

Science Y 3 & Y4 Yr A

Materials	Physical processes	Living things
<p>Grouping and Classifying Materials</p> <ul style="list-style-type: none"> ▪ to compare everyday materials and objects on the basis of their material properties, including hardness, strength, flexibility and magnetic behaviour, and to relate these properties to everyday uses of the materials ▪ that some materials are better thermal insulators than others ▪ that some materials are better electrical conductors than others ▪ to describe and group rocks and soils on the basis of their characteristics, including appearance, texture and permeability ▪ to recognise differences between solids, liquids and gases, in terms of ease of flow and maintenance of shape and volume ▪ identify uses of some common materials suggesting several reasons why the material is suitable ▪ classify materials as solids liquids and gases ▪ give some properties of solids, liquids and gases ▪ 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. 	<p>Forces and Motion</p> <ul style="list-style-type: none"> ▪ about the forces of attraction and repulsion between magnets, and about the forces of attraction between magnets and magnetic materials ▪ about friction, including air resistance, a force that slows moving objects and may prevent objects from starting to move ▪ that when objects (e.g. a spring, a table) are pushed or pulled, an opposing pull or push can be felt ▪ classify materials as magnetic or non- magnetic ▪ recognise that a force acts in a particular direction ▪ describe how to use pushes and pulls to make familiar objects speed up, slow down, or change direction or shape ▪ describe some of the factors that increase friction between solid surfaces and increase air and water resistance ▪ compare how things move on different surfaces ▪ notice that some forces need contact between two objects, but magnetic forces can act at a distance ▪ describe magnets as having two poles ▪ predict whether two magnets will attract or repel each other, depending on which poles are facing. 	<p>Nutrition</p> <ul style="list-style-type: none"> ▪ about the functions and care of teeth ▪ about the need for food for activity and growth, and about the importance of an adequate and varied diet for health ▪ describe the simple functions of the basic parts of the digestive system in humans <p>Circulation</p> <ul style="list-style-type: none"> ▪ about the effect of exercise and rest on pulse rate <p>Movement</p> <ul style="list-style-type: none"> ▪ that humans and some other animals have skeletons and muscles to support and protect their bodies and to help them to move ▪ I can recognise that during exercise the heart beats faster to take blood more rapidly to the muscles ▪ I know that muscles work in pairs <p>Health</p> <ul style="list-style-type: none"> ▪ about the importance of exercise for good health. <p>Life Processes</p> <ul style="list-style-type: none"> ▪ that the life processes common to humans and other animals include nutrition, movement, growth and reproduction ▪

Science Y3 & Y4 Yr B

Physical processes	Materials	Living things
<p>Light and sound</p> <ul style="list-style-type: none"> ▪ that light travels from a source ▪ that light is reflected from surfaces (e.g. mirrors, polished metals) ▪ recognise that they need 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 their 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. ▪ 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 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. <p>Simple circuits</p> <ul style="list-style-type: none"> ▪ to construct circuits, incorporating a battery or power supply and a range of switches, to make electrical devices work (e.g. buzzers, motors) ▪ explain why some circuits work and others do not ▪ construct simple circuits and use them to test whether materials are electrical conductors or insulators ▪ Understand how switches work 	<p>Changing and Separating</p> <ul style="list-style-type: none"> ▪ that temperature is a measure of how hot or cold things are ▪ that non-reversible changes (e.g. vinegar reacting with bicarbonate of soda, Plaster of Paris with water) result in the formation of new materials that may be useful ▪ that burning materials (e.g. wood, wax, natural gas) results in the formation of new materials and that this change is not usually reversible. ▪ how to separate solid particles of different sizes by sieving (e.g. those in soil) ▪ know that objects cool or warm to the temperature of their surroundings when they are left ▪ explain that a new material is made when a change is irreversible ▪ 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. 	<p>Life Processes</p> <ul style="list-style-type: none"> ▪ that the life processes common animals include nutrition, movement, growth and reproduction ▪ to make links between life processes in familiar animals and plants and the environments in which they are found <p>Green Plants</p> <ul style="list-style-type: none"> ▪ the effect of light, air, water and temperature on plant growth ▪ that the root anchors the plant, and that water and minerals are taken in through the root and transported through the stem to other parts of the plant ▪ 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 ▪ explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. <p>Variation and Classification</p> <ul style="list-style-type: none"> ▪ to make and use keys ▪ how locally occurring animals and plants can be identified and assigned to groups ▪ that the variety of plants and animals makes it important to identify them and assign them to groups. ▪ identify some local habitats ▪ recognise a variety of ways an animal is suited to their environment ▪ use simple keys to identify organisms ▪ 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.

		<p>Feeding relationships</p> <ul style="list-style-type: none">▪ to use food chains to show feeding relationships in a habitat▪ about how nearly all food chains start with a green plant▪ construct and interpret a variety of food chains, identifying producers, predators and prey.
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