YOUR RESISTANCE?</b>  <b>WALT:</b> demonstrate the effects of changing the current flowing through components in a circuit</p>	<p><b>Lesson 3: HOW CAN WE MAKE OUR FOOD BETTER?</b>  <b>WALT:</b> describe selective breeding and evaluate different people's opinions</p>	<p><b>Lesson 3: WHAT DOES IT TAKE TO SURVIVE?</b>  <b>WALT:</b> describe animal and plant adaptations and explain how the characteristics of the individuals in populations can change over time</p>	<p><b>Lesson 3: HOW ARE VERTEBRATES GROUPED TOGETHER?</b>  <b>WALT:</b> explore the classification of animals and recognise the main groups of vertebrates</p>	<p><b>Lesson 3: WHAT IS BLOOD?</b>  <b>WALT:</b> pose and answer a range of relevant questions about how blood transports gases round the body</p>
	<p><b>Lesson 4: CAN YOU MAKE A CAMERA WITH A BOX, PAPER AND A PIN?</b>  <b>WALT:</b> understand how a pinhole camera works and, using suitable representations, show how this helps us to understand how we see things</p>	<p><b>Lesson 4: DO YOU KNOW YOUR CIRCUIT DIAGRAMS AND CAN YOU CONSTRUCT WORKING CIRCUITS FROM THEM?</b>  <b>WALT:</b> demonstrate how circuits can be represented in, and constructed from, diagrams</p>	<p><b>Lesson 4: HOW DOES THE ENVIRONMENT AFFECT PLANTS?</b>  <b>WALT:</b> observe the effects of the environment on plants and design an experiment to investigate some of these effects</p>	<p><b>Lesson 4: WHAT EVIDENCE IS THERE THAT LIVING THINGS HAVE CHANGED OVER TIME?</b>  <b>WALT:</b> recognise that fossils allow us to study things that have lived in the past and provide evidence of evolution</p>	<p><b>Lesson 4: HOW ARE INVERTEBRATES GROUPED TOGETHER?</b>  <b>WALT:</b> explore the classification of the main groups of invertebrates</p>	<p><b>Lesson 4: WHAT IS IN BLOOD?</b>  <b>WALT:</b> identify the contents of blood and describe their function</p>
	<p><b>Lesson 5: HOW CAN YOU MEASURE A SHADOW?</b>  <b>WALT:</b> identify the variables that affect the size of a shadow, and plan a fair test to investigate one of them</p>	<p><b>Lesson 5: WILL THE LIGHTS STAY ON? (PART 1)</b>  <b>WALT:</b> research how electricity is generated and transmitted to the classroom, and discuss electricity generation in the future</p>	<p><b>Lesson 5: HOW DO ENVIRONMENTAL VARIABLES AFFECT PLANTS?</b>  <b>WALT:</b> investigate the effect of environmental variables on plants and interpret the results</p>	<p><b>Lesson 5: HOW DOES NATURAL SELECTION WORK?</b>  <b>WALT:</b> describe the process of natural selection</p>	<p><b>Lesson 5: WHERE DO THINGS FIT?</b>  <b>WALT:</b> apply classification concepts to living things in the school grounds</p>	<p><b>Lesson 5: WHAT DO VALVES AND BLOOD VESSELS DO?</b>  <b>WALT:</b> explain the function of valves, veins, arteries and capillaries in the human circulatory system</p>
	<p><b>Lesson 6: WHAT DO WE KNOW ABOUT CHANGING SHADOW SIZES?</b>  <b>WALT:</b> carry out a fair test to investigate the relationship between</p>	<p><b>Lesson 6: WILL THE LIGHTS STAY ON? (PART 2)</b>  <b>WALT:</b> present information on how electricity is generated and transmitted to the classroom, and to</p>			<p><b>Lesson 6: WHAT ELSE IS LIVING BESIDES PLANTS AND ANIMALS?</b>  <b>WALT:</b> recognise that micro-organisms are groups of living things and explain what they are</p>	<p><b>Lesson 6: WHAT HAPPENS TO WATER IN OUR BODIES?</b>  <b>WALT:</b> explain how water helps humans' and other animals' bodies to function</p>