

	Use senses and equipment eg magnifying glass to explore the world	Begin to measure and compare materials, objects etc			questions and predict new values After discussion, use straightforward scientific evidence to answer questions or to support his/her findings	scientific ideas and processes Use straightforward scientific evidence to answer questions or to support his/her findings	forms	appropriately Use test results to make predictions to set up further comparative and fair tests Identify scientific evidence that has been used to support or refute ideas or arguments
Plants Biology	EYFS 3-4	Reception	Y1	Y2	Y3	Y4	Y5	Y6
	Recognise plants and notice their characteristics Talk about the difference in plants Look after plants	Name some plants Observe plants growing and changing Plant and tend to plants, recognising that they need certain things to thrive	Identify and name a variety of common garden wild plants, including deciduous and evergreen trees Identify and describe the basic structure of a variety of common flowering plants, including trees	Identify an increasing range of plants Identify and describe the basic and function and function of a variety of common flowering plants, including roots, stem/trunk, leaves and flowers 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 healthily	Identify and describe the functions of different parts of flowering plants: (roots, stem/trunk, leaves and flowers) including variation eg types of root 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			
Animals including humans Biology	EYFS 3-4	Reception	Y1	Y2	Y3	Y4	Y5	Y6
	Know animal names and the sounds they make Sort animals	Name a wider variety of animals Sort and group animals according to characteristics.	Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals Identify and	Notice that animals, including humans, have offspring which grow into adults Find out about and describe the basic needs of animals, including humans, for	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	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	Describe the changes as humans develop to old age. • Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood.	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,

	<p>Talk about the differences and similarities between species</p> <p>Manage own basic hygiene and know why it is important</p> <p>Talk about ways to keep healthy and safe</p>		<p>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)</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>survival (water, food and air)</p> <p>Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.</p>	<p>Identify that humans and some other animals have skeletons and muscles for support, protection and movement.</p>	<p>functions</p> <p>construct and interpret a variety of food chains, identifying producers, predators and prey</p>	<p>• Recognise the importance of diet, exercise, drugs and lifestyle on the way the human body functions.</p>	<p>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>
	EYFS 3-4	Reception	Y1	Y2	Y3	Y4	Y5	Y6
<p>Living things and their habitats</p> <p>Biology</p>	<p>Make homes for animals</p> <p>Talk about caring for animals</p> <p>Talk about plants and animals and notice changes</p> <p>Ask questions</p>	<p>Recognise some similarities & differences</p> <p>Experience caring for animals and notice that they need different and similar care</p> <p>Know an increasing range, knowing where they live and what they eat.</p>	<p>Notice that some things are alive and some things are not, talking about the differences</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</p>	<p>Recognise that environments can change and that this can sometimes pose dangers to living things.</p> <p>Recognise and name life processes</p> <p>Describe how animals are adapted to their environment, including changing habitats</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, explaining why and how humans impact.</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 living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals</p> <p>Give reasons for classifying plants and animals based on specific characteristics.</p>

				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.	Describe a food chain in more detail, using accurate vocabulary and explaining that all food energy comes from the sun			
	EYFS 3-4 Reception		Y1	Y2	Y3	Y4	Y5	Y6
Materials Chemistry	Name a group of objects and materials Explore the texture and properties of materials through play	Name materials and objects Know that some materials are more/less useful in certain situations Develop vocabulary to describe and compare	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.	Identify an increasing range of materials and say whether they are natural or manmade Identify and compare the suitability of a range of material, based on their properties Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.	Suggest ways in which to test the suitability of materials Describe how some materials are made Find out about scientists invented materials or used it in a novel way eg Mackintosh, Marie Curie, Trevithick	Groups materials based on an increasing range of properties	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, considering ways to check these properties Demonstrate that dissolving, mixing and changes of state are reversible changes Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating	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. - Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic. Observe that some materials change state when they are heated or cooled, and measure research the temperature at which this happens in
States of matter						Use the terms and describe the properties of solids, liquids and gasses	Compare and group material together, according to whether they are solids, liquids or	

Rocks								degrees Celsius (°C) Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.
				<p>Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties,</p> <p>Know that fossils are formed when things that have lived are trapped within rock</p> <p>Describe and group soils based on their properties.</p> <p>Describe the layers of the earth</p>	<p>Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties, suggesting how to test some properties.</p> <p>Describe in simple terms how fossils are formed when things that have lived are trapped within rock and which conditions were necessary</p> <p>Recognise that soils are made from rocks and organic matter.</p> <p>Describe and compare the layers of the earth</p>			
	EYFS 3-4 Reception		Y1	Y2	Y3	Y4	Y5	Y6
Light Physics	Know that day and night follow in a continuous cycle	Talk about day and night and the difference. What do we do differently in the day to the night?	Notice daily and seasonal changes to the light	<p>Group materials according to properties related to light, such as reflectivity</p> <p>Recognise a variety of light sources</p>	<p>Recognise that they need light in order to see things and that dark is the absence of light</p> <p>Notice that light is reflected from surfaces</p> <p>Recognise that light</p>	Use mirrors and torches to explore the idea that light travels in straight lines	<p>Know that light travels in straight lines</p> <p>Explain how a reflector works and the relationship between the types of surface</p>	<p>Describe how light appears to travel in straight lines and demonstrate this</p> <p>Use the idea that light travels in straight lines to</p>

	Know that a hat /glasses stop us getting too much sun which	Know about sun safety in relation to eyes and skin and health.			<p>from the sun can be dangerous and that there are ways to protect their eyes</p> <p>Recognise that shadows are formed when the light from a light source is blocked by an opaque object</p> <p>Find patterns in the way that the size of shadows change.</p>	Explain how a reflector works	and its reflective properties	<p>explain that objects are seen because they give out or reflect light into the eye</p> <p>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</p>
Sound Physics	<p>Explore noise and sound with body, instruments, food and objects etc</p> <p>Talk about the noise produced</p>	<p>Suggest ways to make eg a loud or soft noise</p> <p>Explore making sounds with voice, body and objects.</p> <p>Increase vocabulary to describe sounds</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 source increases</p>	<p>Describe ways of showing sound vibrations</p> <p>Describe how the ear receives sound</p> <p>Alter an object to affect the pitch it produces</p> <p>Use equipment to measure sound and distance</p>	<p>Explain the relationship between volume and vibrations produces</p> <p>Explain how the ear receive sound and how this can be enhanced</p> <p>Find patterns regarding pitch and objects and predict new values or results</p> <p>Explain the relationship between volume and vibrations produces</p> <p>Explain why sound gets fainter as the distance from the source increases, using accurate terms</p>

<p>Forces and Magnets</p> <p>Physics</p>	<p>Explore rolling, throwing, pushing and pulling etc</p>			<p>Name some forces.</p> <p>Explore forces through play and activity.</p>	<p>Compare how things move on different surfaces</p> <p>Notice that some forces need contact between two objects, but magnetic forces can act at a distance</p> <p>Observe how magnets attract or repel each other and attract some materials and not others</p> <p>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</p> <p>Predict whether two magnets will attract or repel each other, depending on which poles are facing.</p>	<p>Name forces and describe their effects</p> <p>Find out about famous scientists who explained forces eg Newton</p>	<p>Know 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>Explain why objects fall to the Earth.</p> <p>Know how some forces are measured</p> <p>Explain why some mechanisms increase the effect of a] force</p>
<p>Electricity</p> <p>Physics</p>	<p>Know that some things need batteries for power</p>	<p>Know a variety of electric source – plugs, batteries and that these can be dangerous</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>Know the unit of measure of an electrical current</p> <p>Research a scientist who made discoveries to do with electricity eg Faraday, Ohm, Eddison</p> <p>Name the components needed to build a simple circuit and identify faults in a circuit</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>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>Recognise some common conductors and insulators, and associate metals with being good conductors.</p>	<p>Draw a simple circuit</p>	<p>Use recognised symbols when representing a simple circuit in a diagram.</p>
<p>Earth and Space</p> <p>Physics</p>	<p>Notice changes in temperature, season, light</p>	<p>Talk about day and night and ask questions</p> <p>Notice that we need different clothes for different seasons</p>	<p>Observe and describe seasonal changes</p>			<p>Describe the position of the planets in relation to each other</p> <p>Know that the rotation of the earth causes day and night</p>	<p>Describe the position and size of the planets</p> <p>Describe the Sun, Earth and Moon as approximately spherical bodies</p> <p>Describe how the seasons are caused by the angle of the sun on the earth.</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>