

SCIENCE Schemes Of Work

Year	Autumn	Spring	Summer
Rec	<p><u>All About Me –</u></p> <p><u>Why am I special?</u></p> <p>make observations and explain why some things occur, and talk about changes name parts of body</p> <p><u>Festivals-</u></p> <p>make observations and explain why some things occur, and talk about changes</p> <p><u>Seasons –</u></p> <p><u>Autumn</u></p> <p>What changes do you notice in Autumn?</p> <p>What have you found on your Autumn walk? Name some plants and animals seen</p> <p><u>The Gingerbread Man</u></p> <p>Waterproof materials- describe materials Name materials which are waterproof and not waterproof</p> <p>Investigation of waterproof materials</p>	<p><u>The Snowman- The World Around us</u></p> <p><u>Hot/ Cold countries</u></p> <p>Where do different animals live? Name animals in different countries What clothes do you wear in different countries? Why?</p> <p><u>Investigations with melting/ freezing materials</u></p> <p>Exploring ice blocks- What is happening? What do you notice? Describe materials</p> <p><u>Local environment</u></p> <p>What can you see in your environment? Name plants and animals seen Name materials seen in environment</p> <p><u>We're going on a Bear Hunt –</u></p> <p>make observations and explain why some things occur, and talk about changes what materials are you going to make your bear- describe materials</p>	<p><u>Superheroes –</u></p> <p>able to explain which materials they will use for their super-heroes describe properties of materials</p> <p><u>Growth and Change-</u></p> <p><u>Plants</u></p> <p>How do plants survive? Name parts of plants Name some plants in local environment Predict what will happen with our cress investigation?</p> <p><u>Butterflies</u></p> <p>What is the caterpillar lifecycle? Name parts of caterpillar and butterfly</p> <p><u>Transitions</u></p> <p>What is going to change? How can we prepare for this?</p>
1	<p><u>Mysteries</u></p> <p><u>Animals, including humans</u></p> <p>Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense</p> <p><u>Plants</u></p> <p>Identify and name a variety of common wild and garden plants.</p> <p>Identify and describe the basic structure of a variety of common flowering plants, including trees.</p> <p><u>Seasonal changes</u></p> <p>Observe changes across the four seasons</p>	<p><u>Freeze Flame</u></p> <p><u>Animals, including humans</u></p> <p>Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals</p> <p>Identify and name a variety of common animals that are carnivores, herbivores and omnivores</p> <p>Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets) (Names for body parts)</p>	<p><u>Fire</u></p> <p><u>Everyday materials</u></p> <p>Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock.</p> <p>Describe the simple physical properties of a variety of everyday materials.</p> <p>Describe some everyday materials.</p> <p>Compare and group together a variety of everyday materials on the basis of their simple physical properties.</p>

	<p>Observe and describe weather associated with the seasons and how day length varies.</p>		
	<p><u>Working scientifically to be covered throughout the year</u></p> <p>Ask questions and know they can be answered in different ways. Use simple equipment to observe closely. Perform simple tests Identify and classify into groups. Use observations and ideas to suggest answers to questions Gather and record data to help in answering questions Use simple equipment to observe closely. Perform simple tests Identify and classify into groups. Use observations and ideas to suggest answers to questions Gather and record data to help in answering questions</p>		
<p>2</p>	<p><u>Heroes</u></p> <p><u>Animals, including humans</u> Explain that animals, including humans, have babies which grow into adults.</p> <p>Explain the needs of animals, including humans, for survival.</p> <p>Explain the importance of exercise, eating healthily and keeping clean.</p>	<p><u>Our World</u></p> <p><u>Use of everyday materials</u> Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.</p> <p>Explain why they would choose a material for a particular job.</p> <p>Describe how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.</p> <p><u>Plants</u></p> <p>Observe and describe how seeds and bulbs grow into mature plants.</p> <p>Explain how seeds and bulbs grow into plants. Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.</p> <p>Identify and name a variety of plants in their habitats, including micro-habitats.</p> <p>, differences and patterns.</p>	<p><u>The Seaside</u></p> <p><u>Animals, including humans</u> <u>Plants</u></p> <p>Explore and compare the differences between things that are living, dead, and things that have never been alive.</p> <p>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.</p> <p>Identify and name a variety of plants and animals in their habitats, including micro-habitats.</p> <p>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</p>

Working scientifically to be covered throughout the year

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3

The Land before Time

Rocks

Recognise that soils are made from rocks and organic matter.

Describe in simple terms how fossils are formed when things that have lived are trapped within rock.

Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties.

Forces and Magnets

Compare how things move on different surfaces.

Notice that some forces need contact between two objects, but magnetic forces can act at a distance.

Compare and group together a variety of everyday materials on the basis of whether or not they are attracted to a magnet, and identify some magnetic materials.

Observe how magnets attract or repel each other and attract some materials and not others.

Describe magnets as having two poles.

Predict whether two magnets will attract or repel each other, depending on which poles are facing.

Rome and Romans

Animals, including humans

Explain why humans and some other animals have skeletons and muscles.

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.

Discoveries and Inventions

Light

Notice that light is reflected from surface.

Recognise that he/she needs light in order to see things and that dark is the absence of light.

Recognise that light from the sun can be dangerous and that there are ways to protect eyes.

Recognise that shadows are formed when the light from a light source is blocked by a solid object.

Find patterns in the way that the size of shadows change.

Plants

Explain what different parts of flowering plants do.

Know 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.

Gather, record, classify and present data in a variety of ways to help with answering questions

Working scientifically to be covered throughout the year

Ask relevant questions and come up with ideas to solve problems
Set up investigations using fair tests
Make systematic and careful observations and where appropriate, take accurate measurements
Use a range of equipment- thermometers, data loggers,

Gather, record, classify and present data in a variety of ways to answer question
 Record findings using scientific language, drawings, labelled diagrams, keys, bar charts and tables
 Report on findings from enquiries- through oral/written explanations, presentations of results and conclusions
 Use results to draw simple conclusions
 Make predictions
 Suggest improvements and raise further questions
 Identify differences, similarities or changes related to simple scientific ideas and processes
 Use scientific evidence to answer questions

<p>4</p>	<p>Gadgets and Gizmos</p> <p><u>Electricity</u></p> <p>Identify common appliances that run on electricity.</p> <p>Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers.</p> <p>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.</p> <p>Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit.</p> <p>Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.</p> <p>Eco Warriors</p> <p><u>Living things and their habitats</u></p> <p>Recognise that living things can be grouped in a variety of ways.</p> <p>Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment.</p> <p>Recognise that environments can change and that this can sometimes pose dangers to living things.</p> <p>Construct and interpret a variety of food chains, identifying producers, predators and prey.</p>	<p>Chocolate</p> <p><u>States of matter</u></p> <p>Compare and group materials together, according to whether they are solids, liquids or gases.</p> <p>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).</p> <p>Identify the part played by evaporation and condensation in the water cycle, and associate the rate of evaporation with temperature.</p>	<p>Kings and Queens</p> <p><u>Sound</u></p> <p>Identify how sounds are made, associating some of them with something vibrating.</p> <p>Recognise that vibrations from sounds travel through a medium to the ear.</p> <p>Find patterns between the pitch of a sound and features of the object that produced it.</p> <p>Find patterns between the volume of a sound and the strength of the vibrations that produced it.</p> <p>Recognise that sounds get fainter as the distance from the sound source increases.</p> <p><u>Animals, including humans</u></p> <p>Describe the simple functions of the basic parts of the digestive system in humans.</p> <p>Identify the different types of teeth in humans and their simple functions.</p> <p>Identify how sounds are made, associating some of them with something vibrating.</p> <p>Recognise that vibrations from sounds travel through a medium to the ear.</p>
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<p>5</p>	<p>To Infinity and Beyond</p> <p><u>Earth and Space</u></p> <p>Describe the movement of the Earth, and other planets, relative to the Sun in the solar system.</p> <p>Describe the movement of the Moon relative to the Earth.</p> <p>Describe the Sun, Earth and Moon as approximately spherical bodies.</p> <p>Use the idea of the Earth’s rotation to explain day and night and the apparent movement of the sun across the sky.</p> <p><u>Forces</u></p> <p>Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling Object.</p> <p>Identify the effects of air resistance, water resistance and friction that act between moving surfaces.</p> <p>Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.</p>	<p>Out of Africa</p> <p><u>Living things and their habitats</u></p> <p>Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird.</p> <p>Describe the life process of reproduction in some plants and animals.</p> <p>Describe how things are classified into broad groups including micro-organisms</p> <p>Know classification system – vertebrates and invertebrates, flowering and non-flowering plants</p> <p><u>Animals, including humans</u></p> <p>Describe the changes as humans develop to old age</p> <p>Know about the gestation periods of animals- compare to humans</p> <p>Know about changes experienced in puberty</p>	<p>Travellers</p> <p><u>Properties and changes of materials</u></p> <p>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.</p> <p>Recognise that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution.</p> <p>Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including by filtering, sieving and evaporating.</p> <p>Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic.</p> <p>Demonstrate that dissolving, mixing and changes of state are reversible changes.</p> <p>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.</p>
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Working scientifically to be covered throughout the year

- Plan different types of scientific enquiries to answer sq., including recognising and controlling variables
- Take measurement using a range of scientific equipment with increasing accuracy and precision, taking repeat readings
- Record data and results using scientific diagrams, classification keys, tables, scatter graphs, bar and line graphs
- Use test results to make predictions to set up further comparative and fair tests
- Report and present findings from enquiries, including conclusions, explanations, written form and oral form, presentations

<p>6</p>	<p>World at War</p> <p><u>Animals, including humans</u></p> <p>Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood.</p> <p>Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function.</p> <p>Describe the ways in which nutrients and water are transported within animals, including humans.</p>	<p>S.O.S</p> <p><u>Electricity</u></p> <p>Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit.</p> <p>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.</p> <p>Use recognised symbols when representing a simple circuit in a diagram.</p> <p>Survival of the Fittest</p> <p><u>Evolution and inheritance</u></p> <p>Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.</p> <p>Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.</p> <p>Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.</p>	<p>The Egyptians</p> <p><u>Light</u></p> <p>Recognise that light appears to travel in straight lines</p> <p>Know how objects are seen by the eye</p> <p>Know how shadows are formed and why they have the same shape as the object</p>
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Use test results to make predictions to set up further comparative and fair tests

Report and present findings from enquiries, including conclusions, explanations, written form and oral form, presentations

Evaluate own and others findings using evidence from a range of sources