Trinity All Saints Church of England Primary School

'Growing Together'

Trinity All Saints CE Primary School Overview of Science						
Year Group	**Autumn 1**	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
EYFS Cycle A	Science in EYFS begins through exploring 'The Natural World.' Our pupils explore the natural world around them, making observations and drawing pictures of animals and plants. Children will develop knowledge of similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read to them in class. Through observations and hands on experiences. Children gain an understanding of some important processes and changes in the natural world around them, including the seasons and changing states of matter.					
Year 1 and 2 Cycle A	**Animals including humans (part 1)** How can we group animals? NC links: 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,	**Everyday materials.** Why do we use different materials for different things? NC links: Distinguish between an object and the material from which it is made. Identify and name a variety of everyday materials, including wood, plastic, glass,	**Seasonal changes.** How does the weather change during the different seasons? NC links: Observe changes across the four seasons. Observe and describe weather associated with the seasons and	**Plants** How can we identify different plants and trees? NC links: 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	**Growing and cooking.** (White Rose unit.) Where does my food come from? NC links: understanding the origins of food, identifying foods from plants and animals, preparing simple, safe dishes without heat, using basic food	**Caring for the environment** (White Rose unit.) Why is it important to care for our planet? NC links: Identifying an appreciation for the natural world by exploring local habitats, planting and

Trinity All Saints Church of England Primary School

'Growing Together'

	herbivores and omnivores. Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets). Human objectives: Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.	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.	how day length varies.	flowering plants, including trees.	preparation skills, and learning about healthy eating, including sorting foods into groups and recognizing the need for at least five portions of fruit and vegetables daily	tending to plants, and observing animals
Year 1 and 2 Cycle B	**Animals including humans.** Why do we need to keep healthy? NC links: Notice that animals, including humans, have offspring which grow into adults	**Growing up** (White Rose unit.) Are there patterns between the life cycles of different animals? NC links: notice that animals, including humans, have offspring that	**Everyday materials.** How are materials chosen in design? NC links:	**Living things and their habitats.** How do we know if something is alive? NC links: Explore and compare the differences between things that are living, dead, and	**Plants** How do seeds and bulbs grow into healthy plants? NC links: Observe and describe how seeds and bulbs grow into mature plants	**Wildlife** (White Rose unit) Why is it important to care for wildlife? NC links: explore the local environment to find and observe animals

Trinity All Saints Church of England Primary School

'Growing Together'

	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.	grow into adults, and understanding the basic needs for survival like food, water, and air	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.	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.	Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.	in their natural habitats
Year 3	**Animals including humans.**	**Rocks (fossils and soils)**	**Magnets** How do magnets work? NC links:	**Light** How does light travel? NC links:	**Plants** How does each part of a plant	Sustainability (Biodiversity) (White Rose unit.)

Trinity All Saints Church of England Primary School

'Growing Together'

	How do the systems inside out body work to make a healthy human? NC links: 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.	How can we classify rocks? NC links: 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.	Compare how things move on different surfaces. Notice that some forces need contact between two objects, but magnetic forces can act at a distance. Observe how magnets attract or repel each other and attract some materials and not others. Compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials. Describe magnets as having two poles. Predict whether two magnets will attract or repel each other, depending on which poles are facing.	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 sizes of shadows change.	fulfil its function? NC links: 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.	What is biodiversity and how can we increase it? NC links: Identifying and naming diverse plants and animals within their local habitats and microhabitats, understanding how different habitats provide for basic needs, and describing how animals and plants depend on each other in simple food chains

Trinity All Saints Church of England Primary School

'Growing Together'

Year 4	**Animals including humans.** How is energy transferred in living things? NC links: Describe the simple functions of the basic parts of the digestive system in humans Identify the different types of teeth in humans and their simple functions Construct and interpret a variety of food chains, identifying producers, predators and prey	**States of matter** How does temperature affect different materials? NC links: 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	**Sound** How does sound travel? NC links: 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 produces 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	Electricity How does electricity travel? NC links: 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	Living things and their habitats. How can the environment affect different groups of animals? NC links: 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	Food chains (White Rose unit.) How has human activity affected food chains? NC links: construct and interpret a variety of food chains, identifying producers, predators, and prey

Trinity All Saints Church of England Primary School

'Growing Together'

				associate metals with being good conductors		
Year 5	**Animals including humans.** How do we change as we grow older? NC links: Describe the changes as humans develop to old age	**Properties and changes of materials.** How do we separate materials? NC links: 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	**Earth and Space** How does the Earth fit into our solar system? NC links: Describe the movement of the Earth, and other planets, relative to the Sun and 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	**Forces** How can we observe forces? NC links: Explain that unsupported objects fall towards Earth because of the force of gravity acting between the Earth and the falling object Identify the effects of air resistance and friction, the act between moving surfaces Recognise that some mechanisms, including levers, pulleys and gears, allow smaller forces to have greater effect	**Living things and their habitats.** How do different living things reproduce? NC links: 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	Sustainability (Plastic pollution.) (White Rose unit.) What is plastic pollution and what are the impacts of plastic pollution on planet Earth? NC links: understanding the impacts of plastic on the environment and living things, identifying human actions that contribute to plastic pollution, and exploring solutions and actions to reduce it.

		gases to decide how mixtures might be separates, 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				

Trinity All Saints Church of England Primary School

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Year 6	**Animals including humans.** How do an animal's living systems work together to maintain a healthy body? **Contact BGS to dissect animal hearts.** NC links: 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	**Electricity** How can circuits vary? NC links: Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in a 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	**Evolution and inheritance** How have living things evolved over time? NC links: 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	**Light** How do our eyes work? NC links: Recognise that light appears to travel in straight lines Use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye Explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them	**Living things and their habitats.** How can we classify living things into specific groups? NC links: 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	Fossils (White Rose unit.) How have fossils changed over time and does this provide evidence for evolution? NC links: understanding what fossils are, how they are formed through fossilisation, and their significance as evidence for evolution and changes in life over millions of years

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