

Reception		
The Natural World		
Space (A2)	Mini Beasts (Sp2)	On the farm (S1)
Objectives	Objectives	Objectives
Explore how things work Explore and talk about different forces they can feel. Talk about the differences between materials and changes they notice.	Explore the natural world around them. Describe what they see, hear and feel whilst outside.	Explore the natural world around them, making observations and drawing pictures of animals and plants. Understand some important changes in the natural world around them.
Vocabulary	Vocabulary	Vocabulary
Planets Sun Moon Light Dark Star Shadow	Habitat Lifecycle Identify Search Examine Observe	Observe Identify Categorise Sort Habitat Similar Different
Through the Autumn 1 topic (Me and my community) children will also talk about what they see, using a wide range of vocabulary (seasons). Throughout the year children will explore the effects of the changing seasons on the natural world around them.		

Year 1			
Seasonal change	Plants	Everyday materials	Animals including Humans
Essential Knowledge	Essential Knowledge	Essential Knowledge	Essential Knowledge
- Observe changes across the four seasons. - Observe and describe weather associated with the	Identify and name a variety of common plants, including garden plants, wild plants and trees and those	- Distinguish between an object and the material from which it is made. - Identify and name a variety of everyday materials,	Identify and name a variety of common animals that are birds, fish, amphibians,

seasons and how day length varies.	classified as deciduous and evergreen. • Identify and describe the basic structure of a variety of common flowering plants, including roots, stem/trunk, leaves and flowers.	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.	reptiles, mammals and invertebrates. • 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 (birds, fish, amphibians, reptiles, mammals and invertebrates, 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.
Vocabulary Autumn Winter Spring Summer Warm Freezing Cold Mild	Vocabulary Deciduous Evergreen Tree Leaves Stem Flowers Root Petals	Vocabulary Wood Plastic Glass Metal Water Rock Hard Soft	Vocabulary Pets Human Taste Smell Vision Touch Hearing Carnivores

Seasons Weather Year Changes/ changing Length (day)	Fruit Seed Bulb Trunk Branches Stem	Stretchy Stiff Shiny Dull Rough Smooth Bendy Waterproof Absorbent Fabric elastic	Herbivores Omnivores Mammals Reptiles Birds Amphibians Fish Insects Meat
---	--	--	--

Year 2			
Animals including Humans	Uses of everyday materials	Living things and their habitats	Plants
Essential Knowledge • Notice that animals, including humans, have offspring which grow into adults. • Investigate and describe the basic needs of animals, including humans, for survival (water, food and air). • Describe the importance for humans of exercise, eating	Essential Knowledge • Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. • Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick/rock, and	Essential Knowledge • Explore and compare the differences between things that are living, that are dead and 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	Essential Knowledge • 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.

the right amounts of different types of food and hygiene.	paper/cardboard for particular uses.	animals and plants and how they depend on each other. • Identify and name a variety of plants and animals in their habitats, including micro-habitats. • 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.	
Vocabulary Birds Fish Amphibians Reptiles Mammals Invertebrates Life-cycle Offspring Reproduce Young Live Young Nutrition Hygiene Pulse Carbohydrates	Vocabulary Materials Suitability Properties Squash Bend Twist Stretch Fair Test Wood Glass Plastic Metal Paper Cardboard Fabric	Vocabulary Habitat Prey Predator Consumer Producer Herbivore Carnivore Omnivore Life Process Food Chain Urban Woodland Pond Coastal Desert	Vocabulary Spout Shoot Germination Autumn Spring Summer Winter Roots Stem/trunk Leaves Flowers Seeds Bulbs Common plants Garden plants

Dairy Protein Fruit Vegetables	Rubber	Rainforest Ocean	Wild plants Trees Deciduous Evergreen
---	--------	---------------------	--

Year 3				
Animals including Humans Autumn 1	Rocks Autumn 2	Forces Spring 1	Light Spring 2	Plants Summer 1/2
Essential Knowledge - Identify that animals, including humans, need the right types and amounts of nutrition, that they cannot make their own food and they get nutrition from what they eat. - Identify that humans and some animals have skeletons and muscles for support, protection and movement.	Essential Knowledge - Compare and group together different kinds of rocks on the basis of their simple, physical properties. - Relate the simple physical properties of some rocks to their formation (igneous or sedimentary). - Describe in simple terms how fossils are formed when things that have lived are trapped	Essential Knowledge - 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	Essential Knowledge - 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	Essential Knowledge - Identify and describe the functions of different parts of flowering plants: roots, stem, 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.

	within sedimentary rock. • Recognise that soils are made from rocks and organic matter.	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.	light source is blocked by a solid object. • Find patterns in the way that the size of a shadow changes.	• Explore the role of flowers in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.
Vocabulary	Vocabulary	Vocabulary	Vocabulary	Vocabulary
Nutrients Carbohydrate Fats Protein Fibre Protein Vitamin Minerals water Vertebrate Invertebrate Exoskeleton Hydrostatic skeleton	Marble Limestone Granite Chalk Sandstone Slate Igneous Sedimentary Metamorphic Grain Crystal Layer	Attract Repel Poles Magnetic Force Friction Gravity Surface Contact force Non-contact force Push Pull	Light Light source Dark Reflection Reflect Reflective Ray Pupil Retina Shadow Opaque Transparent	Roots Stem Leaves Flowers Nutrients Evaporation Fertilisation Petal Seed dispersal Germination Pollinator Pollination

Endoskeleton Muscles Skull Clavicle Ribcage Spine Ulna Radius Scapula Humorous Pelvis Femur Tibia Fibula Contract Relax Protection Movement Support	Fossil – cast and trace Permeable soil		Translucent	
---	--	--	-------------	--

Year 4				
Animals including humans	States of Matter	Electricity	Living things and their habitats	Sound
Essential Knowledge - Describe the simple functions of the basic parts of the digestive system in humans. - Identify the different types of teeth in	Essential Knowledge Compare and group materials together, according to whether they are solids, liquids or gases.	Essential Knowledge - Identify common appliances that run on electricity. - Construct a simple series electrical circuit, identifying and	Essential Knowledge - Recognise that living things can be grouped in a variety of ways. - Explore and use classification keys.	Essential Knowledge - Identify how sounds are made, associating some of them with something vibrating. - Recognise that vibrations from sounds

humans and their simple functions. • Construct and interpret a variety of food chains, identifying producers, predators and prey.	• Observe that some materials change state when they are heated or cooled, and measure the temperature at which this happens in degrees Celsius ($^{\circ}\text{C}$), building on their teaching in mathematics.	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.	• Recognise that environments can change and that this can sometimes pose dangers to specific habitats.	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.
Vocabulary Digestive system Oesophagus	Vocabulary States of matter Solids	Vocabulary Electrical Appliance	Vocabulary Life processes Movement	Vocabulary Vibration Sound wave

Stomach Pancreas Intestine Liver Gallbladder Herbivore Carnivore Omnivore Food chain Producer Consumer Predator Prey Canine Molar Incisors Fair Test Comparative Variables	Liquids Gases Water vapour Melting point Freezing point Evaporates Condense Precipitation Celsins	Battery/ Cell Circuit Components Bulb Buzzer Wires Motor Switch Series/ Circuit Complete circuit Mains Conductor Insulator	Reproduction Sensitivity Habitat Endangered Species Extinct Classification Vertebrates Invertebrates Respiration Growth Excretion Nutrition Environment Species Classification	Volume Amplitude Pitch Particles Distance Sound proof Absorb High pitch Low pitch Vacuum Ear drum
--	---	--	--	---

Year 5				
Living things and their habitats	Properties and changes of materials	Earth and Space	Animals including humans (with SRE)	Forces
Essential Knowledge • Describe the differences in the life cycles of a	Essential Knowledge • Compare and group together everyday materials based on evidence from	Essential Knowledge • Describe the movement of the Earth, and other planets, relative to the	Essential Knowledge • Describe the changes as humans develop to old age.	Essential Knowledge • Explain that unsupported objects fall towards the Earth because of the force of

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. • Give reasons for classifying plants and animals based on specific characteristics.	comparative and fair tests, including their hardness, solubility, conductivity (electrical and thermal), and response to magnets. • Understand how 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	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.		gravity acting between the Earth and the falling object. • Identify the effect of drag forces, such as air resistance, water resistance and friction that act between moving surfaces. • Understand that some mechanisms including levers, pulleys and gears, allow a smaller force to have a greater effect.
---	---	---	--	---

	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, oxidisation and the action of acid on bicarbonate of soda.			
Vocabulary Asexual reproduction Sexual reproduction Fertilise Gestation Life cycle Metamorphosis Pollination	Vocabulary Material Solid Liquid Gas Melt Freeze Evaporate	Vocabulary Solar System Sun Star Moon Planet Sphere/spherical bodies	Vocabulary Sex cell Fertilisation Prenatal Gestation Reproduce Sexual Reproduction Life cycle	Vocabulary Force Gravity Earth's gravitational pull Weight Mass Friction Air resistance

Pollen Reproduction Male sex cell Female sex cell	Condense Filter Sieve Conductor Insulator Transparency Reversible Irreversible	Orbit Rotate Axis Geocentric model Heliocentric model Astronomer	Infancy Childhood Adolescence Puberty Menstruation Adulthood Life expectancy	Water resistance Buoyancy Streamlined
--	---	---	--	---

Year 6				
Light	Evolution and Inheritance	Living things and their habitats	Animals including humans	Electricity
Essential Knowledge - Understand 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 eyes. - Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them, and to predict the	Essential Knowledge - Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago. - Identify how animals and plants are adapted to suit their environment in different ways and	Essential Knowledge - Describe how living things are classified into broad groups according to common observable characteristics. - Give reasons for classifying plants and animals based on specific characteristics.	Essential Knowledge - Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood. - Recognise the importance of diet, exercise, drugs and lifestyle on the way the human body functions.	Essential Knowledge - 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

size of shadows when the position of the light source changes. • 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.	that adaptation may lead to evolution. • Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.		• Describe the ways in which nutrients and water are transported within animals, including humans.	on/off position of switches. • Use recognised symbols when representing a simple circuit in a diagram.
Vocabulary Light Light Source Reflection Shadow Transparent Translucent Opaque Light Ray Variable	Vocabulary Offspring Inheritance variants Variables Characteristics Adaptation Habitat Environment Evolution Natural selection Inherited traits fossil	Vocabulary Characteristics Classify Taxonomist Microorganism Species Vertebrate Invertebrate Protista Fungi	Vocabulary Circulatory system Blood vessels Nutrients Transported Pulse rate Arteries Veins Oxygenated blood Deoxygenated blood Absorbed Conclusions	Vocabulary Voltage Cell/ battery Variations Components Function Symbols Circuit diagram