

Nursery	Seasonal changes		Light and dark	Animo	als	Planting, growth and c	nange	Life cycles	
,	Autumn – a time of the year	Shade	ows – is the dark shape	Habitat – A place	e where an	Plant - A living thing the	ıt	•	
	Leaves	when	something blocks light	animal or plant li	ves	grows on Earth		Worm – an animal without a	
	Branch		– A type of energy			Seed – A part of a plan		backbone	
	Bark	Dark ·	 When light is blocked 	What animals ea	t – plants	helps news plants to gra		Egg – the first stage of the	
	stick			and meat		Soil – A mixture of rocks		lifecycle	
					e: tail, wings,			Saddle – A ring around the	
	the season	transp	parent, translucent and	fur, fly		Root - A part of a plant		worms body	
	conker	opaq	ue.			usually hidden undergro		Vibration – a fast movement	
	acorn					Leaves – A part of a pla	ant		
	conker husk					attached to a stem			
	See, hear, feel, smell					Petal – A leaf that prote	ects		
						part of the flower			
	melt					Harvest – In Autumn wh	-		
	freeze					gather food from the lo	nd		
	ice					B I. P			
	snow					Dandelion			
	solid					Sunflower			
	liquid					Daisy			
Reception	Seasonal changes		Animal	S	Planting,	growth and change		Life cycles	
•	Autumn – a time of the year		Habitat - the home of a	n animal or a					
	Winter - a time of the year		plant.		Bean - a type of seed		Egg -	Egg - the first stage of the lifecycle	
	Spring - a time of the year				Lifecycle - c	series of stages a plant	Tadpo	le – Young form of a frog that	
	Summer - a time of the year		Environment – the physical surroundings		Stem – part of a plant.			from an egg	
	Leaves - a part of a plant attache	d to a						t – the stage between a	
	stem. Root vegetable – an underground part of a plant that we eat.		Climate - weather found in a certain place over a long period of time is		produces seeds.			le and an adult frog	
								an amphibian that lives in	
								or land	
	Turnip – a type of root vegetab	ie.	known as the climate			- a large green bean		a part of a frog where it	
	Souting by factures corting by a	olour	Temperature – how hot	or cold	which you c	can eat	preath	nes through	
	Sorting by feature: sorting by co	JIUUI.	something is.	oi coid					
	see, near, leer, smeii		Weather in different env	ironments					
	melt								
	freeze								
	ice								
	ICE						1		



	snow solid liquid			
Year 1	sleet – rain and snow mixed together deciduous trees – stay green and keep their leaves all year evergreen trees – lose their leaves in winter hibernate – sleep over winter It goes dark earlier in winter. It stays lighter for longer in summer. In the UK, it is usually colder and rainier in winter, and hotter and dryer in the summer. Half of the birds in the UK migrate over winter for a good food source, either so that they can raise a family or just survive. Hedgehogs and bats hibernate over winter.	Materials materials - what objects are made from flexible – can bend or change shape easily. rigid – can't bend or change shape. transparent - see through. opaque - not see through. translucent – can see through it a little bit. The same object can be made out of different materials. One object can be made out of different materials. Plastic is man-made in a factory. Wood comes from trees. Rock and metal comes from underground.	Animals Amphibians - Live on water and on land. They have smooth slimy skin. Birds - have a beak, two legs, feathers and wings. Fish - Live and breathe under water. They have scaly skin, fins to help them swim and gills to breathe. Mammals - Animals that breathe air, grow hair or fur, and feed on their mother's milk as a baby. Reptiles - All reptiles breathe air, they have scales on their skin. Carnivore - Animals that eat meat and other animals. Herbivore - Animals that only eat plants. Omnivore - Animals that eat both plants and meat or other animals. Senses - any of five ways to understand or experience surroundings. The senses are touch, smell, taste, sight, and hearing. Animals can be sorted by type; mammal, fish, reptile, bird, amphibian Animals can be grouped by what they eat; carnivore, omnivore, herbivore Humans have 5 senses; touch, taste, smell, sight and hearing Humans are mammals	Plants Deciduous – a tree that loses its leaves in autumn Evergreen – a tree that stays green all year Sap – a liquid of water and nutrients for the plant Bark – the outside of a tree Trunk – the stem of a tree Branches – they grow out from its trunk and have leaves, flowers, or fruit growing on them Blossom – a flower or group of flowers on a tree Evergreen leaves are spikey and don't taste very nice to stop animals from eating them. Trees are different to plants because they are bigger and they have a trunk. Leaves are all different shapes and sizes. Some tree roots can be seen above the ground Wild plants are those which aren't grown by people



	Everyone's body parts are different	Flower
		Leaf ————————————————————————————————————



bit.

Science knowledge progression

buttercup oak tree Living things in their habitats Year 2 **Materials Plants** Animals waterproof - It keeps the water out. It offspring - The child of an animal or **life Processes** - These are the things **germination** – is when a seed starts to keeps things dry. that all living things do. The move, human. grow into a plant. breathe, sense, grow, make babies, **absorb**- soaks liquid up. **reproduce** – to have babies **shoot** – new growth on a plant materials - what objects are made get rid of waste, and get their energy **hygiene** – clean above the ground from food. from. flexible - can bend or change shape **sow** – plants seeds in the ground Humans need water, food and air in **herbivore** – an animal that only eats easily. order to survive. **harvest** – the gathering of a crop plants. rigid - can't bend or change shape. All living things reproduce and have **fruit** – the part of a plant that **carnivore** – an animal that only eats offspring. **transparent** - see through. contains the seeds meat. Too much sugar is bad for your **opaque** - not see through. **vegetable** – a plant that we cook **omnivore** – an animal that eats both health. It can make you gain weight translucent - can see through it a little and eat plants and meat.

habitat - a natural home or

environment of a plant or animal.

and cause tooth decay.

Healthy eating, exercise, drinking

water, getting enough sleep,



Some materials can be changed by squashing, bending, twisting or stretching.

Charles Macintosh invented waterproof coats.

The most suitable materials are chosen to make objects.

Materials can be grouped based on properties

vertebrate – animals with backbonesinvertebrate – animals with no backbone

An object made of wood is classed as dead.

Objects made of rock, metal and plastic have never been alive The habitat provides the basic needs of the animals and plants – shelter, food and water.

Within a habitat there are different micro-habitats e.g. in a woodland – in the leaf litter, on the bark of trees, on the leaves.

What an animal eats and who it gets eaten by can be shown in a food chain.

The 5 vertebrate groups are: mammals, birds, fish, reptiles and amphibians.

Invertebrates are insects, spiders, worms and snails.

Food Chain



Seeds can be all different shapes and sizes

Every single seed has the beginnings of a new plant inside it, along with a little store of food to help it grow. Some plants grow first from a seed, and then develop a bulb. A bulb lets the plant rest underground over the winter when it is too cold, then grow back later in the year when conditions are right.

Beans are a type of seed.
Plants need water, light and a suitable temperature to grow and stay healthy.

You need to plan when to sow and harvest crops.

Vegetables come from different parts of a plants. They can be roots, leaves or stems. brushing our teeth and keeping clean are ways in which can stay fit and well.

When germs get into our bodies we become ill.

It is important to wash our hands.
There are different stages in human life. Baby, toddler, child, teenager, adult, elderly.

Not all baby animals look like their parents when they are first born.



	birch tree	
	fir tree	
	lily tulip	



Year 3

Magnets

forces - Pushes or pulls **friction**- A force that acts between two surfaces or objects that are moving, or trying to move across each other.

magnet- An object that creates a magnetic force that pulls objects towards it. repel- a force that pushes objects away.

attract - a force that pulls objects together.

Magnets have a north pole and a south pole.
Opposite poles attract
The same poles repel
Magnetic force can act at a distance
Plastic and wood are not magnetic
Not all metals are magnetic
Iron, nickel and steel are magnetic

Rocks and soils

rock Natural minerals clumped together in the Earth

soil – a mix of organic material (decayed plants and animals) and broken bits of rocks, minerals, water and air

organic matter – matter that has come from recently living organism

fossil - the impression of an animal or plant in a rock.

permeable – absorbs water

impermeable - does not absorb water

geologist – a scientist who studies rocks

palaeontologist - a scientist who studies fossils

Bricks and concrete are not rocks because they are manmade

Rock is a natural material Not all rocks have the same properties

Some rocks have holes in them called pores There are different types of soil

Fossils are usually formed when a living thing (plant or animal) dies and the body is covered up or buried by

Plants

Photosynthesis – When the leaves use sunlight, water and carbon dioxide to make the plants food

Seed dispersal – seeds are transported to new sites

Pollination – is when pollen is transferred from the male part of a plant to a female part of a plant.

Fertilisation – When pollen makes a seed.

Pollinator – an insect that transfers pollen from one plant to another.

Pollen – fine powder found on flowering plants.

Nectar – a sugary liquid found in flowers.

Germination – is when a seed starts to grow into a plant.

The roots absorb water and nutrients from the soil and anchor the plant in place. The stem transports water and nutrients/minerals around the plant and holds the leaves and flowers up in the air.

The leaves use sunlight and water to produce the plant's food.

Light

light- A form of energy that travels in a wave.

light source – something that produces its own light.

reflection – when light bounces off an object.

transparent – lets light through

translucent – lets some light through

opaque – doesn't let light through

We need light in order to see things.

Darkness is the absence of light.

Smooth, shiny surfaces reflect light well.

Dull and dark surfaces do not reflect light well.

A shadow is formed when light is blocked.

To make a shadow big, move the object closer to the light source.

To make a shadow smaller, move the object further away from the light source. Opaque objects make darker shadows than translucent or transparent objects because they block more light. Light from the sun can damage your eyes.

Keeping healthy

nutrients – things that plants and animals need to live and grow.

vertebrates – have an internal skeleton.

invertebrates – do not have an internal skeleton.

exoskeleton – has a skeleton on the outside of its body

The 5 main food groups are: fruits and vegetables, carbohydrates, protein, dairy and fats.

A balanced diet means eating a wide variety of foods in the right proportions Fibre helps turn food into waste production Fats give us energy Carbohydrates give us energy.

Protein helps the body to grow and repair.

Dairy keeps bones and teeth healthy.

Fruits and vegetables contain fibre, vitamins and minerals to keep us healthy and well. Humans and some animals have skeletons and muscles for support, protection and movement.



Copper, aluminium, lead and brass are not magnetic Horseshoe magnet bar magnet ring magnet button magnet	sediment over thousands of years. Mary Anning was a famous English fossil collector	The flowers job is to create seeds. Plants need air, light, water, nutrients from soil, and room to grow Seeds can be dispersed by wind, water, exploding and by animals. Bees face many threats like habitat loss, climate change and diseases.	Without muscles our bodies wouldn't be able to move. skull upper arm bone spine lower arm bone hand bone hand bone lower lag bone knee cap lower lag bone foot bone



Year 4

Sound

volume – how loud or quietpitch – low or high soundssound wave – how a soundtravels

absorb – soak up or take in

Sounds travel in waves. Sound is created when something vibrates and sends waves of energy into our ears.

The loudness of sounds are measured in decibels
The longer the object the lower the pitch
The shorter the object the higher the pitch
Sounds are quieter the further you get from the sound source.

Source.
Sound can travel through solids, liquids and gases.
Sounds travel fastest through solids because the particles are close together
Sounds travel slowest through air because the particles are further apart
Soft materials with air pockets are the best for absorbing

sound.

States of matter

evaporation – When liquid turns into a gas

condensation – When gas turns into a liquid

precipitation – liquid or solid particles that fall from a cloud like rain, snow, sleet or hail

water vapour- is a gas. When water is boiled, it evaporates into water vapour.

melt - when a solid changes into a liquid

freeze – when a liquid changes into a solid

particles – tiny pieces of matter, everything around us is made up of matter

Solids keep their shape unless a force is applied to them. They can be hard, soft or even squashy.

Liquids take the shape of the container, hey can flow or be poured.

Gases can spread out to completely fill the container or room they are in. They do not have any fixed shape. Different solids melt at different temperatures Water on the earth is constantly moving this process is called the water cycle

Living things in their habitats

Respiration – creates energy using gases

Sensitivity - the way living things react to changes in their environment.

Reproduction - When young are produced.

Excretion- get rid of waste products.

Nutrition- Food which provides energy.

Endangered- the species is at risk of becoming extinct.

Extinct- When a species has no more members alive on the planet, it is extinct.

Hibernation – when animals curl up in a safe place until winter ends.

Migration - to move to another place for a period of time

Vertebrate – animals with a backbone.

Invertebrate – animals without a backbone

All living things do the 7 life processes. They are: movement, reproduction, sensitivity, nutrition, excretion, respiration and growth.

Digestive system and teeth

saliva - watery liquid in the mouth for chewing and swallowing, and aiding digestion.

oesophagus – a part of the body which connects the throat to the stomach

stomach – the organ where digestion occurs

small intestine – a long tubelike organ that connects the stomach and the large intestine.

large intestine - a long, tubelike organ that is connected to the small intestine at one end and the anus at the other

rectum – this connects the large intestine to the anus. tooth decay – rotting teeth enamel – outer layer of the

tooth

plaque – sticky deposit on teeth where bacteria grows cavities – holes in teeth

Teeth are needed for chewing and cutting food into small pieces to start the digestive process.
Humans have 3 different types of teeth which each have different functions. They are canine, molar and incisor.

Electricity

cell – one battery
electrical conductor – these
let electricity pass through
electrical insulator – these
don't let electricity pass
through

electricity – a form of energy switch – a component that can be used to break a circuit

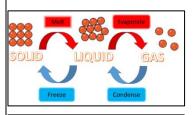
Some electrical devices plug in to the mains and others run on batteries.

An electrical circuit consists of a cell or battery connected to a component using wires.

If there is a break in the circuit, a loose connection or a short circuit, the component will not work. A switch can be added to the circuit to turn the component on and off. Metals are conductors of electricity.

Plastic, glass, wood and air are electrical insulators.
Mains electricity is the electricity that is delivered to homes and businesses through an electric grid.
The electric grid in the United Kingdom is called the National Grid







Classification is a way of grouping living things together by their features. Hibernation and migration are ways that some animals deal with the harshness of winter.

Changes to an environment can be natural or caused by humans.

Natural changes

earthquakes • storms • floods • droughts • wildfires • the seasons damaging plants **Human made changes** deforestation • pollution • creating new nature reserves Changes to an environment can have positive as well as negative effects. Mammals, birds, reptiles,

amphibians and fish are vertebrates. Snails, slugs, worms, spiders

and insects are invertebrates.

Incisors help you bite off and chew pieces of food.

Canine teeth are used for tearing and ripping food.

Molars are to help you crush and grind food.

We have 2 sets of teeth in our life time. Milk teeth which fall out around the age of 6 and then adult teeth.

Bacteria eats away at the tooth enamel, causing cavities.

Sugary food and drinks are one of the main causes of tooth decay.

The digestive system consists of the parts of the body that work together to turn food and liquids into fuel that the body needs.

Damaged electrical items can cause fires



	Canine Molars Premolars Incisors	
	Mouth Oesophagus Liver Stomach Large intestine Rectum	



Year 5

Forces

forces – are pushes or pulls which cause an object to move, stop, speed up, slow down or change direction.
gravity – a force by which a planet draws objects towards its centre.

air resistance – a type of force caused by air used to slow things down.

water resistance – a type of force that slows things down in water.

streamlined- an object that is shaped to travel through air or water with as little resistance as possible.

friction - a force that acts between two objects that are in contact with one another. It slows or stops movement between the two surfaces that are touching. mechanisms - they cause a

small force to turn into a greater force.

levers - a simple machine which helps us to move objects.

pulleys – is a wheel and a rope or cable used to move objects.

gears – wheels with teeth that slot together

Everything is pulled to the Earth by gravity.

Materials

dissolve – when substances mix with liquid and looks like it has disappeared

solution – when a substance dissolves in water it makes a solution

solubility – the ability of something to dissolve in water

reversible change - when materials can be changed back to how they were before the reaction took place

irreversible change – when something cannot be changed back to its original form

thermal conductor – lets heat pass through easily

thermal insulator - does not let heat pass through easy

Thermal insulators keep hot things hot and cold things cold.

Mixtures can be separated by sieving, filtering or magnetism.

Solutions can be separated by evaporation.

The higher the temperature the faster a substance dissolves.

Materials are chosen for a specific purpose because of their properties

Living things in their habitats

asexual reproduction - when a plant reproduces by making a copy of the parent plant.

pollination – is when pollen is transferred from the male part of a plant to a female part of a plant.

filament – stalk-like structure that attaches to the base of the flower

anther – produces pollen stamen – male part of a plant. This is the filament and anther

stigma – female part of a plant – this is at the top of the style and is where pollen is found.

ovule - the organ that forms the seeds of flowering plants ovary - a part of the female reproductive organ of the flower

style - It is a long, slender stalk that connects the stigma and the ovary

gestation period – length of pregnancy

Some plants can reproduce asexually – they don't always need to be pollinated.

Animals

primatologist – a scientist who studies primates

primate – a type of mammal which includes lemurs, monkeys, apes and humans. extinct – a species that has no living members

endangered – seriously at risk of extinction

conservation – the act of protecting the Earth puberty – the time that bodies change and develop into adults

adolescent – teenager

Jane Goodall is an English primatologist and is one of the worlds leading experts on chimpanzees.

Jane dedicates her life to conservation and education, spreading the message that we can all make a difference to the future of our planet. Puberty usually happens between the ages of 8 and 13.

Generally, as humans get older they get taller and are able to do more things. Human life is a cycle of development.

Space

Orbit - the curved path in space that is followed by an object going round and round a planet, moon, or star.

Solar system – the sun and the objects that orbit it

Astronomer – a scientists who studies space

Axis - an imaginary line an object turns around. This imaginary line runs directly through the object's centre, from the north to the south poles.

Rotate – turn

Solar – sun

Lunar – moon

The 8 planets of the solar system are (in order of distance from the sun) Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, and Neptune.

The sun is a star.

The sun is at the centre of our solar system.
Earth takes 365 and a quarter

days to orbit the sun.
The Earth rotates on its axis
every 24 hours.

The Moon orbits the Earth - it takes about 28 days to complete its orbit.



Pulleys, levers and gears are all mechanisms, also known as simple machines. Isaac Newton was the scientist who discovered gravity. Astronauts float around in space because there is no gravity in space. Pulleys, levers and gears are all mechanisms, also known includes bulbs, tubers, runners and planting cuttings. Mammals are the only vertebrate animal group that give birth to live young. Birds, reptiles, amphibians and fish lay eggs. Elephants have the longest gestation period in the mammal group.	nstrong was the first In the moon in 1969.
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Year 6

Light

light- A form of energy that travels in a wave.

shadow - a dark area where light from a light source is blocked by an object.

transparent – lets light through

translucent – lets some light through

opaque - doesn't let light
through

light source – something that produces its own light.

reflection – when light bounces off an object.

We need light in order to see things.

Darkness is the absence of light.

Light travels in straight lines. The closer the object to the light source the bigger the shadow because more light is blocked.

Electricity

circuit – a path that an electrical current can flow around.

battery – a device that stores energy

bulb – a device that produces light from electricitybuzzer – a device that produces sound from electricity

motor – a device that produces movement from electricity

switch – a device that controls the flow of electricity in a circuit

volts – the strength of electricity that moves through a circuit

complete circuit will make a bulb brighter, a motor spin faster or a buzzer make a louder sound.
Batteries with a higher voltage will make a bulb brighter, a motor spin faster or a buzzer make a louder sound.

Adding more batteries to a

Turning a switch off breaks a circuit so the circuit is not complete and electricity cannot flow.

Living things in their habitats

micro-organism – tiny living things that can only be seen with a microscope.

organism – living thing botanist – scientists that study plants.

zoologist – scientist that study animals.

Animals are either vertebrates or invertebrates. All animals can be classified Not all plants have flowers. Plants that don't have flowers are moss, ferns and pine trees.

There are three main types of micro-organisms: viruses, bacteria and fungi.

Not all micro-organisms are harmful.

Yeast is a type of fungus that is needed to make bread Yogurt is made using a type of bacteria

Mushrooms are not plants - They are a fungi.

Evolution

inheritance – passing on characteristics to offspringevolution – the changing of a species over time

offspring – a person or animals' child or young variation - differences

breed – same species with a different appearance

fossil - The remains or imprint of a pre-historic animal, embedded in rock and preserved

palaeontologist - a scientist who studies fossils

biologist – a scientist that study living things

We inherit some features from our parents.

Fossils provide information about living things that inhabited the Earth millions of years ago.

Plants and animals adapt to their environments to enable them to survive.

Adaptation can lead to evolution.

Scientists believe that all species gradually change over time.

Charles Darwin was a British biologist who develop the theory of evolution.

Circulatory system

Blood vessels – tubular structures that carry blood. These are veins or arteries.

Circulatory system - The system that contains the

heart and the blood vessels and moves blood throughout the body.

Plasma (a straw -coloured liquid) which transports dissolved food, mineral salts and waste products.

Red blood cells - transport oxygen around the body.

White blood cells kill bacteria by engulfing them and antibodies that dissolve into the plasma and kill invading bacteria.

Platelets help blood to clot and wounds heal.

Blood acts as a transport system for oxygen, nutrients and waste within the body. It also protects the body against invading bacteria. Blood is pumped around the body by the circulatory system.

The heart is a muscle which pumps blood around the body.

The heart is about the size of your fist.

Cigarettes and alcohol are a type of drug.



More voltage is used up if y add bulbs, buzzers and motors. A bulb ammeter V voltmeter battery I cell buzzer motor open switch	Humans can change the characteristics of living things through selective breeding.	Medicines are a type of drug and are used to help people get better if they are ill. It is important to get plenty of sleep to give your body time to recover and recharge for the next day A balanced diet means eating a wide variety of foods in the right proportions. Fish and insects have different circulatory systems to mammals. Some animals have more than one heart – An octopus has 3!
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