Science Coverage Termly Overview

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Reception * Explore the natural world around them * Describe what they see, hear and feel whilst outside	**The Natural World:** **Explore the natural world around them, making observations and drawing pictures of animals and plants. (ELG)** **Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class. (ELG)** **Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter. (ELG)** Children to have the opportunity for outdoor play and exploration. Observe and interact with natural processes, such as ice melting, a sound causing a vibration, light travelling through transparent material, an object casting a shadow, a magnet attracting an object and a boat floating on water. Name and describe some plants and animals that children might see.					
Yr 1/2 Cycle A **Year 2 Science Focus**	**A Knight's Tale**	**Hythe , Our wonderful town**	**Here come the aliens**	**Fur, feather and scales**	**Name a piece of Art**	**Lighthouses**
Key Engagement Questions **PHYSICS** **Seasonal Changes: Throughout the year as per Y1 curriculum** **BIOLOGY** **Living Things & Their Habitats 1** **Investigation over time - Does the number of animals found in a habitat change?** **Key Vocabulary**	**CHEMISTRY** **Everyday materials & their uses 2** 1.Which materials can you name? Which material is best? 2. Which shoe has the best grip? 3. What are the uses of wood? 4. What are the uses of plastic? How flexible is it? 5. Which tights are the stretchiest? Which material will be the best to block a hole in a bucket? 7. Which material is best at letting light through?	**BIOLOGY** **Plants 2** 1. What are different seeds like? How many ways can we sort seeds? 2. What do bulbs need so that they can grow healthily? 3. Do seeds need water so that they can grow? 4. Do all seeds germinate in the same way? 5. Can we grow our own trees?	**BIOLOGY** **Living Things & Their Habitats 1** 1. Which habitats do you know of on planet Earth? How many different living things can we find? 2. What are different habitats like and do they change throughout the year? 3. Why would an animal live in a habitat? 4. Which animals are camouflaged to blend	**BIOLOGY** **Animals including Humans 2** 1.What happens to the offspring of animals? 2. What are the basic needs of different animals? 3. Which foods make a healthy diet? 4. What happens when you exercise? 5. How often do we wash ourselves? **Key vocabulary**		

	Key vocabulary **Types of materials**: wood, plastic, glass, metal, water, rock, brick, fabric, sand, paper, flour, butter, milk, soil **Properties of materials**: hard/soft, stretchy/not stretchy, shiny/dull, rough/smooth, bendy/not bendy, transparent/not transparent, sticky/not sticky **Verbs associated with materials**: crumble, squash, bend, stretch, twist **Senses**: touch, see, hear, smell and taste	6. What conditions do plants need so that they will grow? **Key vocabulary** **Trees** - deciduous, evergreen, ash, birch, beech, rowan, common lime, oak, sweet chestnut, horse chestnut, apple, willow, sycamore, fir, pine , holly, etc **Wild flowering plants** - cleavers, coltsfoot, daisy, dandelion, garlic mustard, mallow, mugwort, plantain, red clover, self heal, shepherd's purse, sorrel, spear thistle, white campion, white deadnettle and yarrow. **Garden plants** – crocus, daffodil, bluebells, etc **Parts of plants** – roots, branch, trunk, stalk, leaf, flower, petal, seeds, bulbs and twigs	in their habitats? Or Which caterpillar will survive? 5. Where is the most popular place for animals to live? What are the animals eating? 6. How do we know that plants are living things? How does a habitat provide for the needs of the plants that live there? 7. How do plants and animals depend on each other? **Key vocabulary** Habitat, micro Pond, meadow, log pile, woodland, cliff river, lake, beach Organism – plant, animal **Trees** - deciduous, evergreen, ash, birch, beech, rowan, common lime, oak, sweet chestnut, horse chestnut, apple, willow, sycamore, fir, pine , holly, etc. **Wild flowering plants** - cleavers,	**Scientific Language** They should begin to use simple scientific language to talk about what they have found out and communicate their ideas to a range of audiences in a variety of ways. Pupils should read and spell scientific vocabulary at a level consistent with their increasing word reading and spelling knowledge at key stage 1 Classification - Birds, fish, amphibians, reptiles, mammals and invertebrates Classification - Carnivores, herbivores, omnivores Stages of growth of many insects – egg, larva, pupa, adult Names of some invertebrates – ladybirds, butterflies, dragonflies, etc. Names of some amphibians – smooth newt, common frog, toad		

		Need of plants – water, light, heat, temperature	coltsfoot, daisy, dandelion, garlic mustard, mallow, mugwort, plantain, red clover, self heal, shepherd's purse, sorrel, spear thistle, white campion, white deadnettle and yarrow. **Garden plants** – crocus, daffodil, bluebells, etc. **Parts of plants** – roots, branch, trunk, stalk, leaf, flower, petal, seeds, bulbs and twigs **Invertebrates** – snail, slug, woodlouse, spider, beetle, fly, etc. **Pond animals** – pond skater, water slater, ramshorn snail, pond snail, leech, common frog, smooth newt, etc.	Stages of life –baby, toddler, child, teenager, adult Life processes – growth, nutrition (feeding), respiration (breathing is part of this) Hygiene – clean, wash, germs Foods – healthy, grow, strong, energy		

Skills & Knowledge Links to the National Curriculum:	**CHEMISTRY** **Everyday materials & their uses 2** • identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses • find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching	**BIOLOGY** **Plants 2** * 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.	**BIOLOGY** **Living Things & Their Habitats 1** * Explore and compare the differences between the things that are living, dead and things 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 differ3ent kinds of 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.	**BIOLOGY** **Animals including Humans 2** Should be taught to: *Notice that animals, including humans, have offspring which grow into adults *Find out about and describe the basic needs of animals, including humans, for survival (water, food, air) *Describe the importance for humans of exercise, eating the right amounts of different types of food and hygiene.		

Yr 1/2 – Cycle B **Year 1 Science Focus**	People who help us	Once upon a tale	Curiosity and Exploration	Animals	Growing	'Oh I do like to be beside the Seaside'
Key Engagement Questions	**PHYSICS** **Seasonal changes:** (to be explored throughout the year) **1. How can we observe and measure the weather?** **2. What types of weather do you know?** **3. What types of clouds can you see in different seasons?** **4. How much wind is there in different seasons?** **5. How can you measure the amount of rain in different seasons?** **6. How do we find out how warm water is? What is the temperature in different seasons?** **7. What happens to nature in different seasons?** **Key vocabulary** **Scientific Language** They should begin to use simple scientific language to talk about what they have found out and communicate their ideas to a range of	**PHYSICS** **Seasonal Changes:** **(see term 1)**	**CHEMISTRY** **Everyday Materials:** **1. Observe, identify and classify – What are objects made from? What are the properties of the different materials?** **2. What happens to materials when they are heated and cooled?** **3. How well do different kitchen paper towels absorb water?** **Key vocabulary** **Types of materials**: wood, plastic, glass, metal, water, rock, brick, fabric, sand, paper, flour, butter, milk, soil **Properties of materials**: hard/soft, stretchy/not stretchy, shiny/dull, rough/smooth, bendy/not bendy, transparent/not transparent, sticky/not sticky **Verbs associated with materials**: crumble, squash, bend, stretch, twist **Senses**: touch, see, hear, smell and taste	**BIOLOGY** **Animals incl. Humans:** **1. What are the names of different parts of the body?** **2. What can our different senses do?** **3. How good are the senses of other animals?** **4. Can you identify and name the animal?** **5. Which animals are herbivores, carnivores and omnivores?** **6. How many animals can be found in the school grounds that are carnivores, herbivores and omnivores?** **Vocabulary** **Scientific Language requirements from the science curriculum for Key Stage 1** They should begin to use simple scientific language to talk about what they have found out and communicate their ideas to a range of audiences in a variety of ways.	**BIOLOGY** **Plants:** **1. What do you already know about plants? What do you want to find out?** **Which plants can you identify?** **2. How many different roots can be found? Can we describe what they look like close-up?** **3. How many different types of flowers can be found? Can we use the flower to work out the name of the plant?** 4. **How are the trunks of trees similar and different from each other?** 5. **Measuring – How tall are the trees? How far is it around the trunk of the tress?** **6. What are the leaves like on the different trees? Pattern-seeking investigations – How are the same parts on different plants the same and different?**	**PHYSICS** **Seasonal Changes:** **(see term 1)**

	audiences in a variety of ways. Pupils should read and spell scientific vocabulary at a level consistent with their increasing word reading and spelling knowledge at Key Stage 1 Seasons; spring, summer, autumn, winter Year, months, days Hot, warm, mild, cold Sunny, Cloudy Rain, sleet, snow, hail, thunder, lightning, rainbow Wet, damp, dry Windy, breezy, gust Temperature Degrees Celsius Thermometer Weather vane Anemometer			Pupils should read and spell scientific vocabulary at a level consistent with their increasing word reading and spelling knowledge at Key Stage 1. **Key words** Birds, fish, amphibians, reptiles, mammals and invertebrates Feathers, scales, gills, fins, hair, land, water, backbone, skeleton Carnivores, herbivores, omnivores Meat, plants (Common parts/ structures of animals) (Names of animals that can be found in school grounds) (Names of animals that children have as pets) **THE ALIENS HAVE LANDED…**	**Key vocabulary** **Trees** - deciduous, evergreen, ash, birch, beech, rowan, common lime, oak, sweet chestnut, horse chestnut, apple, willow, sycamore, fir, pine , holly, etc **Wild flowering plants** - cleavers, coltsfoot, daisy, dandelion, garlic mustard, mallow, mugwort, plantain, red clover, self heal, shepherd's purse, sorrel, spear thistle, white campion, white deadnettle and yarrow. **Garden plants** – crocus, daffodil, bluebells, etc **Parts of plants** – roots, branch, trunk, stalk, leaf, flower, petal, seeds, bulbs and twigs	
Skills & Knowledge Links to National Curriculum:	**PHYSICS** **Seasonal Changes** • observe changes across the four seasons • observe and describe weather associated with the seasons and how day length varies.		**CHEMISTRY** **Everyday Materials 1** • 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	**BIOLOGY** **Animals including Humans 1** *Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals *Identify and name a variety of common animals that are	**BIOLOGY** **Plants 1** * Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees *Identify and describe the basic structure of a variety of common	

			• 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.	carnivores, herbivores and omnivores.	flowering plants, including trees.	
Yr 3/4 Cycle A **Year 4 Science Focus**	Term 1 Body Works	Term 2 Smashing Saxons	Term 3 Dragonology Shang Dynasty	Term 4 Vikings	Term 5 Rainforest Riches	Term 6 Our Ever changing world!
Key Engagement Questions **Key Vocabulary**	**BIOLOGY** **Animals incl.Humans 4** **1. How many different types of teeth have we got and what is their function?** **2. What happens when we chew food?** **3. What is the basic function of the stomach?** **4. What are food chains? What do animals in our wildlife area eat?** **Can you create a comparative test?** **Key vocabulary** Digestive system –, oesophagus, stomach, acid, small intestine Protein, vitamin, mineral, carbohydrate, fats,	**PHYSICS** **Electricity 1** **1. What can electricity do?** **2. Which circuits will work? Can you repair the ones that don't work?** **3. What can we find inside a torch?** **4. Which materials are conductors and which are insulators?** **5. What does a switch do?** **6. Can you explain how a torch works?** **Key vocabulary** Electricity **Appliances**: fridge, freezer, TV, computer, iron, kettle, etc. Series circuit		**PHYSICS** **Sound** **1. What different sounds can be heard?** **2. What happens to the sounds from a drum when we get further away from it?** **3. Where in the school would be the best places to put fire alarms?** **4. What is a 'sound'? Where does sound go when it has been made?** **5. How can we alter the loudness of a sound?** **6. How do we change the pitch of a sound? Does the length of an elastic band affect the pitch of the sound produced?**	**CHEMISTRY** **States of Matter** **1. Which liquid moves the fastest?** **2. What can we find out about gases? Do gases have weight?** **3. What happens to gas when it is heated? Can gas be made from a solid and a liquid?** **4. What happens to solids when they are heated? At what temperature will a solid begin to melt?** **5. Can we change the state of wax?** **6. Do all liquids freeze?** **What is the water cycle? Can you explain using the words evaporation/ condensation?**	**BIOLOGY** **Living Things and their Habitats 2** **1. How many different animals can we find in the wildlife area? How can we classify different animals?** **2. How are animals suited to where they live?** **3. Can you use the flower to identify the plant? Can you use leaves to identify the name of a tree?** **4. Can you use a classification key to identify to identify land invertebrates?** **5. How does a change in the environment affect the things that live there?** **6. What changes have affected environments throughout the world?**

	energy, growth, repair. Saliva Teeth – Incisors, canines, premolars, molars Function Food chain – producer, consumer, predator, prey	**Components**: battery, bulb (lamp), bulb (lamp) holder, buzzer, crocodile clip, leads, wires, switch **Describing words**: brighter, duller, slow, fast, quiet, loud Conductor, insulator **Effects of electricity**: Light, sound, movement, heat **Switches** – open, close		**Key vocabulary** **Ways to create sound** – bang, blow, shake, and pluck **Loudness** – quiet, quieter, quietest, loud, louder and loudest **Pitch** - low, lower, lowest, high, higher, and highest **Vibrations** **Source**	**Key vocabulary** **States of matter** - Solid, liquid and gas **Examples of gases** (at room temperature and pressure) – Oxygen, hydrogen, helium, carbon dioxide, methane **Examples of liquids** (at room temperature and pressure) – Water, milk, juice, petrol, oil **Examples of solids** (at room temperature and pressure) –Wood, rocks, metal, plastic, glass, wool, leather, etc. **Processes –** Melting, condensation, evaporation, solidifying, freezing Water cycle, Water vapour, steam, heating, cooling	**Key vocabulary** Habitat, micro habitat Pond, meadow, log pile, woodland, river, lake, beach, cliff Organism – plant, animal **Trees** - deciduous, evergreen, ash, birch, beech, rowan, common lime, oak, sweet chestnut, horse chestnut, apple, willow, sycamore, fir, pine , holly, etc **Wild flowering plants** - cleavers, coltsfoot, daisy, dandelion, garlic mustard, mallow, mugwort, plantain, red clover, self heal, shepherd's purse, sorrel, spear thistle, white campion, white deadnettle and yarrow. **Garden plants** – crocus, daffodil, bluebells, etc **Parts of plants** – roots, branch, trunk, stalk, leaf, flower, petal, seeds, bulbs and twigs **Invertebrates** – snail, slug, woodlouse, spider, beetle, fly, etc.

						Pond animals – pond skater, water slater, ramshorn snail, pond snail, leech, common frog, smooth newt, etc.
Skills and Knowledge Links to the National Curriculum **Year 4**	**BIOLOGY** **Animals incl.Humans 4** * 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 functions *Construct and interpret a variety of food chains identifying producers, predators and prey.	**PHYSICS** **Electricity 1** • identify common appliances that run on electricity • construct a simple series electrical circuit, identifying and 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.		**PHYSICS** **Sound** • 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.	**CHEMISTRY** **States of Matter** • Compare and group materials together, according to whether they are solids, liquids or gases • 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.	**BIOLOGY** **Living Things and their Habitats 2** *Recognise that living things can be grouped in a variety of ways *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 and that this can sometimes pose dangers to living things.
Yr 3/4 Cycle B	Term 1 The Romans	Term 2	Term 3	Term 4	Term 5 Shakespeare	Term 6 Migration

Year 3 Science Focus		Stone Age to Iron Age	Around the World	Shake, Rock and Roll		
Key Engagement Questions **Key Vocabulary**	**BIOLOGY** **Plants 3** 1 .What do the roots of plants look like close up? How does the number of roots affect the amount of water that is absorbed? Does the length of roots change over time? 2. What happens to wilting white mustard when it is placed in water? What happens to the leaves of plants when their roots are placed in dye? 3. What do stems look like? What does the stem do? 4. What happens to plants that have no light? 5. What affect do nutrients have on the plant? 6. What do the parts in a flower do? 7. Can you work out by looking at the seed how it will be dispersed?	**PHYSICS** **Forces and magnets 1** 1. How does the type of surface on the table affect the speed of an object travelling on it? 2. What are magnets used for? Which materials are attracted to magnets? 3. Which materials can magnets attract through? 4. Which magnet is the strongest? 5. Can you predict whether two magnets will attract or repel each other? **Key vocabulary** Magnets – bar and horseshoe Attract, repel North and south poles Magnetic Magnetic field	**PHYSICS** **Light 1** 1. What is light? 2. Where can shadows be found? 3. How can we change the size of a shadow? 4. How does the angle at which the light source shines on an object affect the length of shadow of that object? **Key vocabulary** **Simple comparisons**: dark, dull, bright, very bright **Comparative vocabulary**: brighter, duller, and darker **Superlative vocabulary**: brightest, dullest, and darkest Opaque, translucent, transparent **Shadow** – block, absence of light Reflect – bounce, mirror, reflection	**CHEMISTRY** **Materials-Rocks** 1. What do the different rocks look like? Which are the rocks near our school? 2. How were rocks formed? 3. Which rock is the most permeable? 4. How hard are different rocks? 5. How are fossils made? 6. What are soils made from? How can we separate the different parts that make up a soil? How can the way the farmer uses the field affect how much water is absorbed by the soil? **Key vocabulary** **Names of rocks** – Chalk, limestone, granite, basalt, sandstone, flint, slate, shale, marble **Types of rock –** Sedimentary, metamorphic, igneous **Types of minerals** – Calcite, feldspar, topaz,		**BIOLOGY** **Animals including Humans 3** 1. How do living things get their food? 2. Why do animals need to eat different foods? Which food do animals need in order to survive? 3. What is the function of a skeleton? 4. What is the function of muscles? 5. Do people with the longest legs jump the furthest? **Key vocabulary** Nutrition Diet Vitamins, minerals, fats, proteins and carbohydrates Functions of skeletons – protect, support and aid movement

	What type of seeds and fruits can be found? **Key vocabulary** **Trees** - deciduous, evergreen, ash, birch, beech, rowan, common lime, oak, sweet chestnut, horse chestnut, apple, willow, sycamore, fir, pine , holly, etc **Wild flowering plants** - cleavers, coltsfoot, daisy, dandelion, garlic mustard, mallow, mugwort, plantain, red clover, self heal, shepherd's purse, sorrel, spear thistle, white campion, white deadnettle and yarrow. **Garden plants** – crocus, daffodil, bluebells, etc **Parts of plants** – roots, branch, trunk, stalk, leaf, flower, petal, seeds, bulbs and twigs **Parts of a flower** – petal, stamen (anther + filament),		See – light source Sun – sunset, sunrise, position	diamond, talc, corundum **Properties of rocks** – Hard/soft, permeable/impermeable **Processes** – Heat, pressure, erosion, transportation, deposition, melt, solidify **Size of rocks** – Grain, pebbles **Rock describing words** – Crystals, layers **Early areas of land** – Gondwana, Pangea **Land formations** – Plates, volcanoes, mountains, valleys		

	carpel (stigma + style + ovary + ovule) **Processes** – pollination, fertilisation, germination					
Skills and Knowledge Links to the National Curriculum **Year 3**	**BIOLOGY** **Plants 3** *Identify & describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers. Explore the requirements of plants for life and growth (air, light, water, nutrients from soil, room to grow) & how they can 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 & seed dispersal.	**PHYSICS** **Forces and magnets 1** • 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 of everyday materials on the basis on 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	**PHYSICS** **Light 1** • recognise that they need light in order to see things and that the 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 light source is blocked by a solid object • find patterns in the way that the size of shadows changes	**CHEMISTRY** **Materials-Rocks** • compare and group together different kinds of rocks on the basis of their appearance and simple physical properties • 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		**BIOLOGY** **Animals including Humans 3** Should be taught to: *Identify that animals, including humans, need the right types and amounts of nutrition and that they cannot make their own food; they get nutrition from what they eat. *Identify that humans and some other animals have skeletons and muscles for support, protection and movement.

Year 5/6 Cycle A Year 5 Science Focus	Term 1 Mayan Civilisation	Term 2 T'was the Night Before Christmas	Term 3 Out of this World!	Term 4 Conservation	Term 5 Groovy Greeks	Term 6 Survival
Key Engagement Questions **Key Vocabulary**	**CHEMISTRY** **Properties and Changes of Materials 3 (Lessons 1-3)** **1.** Which cups let through the most heat? Which material is best at conducting heat? Why are these objects made from particular materials? **2.** Which material is best at keeping the tea warm? How do you keep the tea the warmest for the longest amount of time? 3. What affect will a coat have a person and an ice man? **4.** Which materials allow electricity to pass through them? Which metals are the best conductors of electricity?	**CHEMISTRY** **Properties and Changes of Materials 3 (Lessons 4-7)** **5.** What affects how well sugar dissolves? What are the best conditions for dissolving sugar in the fastest time? 6. How can we separate mixtures of different solids? What is the best material for filtering? 7. Separating through evaporation. How could you separate water from salt if your only heat source was the Sun? 8. Which changes cannot be easily reversed?	**PHYSICS** **Earth and Space** **1.** What is in our solar system? How large are they? How far apart are they? **2.** What is it like on the other planets in the solar system? **3.** How can we prove the shape of the Earth, Sun and Moon? **4.** What is the Moon like? How does the shape of the Moon appear to change over time? **5.** How do we have day and night on planet Earth? **6.** How can we use the Sun to tell the time? How does the length of shadows change over day? **Key vocabulary** **Day and night** - Earth, axis, rotate	**BIOLOGY** **Living Things and their Habitats 3** **1.** At what part of their life cycle are the animals in the school grounds? What can you find out about the different stages of life cycles of different animals? **2.** Observations over time – How does the small mammal change over time? How do different mammals develop as they get older? **3.** How do bird eggs change over time? 4. What are the life cycles of amphibians? 5. What are the different stages of the life cycle of a ladybird? / butterfly? 6. How do animals make babies? 7. What are the functions of the different parts of the flower?	**PHYSICS** **Forces 2** **1.** What do you remember about forces? How does the surface are of the blades affect the time it takes the spinner to fall? **2.** What affects how well a parachute falls? **3.** Where can we find examples of friction? Which trainer provides the best grip? 4. How does the shape of an object affect how it moves through water? How quickly can you make blue tac fall through water? 5. How do pulleys work? 6. How do gears work? **Key vocabulary**	**BIOLOGY** **Animals incl. Humans 5** 1. Is there a relationship between the mass of adult animal and the length of the gestation period? 2. How does the weight of a baby change? 3. How does the length of a baby change over time? 4. What is the height of children of different ages? 5. What happens to the human body during puberty? 6. Becoming old – What happens to adults as they become older? **Key vocabulary** Gestation Fetus Fertilisation

	Key vocabulary **Thermal conductivity** – thermal conductor, thermal insulator **Electrical conductivity** – electrical conductor, electrical insulator **Dissolving** – Solvent, solution, solute, soluble, insoluble, solid, liquid, particles, suspensions **Separating materials** – Sieve, filter, evaporate, condense		**Solar system** – Star = Sun, Planets = Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune (Pluto was classified as Dwarf planet in 2006) **Phases of the Moon** - full moon, gibbous moon, half moon, crescent moon, new moon, waxing ,waning Moon's orbit: 29.5 days, lunar month Orbit, planets, revolve, sphere	How do animals pollinate plants? What happens to the plant after fertilisation has occurred? **Key vocabulary** **Animals –** amphibians, reptiles, birds, mammals, insects, fish **Animal development –** egg, larva, pupa, nymph, adult, metamorphosis **Parts of a flower** – petal, stamen (anther + filament), carpel (stigma + style + ovary + ovule) **Processes** – pollination, fertilisation, germination	**Types of forces**: gravity, friction, air resistance, upthrust, weight Measuring forces: Newton meter, Newtons (N) Particles Surface area Push, pull Balance Mass – grams and kilograms Mechanical devices – gears, levers, pulleys, springs	Species Baby Toddler Adolescent Adult Elderly person Puberty Hormones Pituitary gland
Skills and Knowledge Links to the National Curriculum **Year 5**	**CHEMISTRY** **States of Matter** **Properties and Changes of Materials 3** • 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	**CHEMISTRY** **States of Matter** **Properties and Changes of Materials 3**	**PHYSICS** **Earth and Space** • describe the movement of the Earth, and other planets, relative to the Sun in the solar system • describe the movement of the Moon relative to the Earth • describe the Sun, Earth and Moon as	**BIOLOGY** **Living Things and their Habitats 3** *Describe the differences in the life cycles of mammal, an amphibian an insect and a bird. *Describe the life process of reproduction in some plants and animals.	**PHYSICS** **Forces 2** • explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object • identify the effects of air resistance, water resistance and friction,	**BIOLOGY** **Animals incl. Humans 5** Should be taught to: *describe the changes as humans develop to old age.

	• know that 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 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 and the action of acid on bicarbonate of soda		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		that act between moving surfaces • recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect	
Year 5/ 6 Cycle B Year 6 Science Focus	Term 1 Ancient Egypt	Term 2 Natural Disasters	Term 3 Technology	Term 4 Mysteries	Term 5 WWII	Term 6 Futures
Key Engagement Questions	**BIOLOGY**	**BIOLOGY**	**PHYSICS** **Electricity 2**	**BIOLOGY**	**PHYSICS** **Light 2**	**BIOLOGY**

Key Vocabulary	**Living Things and their Habitats 4** Lessons 1-3 1. New species of birds are found! How can we classify living things? 2. Which fungi can you identify during the year? How can plants be placed in different groups? Can we find examples of plants from the different plant groups? 3. How can we classify trees? **Key vocabulary** Classification Vertebrate, invertebrate Kingdoms: animal, plant, 'micro-organism' Classes: amphibian, reptile, bird, mammal, Scales, feathers Flowering plant, non-flowering plant	**Living Things and their Habitats 4** Lessons 4-6 1. How can we classify different flowering plants? How many different flowering plants can we identify? 2. How can attract more bees and butterflies into the school grounds? 3. Bio-blitz – How many different things live in the school grounds? **Key vocabulary** Classification Vertebrate, invertebrate Kingdoms: animal, plant, 'micro-organism' Classes: amphibian, reptile, bird, mammal, Scales, feathers Flowering plant, non-flowering plant	1. What is a circuit? What parts do all circuits contain? How can we recognise electrical components within a drawing? 2. How will the number of batteries (amounts of Volts) affect the brightness of the bulb? 3. What affects the brightness of a bulb in a circuit? 4. Can you compare and give reasons for variations in how components function? 5-6. Can you apply what you know about electricity when making a buzzer game? **Key vocabulary** Electricity, Volts Series circuit **Components**: battery, bulb (lamp), bulb (lamp) holder, buzzer, crocodile clip, leads, wires, switch	**Evolution and Inheritance** 1. Are all siblings of living things identical? 2. How are birds suited to survive in the habitat in which they live? **H**ow is it that birds have the right features to help them survive where they live? What are different types of beaks suited for? Which shape feet are best for swimming? 3. How do different animals use camouflage to survive? 4. What must all living things be able to do in order to survive? Which feature of a butterfly make it good at surviving where it lives? 5. How are animals suited to where they live? Which animal would survive? 6. How are plants suited to, and adapted to their environment?	1. What is light? What evidence would prove that light travels in straight lines? 2. How do we see things? 3. How can we show why shadows have the same shape as the object that casts them? Where would we need to place the umbrellas so that the people around the pool have the most shade? 4. How can we show how we see things in a mirror? Which materials is best at reflecting light? How can we increase the number of reflections? 5. How can the detective see over the wall? 6. Which window lets through the most amount of light? How much light passes through different objects? **Key vocabulary**	**Animals incl. Humans 6** 1. What is the function of the heart? **2.** What happens to the rate at which our hearts beat when we perform different exercises? How many times does your heat beat every minute? Is there a relationship between the type of exercise that you do and the number of heart beats per minute? 3. What are the functions of blood? What are platelets? 4. Why do we need to drink water? 5. How can we look after our wellbeing? **Key vocabulary** Circulatory system – heart, blood, veins, arteries, pulse, clotting Diet – balanced, vitamins, minerals, proteins, carbohydrates, sugars, fats

			Describing words: brighter, duller, slow, fast, quiet, loud Conductor, insulator Resistance **Effects of electricity**: Light, sound, movement, heat	How do plants make sure that they get lots of light? Which type of leaf captures the most light? How do plants make sure that they have enough water? How do plants attract pollinators? **Key vocabulary** Evolution, evolve Natural selection Survival Reproduction Offspring, parents, siblings Environment Variation Fossils; ammonites, belemnites, micrasters, etc.	**Simple comparisons**: dark, dull, bright, very bright **Comparative vocabulary**: brighter, duller, and darker **Superlative vocabulary**: brightest, dullest, and darkest Opaque, translucent, transparent **Shadow** – block, absence of light Reflect – bounce, mirror, reflection See – light source Sun – sunset, sunrise, position	Drugs – caffeine, nicotine, alcohol, cannabis, cocaine, heroine Lifestyle – healthy
Skills and Knowledge Links to the National Curriculum **Year 6**	**BIOLOGY** **Living Things and their Habitats 4** *Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences,	**BIOLOGY** **Living Things and their Habitats 4** (See term 1)	**PHYSICS** **Electricity 2** • 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	**BIOLOGY** **Evolution and Inheritance** *Recognise that living things have changed over time and that fossils provide information about living things that inhabited	**PHYSICS** **Light 2** •recognise 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	**BIOLOGY** **Animals incl. Humans 6** Should be taught to: *Identify and name the main parts of the human circulatory system and describe the functions of the

	including micro-organisms, plants and animals *Give reasons for classifying plants and animals based on specific characteristics.		in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches • use recognised symbols when representing a simple circuit in a diagram	the Earth millions of years ago. *Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents. *Identify how animals and plants are adapted to suit their environment in different ways and tat adaptation may lead to evolution.	give out or reflect light into the eye • 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 • use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them	heart, blood vessels and blood. *Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function. *Describe the ways in which nutrients and water are transported within animals including humans.