

**Science Overview**

**Cycle A 2023 – 2024**

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| Term | **Autumn** | **Christmas** | **Spring** | **Easter** | **Whit** | **Summer** |
| **Years 1/2** | Materials  Identify and sort materials  Describe properties of materials and introduce scientific vocabulary e.g. *transparent*  Understand and explain suitability of materials for different purposes, linked to their properties.  Investigate strength of materials  Investigate waterproof materials | Seasonal Change (Autumn and Winter)  To observe changes across the 4 seasons in the context of the weather.  To observe and describe how day length varies.  To compare and contrast day length across the four seasons  Recognise how animals adapt to seasonal change | Animals including humans  To identify and name a variety of common animals  Show an understanding of carnivores, herbivores and omnivores  Describe and compare the structure of animals  Identify the basic parts of the human body  Investigate animals’ offspring | Animals including humans  Investigate and describe the basic needs of animals  Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene. Perform simple tests.  Observe closely, using simple equipment.  Scientists and Inventors  Focus on the work of  Louis Pasteur | Plants  Observe, water and tend to planted flowers. Record changes in a Plant Diary.  Identify and name a variety of common wild plants, including trees. Plants walk around school grounds or local area.  Identification of trees using real leaves  Identify and describe the basic structure of a variety of common flowering plants, including trees.  Observe various flowers closely using magnifying glasses and microscopes. Draw and label diagram | Science week  Scientists and Inventors  Mae Jamison |
| **Years 3/4** | Animals including humans  The digestive system  What do I need to eat?  What does food do for me?  Identify different food groups & the jobs each group do    What’s inside my body?  Identify the systems and organs inside the body  What is the digestive system and how does it work?  What’s inside my mouth? | States of Matter  What are solids, liquids and gases?  What state am I? Identify Solid, liquid and gas. Understand their properties.  Can I change my state?  Describe how to change states  When will I change my state?  How can I change the state of water?  What is the water cycle? | Living things and their habitats  What is a living thing and are they all the same?  What makes animals different to each other?  How can I identify different plants and animals?  What can I find in my local environment?  How do animals and plants depend on each other?  How will changing the environment effect the living things? | Rocks and Soils  Are rocks important to us? Do they all look the same?  How are rocks formed?  Are all rocks the same?  Understand that there are three main groups of rocks  How are rocks made?  Make chocolate rocks  What can I find out about rocks? Investigate properties of rocks  What are fossils?  What is soil made from? | Plants  What is a plant?  What are the different parts of a plant?  What do plants need to grow?  What are the different parts of a flower and why are they important?  How does a plant move its seeds?  How does water travel within a plant? | Science week  Scientists and Inventors  Marie Curie |
| **Years 5/6** | Properties and Changes of Materials  Compare materials according to their properties?  Investigate materials which will dissolve?  Use different processes to separate mixtures of materials?  Identify and explain irreversible chemical changes?  Investigate which electrical conductors make a bulb shine brightest?  Investigate thermal conductors and insulators? | Evolution and Inheritance  How were the Galapagos Islands Vital to the Discovery of Evolution?  Understand and explain the term ‘evolution’ and describe the life of Charles Darwin.  Identify how an animal has adapted to life on the Galapagos Island and suggest further adaptations.  Identify specific features of certain Galapagos Islands and suggest adaptation needed to survive in each.  Identify how speciation would affect humans in extreme environments and make judgements on their adapted appearance. | Animals including humans  Life cycles  Describe the life process of reproduction in some plants and animals.  Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird.  Meeting and becoming natural scientists | Earth’s position in Space  Build upon prior learning to explain how the Earth, Sun and moon are related.  Compare the roles of each body, using key words and models to explain.  Compare and contrast the relative sizes of the Earth, Sun and moon. Think scientifically to model this, take measurements and record findings.  Identify the name and positions of the planets. Compare and describe with a range of foods.  Identify and explain how night and day are created using key vocabulary.  Explain how the seasons are created. Identify facts about the moon and explain the phases it has. | Electricity  Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit.  Compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches.  Use recognised symbols when representing a simple circuit in a diagram. | Science week  Scientists and Inventors  Sir David Attenborough  CSI technicians |

**Cycle B 2024-25**

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| Term | **Autumn** | **Christmas** | **Spring** | **Easter** | **Whit** | **Summer** |
| **Years 1/2** | Animals including humans  Find out about and describe the basic needs of animals, including humans, for survival (water, food and air)  Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. | Animals, Living Things and their Habitats  Understand what a habitat is and variety of habitats on Earth  Understand how animals are suited to living in different habitats  Identify common animals in local habitats through exploring and observing  Understand vocabulary endangered and extinct and know some animals that are endangered and why. | Materials  distinguish between an object and the material from which it is made.  identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock.  describe the simple physical properties of a variety of everyday materials  compare and group together a variety of everyday materials on the basis of their simple physical properties.  Carry out simple investigation to test properties of materials.- waterproof.  Which material would be most suitable for a superhero cape? | Animals including humans  Notice that animals, including humans, have offspring which grow into adults  Find out about and describe the basic needs of animals, including humans, for survival (water, food and air).  Describe the importance for humans of exercise, eating the right amounts of different types of food and hygiene.  Importance of handwashing. | Biodiversity- Minibeasts  Identify and name a variety of animals in their habitats including minibeasts  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.  To research minibeasts and explain their importance | Science week  Scientists and Inventors  Charles Macintosh |
| **Years 3/4** | Forces and Magnets  What is a force and what does it do?  What is friction and does it affect how things move?  What is a magnet?  How do magnets work?  What materials are magnetic?  Are all magnets the same? | Animals Including Humans: What helps humans to stand up?  What is inside our body?  Name the bones  Why do I have a skeleton?  Do bones grow?  How do muscles work?  Do all animals have a skeleton? | Electricity: How do electrical circuits work?  What is electricity and where does it come from?  What uses electricity and where does it come from? (appliances/battery or mains)  Is electricity always safe?  What makes a complete circuit and how can incomplete circuits be fixed?  Which materials allow electricity to flow through?  How do switches work and why are they needed? | Light  What is light and where does it come from?  Identify different light sources and understand the term ‘light’ and ‘dark’  How does light travel?  What materials are reflective?  How are shadows made?  How can I change the size of a shadow? | Sound  How are sounds made?  Link that something needs to vibrate  How do we hear things?  Vibrations from sounds travel through a medium to the ear  How is the pitch of a sound effected by the object that makes the noise?  Can I change the volume of a sound without moving?  How does the volume of a sound change with distance? | Science week  Scientists and Inventors  Alexander Graham Bell |
| **Years 5/6** | Light  Can I identify sources of light and how light travels?  Can I understand reflection and refraction?  Can I investigate how a prism changes a ray of light to show the colour spectrum?  Can I find out why shadows are the same shape as the objects that cast them? | Living Things and their Habitats  Can I give reasons for classifying animals based on their similarities and differences?  Can I describe how living things are classified into groups?  Can I identify the characteristics of different types of animals and classify a creature based on its characteristics?  Can I describe and investigate helpful and harmful microorganisms?  Investigation: what makes mould grow? | Forces  Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object  Identify the effects of air resistance, water resistance and friction, that act between moving surfaces  Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect. | Animals including Humans  Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood  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 | Animals including humans  Growth and development  Describe the changes as humans develop to old age | Science week  Scientists and Inventors  Stephen Hawking  Marie Maynard Daly |

\*See Science- Working Scientifically Progression of Skills for the specific skills that should be covered.