

**Science Overview**

**Cycle A 2023 – 2024**

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| Term | **Autumn** | **Christmas** | **Spring** | **Easter** | **Whit** | **Summer** |
| **Years 1/2** | MaterialsIdentify and sort materialsDescribe 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 materialsInvestigate 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 seasonsRecognise how animals adapt to seasonal change | Animals including humansTo identify and name a variety of common animals Show an understanding of carnivores, herbivores and omnivoresDescribe and compare the structure of animalsIdentify the basic parts of the human bodyInvestigate animals’ offspring | Animals including humansInvestigate and describe the basic needs of animalsDescribe 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 InventorsFocus on the work ofLouis Pasteur | PlantsObserve, 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 leavesIdentify 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 weekScientists and InventorsMae Jamison |
| **Years 3/4** | Animals including humansThe digestive systemWhat 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 MatterWhat 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 statesWhen will I change my state?How can I change the state of water?What is the water cycle? | Living things and their habitatsWhat 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 SoilsAre 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 rocksHow are rocks made?Make chocolate rocksWhat can I find out about rocks? Investigate properties of rocksWhat are fossils?What is soil made from? | PlantsWhat 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 weekScientists and InventorsMarie Curie |
| **Years 5/6** | Properties and Changes of MaterialsCompare 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 InheritanceHow 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 humansLife cyclesDescribe 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 SpaceBuild 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. | ElectricityAssociate 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 weekScientists and InventorsSir David AttenboroughCSI technicians |

**Cycle B 2024-25**

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| Term | **Autumn** | **Christmas** | **Spring** | **Easter** | **Whit** | **Summer** |
| **Years 1/2** | Animals including humansFind 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. | Materialsdistinguish 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 humansNotice that animals, including humans, have offspring which grow into adultsFind 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- MinibeastsIdentify and name a variety of animals in their habitats including minibeastsIdentify 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 weekScientists and InventorsCharles Macintosh |
| **Years 3/4** | Forces and MagnetsWhat 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 bonesWhy 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? | LightWhat 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? | SoundHow are sounds made?Link that something needs to vibrateHow do we hear things?Vibrations from sounds travel through a medium to the earHow 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 weekScientists and InventorsAlexander Graham Bell |
| **Years 5/6** | LightCan 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 HabitatsCan 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? | ForcesExplain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling objectIdentify the effects of air resistance, water resistance and friction, that act between moving surfacesRecognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect. | Animals including HumansIdentify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and bloodRecognise the impact of diet, exercise, drugs and lifestyle on the way their bodies functionDescribe the ways in which nutrients and water are transported within animals, including humans | Animals including humansGrowth and developmentDescribe the changes as humans develop to old age | Science weekScientists and InventorsStephen HawkingMarie Maynard Daly |

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