CRC Article 19: All children have the right to be safe.
CRC Article 24: All children have the right to be healthy.
CRC Article 28: All children have the right to a good quality education.

SCIENCE/ Personal, Social, Health Economic Education (PSHE) / Relationships Education, RSE and Health Education

AIMS

- Children have the right to be the best that they can be and to know that they can achieve this through the scientific knowledge we provide for them.
- We wish children to develop their science capital and to understand that the school setting is one of the many ways they can learn about Science.
- We encourage children to take their science knowledge and think on a deeper level to develop a conceptual understanding. (This is where children 'think outside the box').
- We encourage children to explore science in a variety of ways using research and investigation skills and pulling them together.
- We encourage children to collaborate in groups.
- We encourage children to find their own way of carrying out tasks, taking into account imagination, initiative and flexibility. All children have the right to have their own talents and abilities developed to their full potential.
- We empower children and feel one of the ways we can do this is through equipping them with the scientific knowledge required to understand the uses and implications of science in our world today and in the future.

IMPLEMENTATION

Our whole school overview and medium term plans for each year group cater for the full range of abilities. The Science Curriculum is based upon the National Curriculum 2014. From this, sequences of learning are carefully planned and developed so that new skills and knowledge are built upon previous skills and knowledge to enable consolidation and progression. Pupils' learning is supported by topic books, online research, investigative equipment and materials and real-life experiences.

Physical Health and Mental Wellbeing = PHMW

	Autumn	Spring	Summer
EYFS	In the EYFS there are **three characteristics of effective teaching and learning**: • **playing and exploring** - children investigate and experience things, and 'have a go'; • **active learning** - children concentrate and keep on trying if they encounter difficulties, and enjoy achievements; • **creating and thinking critically** - children have and develop their own ideas, make links between ideas, and develop strategies for doing things. **Understanding the World** Understanding the world involves guiding children to make sense of their physical world and their community. The frequency and range of children's personal experiences increases their knowledge and sense of the world around them – from visiting parks, libraries and museums to meeting important members of society such as police officers, nurses and firefighters. In addition, listening to a broad selection of stories, non-fiction, rhymes and poems will foster their understanding of our culturally, socially, technologically and ecologically diverse world. As well as building important knowledge, this extends their familiarity with words that support understanding across domains. Enriching and widening children's vocabulary will support later reading comprehension. **Early Learning Goals:** Children at the expected level of development will: - Talk about the lives of the people around them and their roles in society; - Describe their immediate environment using knowledge from observation, discussion, stories, non-fiction texts and maps; - Explore the natural world around them, making observations and drawing pictures of animals and plants; - 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; - Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter. **Children who are 3-4 will be learning to:** - Use all their senses in hands-on exploration of natural materials; - Explore collections of materials with similar and/or different properties; - Talk about what they see, using a wide vocabulary; - Explore how things work; - Plant seeds and care for growing plants; - Understand the key features of the life cycle of a plant and an animal; - Begin to understand the need to respect and care for the natural environment and all living things; - Explore and talk about different forces they can feel; - Talk about the differences between materials and changes they notice. **Children in Reception will be learning to:** - Explore the natural world around them; - Describe what they see, hear and feel whilst outside; - Recognise some environments that are different from the one in which they live; - Understand the effect of changing seasons on the natural world around them.		

<table>
<tr><th>KS1</th><th>Autumn</th><th>Spring</th><th>Summer</th></tr>
<tr><td>Y1</td><td colspan="3"><u>Working scientifically</u>
• Asking simple questions and recognising that they can be answered in different ways;
• Observing closely, using simple equipment;
• Performing simple tests;
• Identifying and classifying;
• Using their observations and ideas to suggest answers to questions;
• Gathering and recording data to help in answering questions.
<u>Seasonal Changes (Ongoing Learning)</u>
• Observe changes across the four seasons;
• Observe and describe weather associated with the seasons and how day length varies.
• <u>Vocabulary</u> - Weather (sunny, rainy, windy, snowy etc.) seasons (winter, summer, spring, autumn) sun, sunrise, sunset, day length
<u>Key Information from Non-Statutory Requirements:</u>
• To use technical terminology accurately and precisely.
• Apply their mathematical knowledge to their understanding of Science, including collecting, presenting and analysing data.
• To use discussion to probe and remedy their misconceptions.
• To develop scientific vocabulary to articulate scientific concepts clearly and precisely.
• To encourage curiosity.
• To read and spell scientific vocabulary.</td></tr>
<tr><td rowspan="2">Y1</td><td><u>Everyday Materials</u>

‘Who is a material scientist?’

• Identify a name of variety of everyday materials, including wood, plastic, glass, metal, water and rock;
• Distinguish between an object and a material from which it is made;
• Describe the simple physical properties of a variety of everyday materal</td><td><u>Everyday Materials</u>

‘What can we do to fix this problem?’

• Compare and group together a variety of everyday materials on the basis of their simple physical properties.</td><td><u>Animals, including Humans</u>

Think like a zoologist ‘If a cat is an animal, a dog is an animal and a bird is an animal, are you an animal?’

• 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 carnivores, herbivores and omnivores.
• describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets)
• Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. (including external genitalia-see vocabulary)</td><td><u>Plants</u>

<u>I wonder what a botanist is?</u>

• 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 flowering plants including trees.</td></tr>
<tr><td colspan="2"><u>Vocabulary</u>
Object, material, wood, plastic, glass, metal, water, rock, brick, paper, fabric, elastic, foil, card/cardboard, rubber, wool, clay, hard, soft, stretchy, stiff, bendy, floppy, waterproof, absorbent, breaks/tears, rough, smooth, shiny, dull, see-through, not see-through, scientist</td><td><u>Vocabulary</u>

• Head, body, eyes, ears, mouth, teeth, leg, tail, wing, claw, fin, scales, feathers, fur, beak, paws, hooves
• Names of animals experienced first-hand from each vertebrate group, vertebrate, invertebrate
• Parts of the body including those linked to PSHE teaching; head, neck, arms, elbows, legs, knees, face, ears, eyes, hair, mouth, teeth, penis, testicles, vulva
• Senses – touch, see, smell, taste, hear, fingers (skin), eyes, nose, ear and tongue
• Zoologist

N.B.
The children need to be able to name and identify a range of animals in each group e.g. name specific birds and fish. They do not need to use the terms mammal, reptiles etc. or know the key characteristics of each, although they will probably be able to identify birds and fish, based on their characteristics.

The children also do not need to use the words carnivore, herbivore and omnivore. If they do, ensure that they understand that carnivores eat other animals, not just meat. (We have seen Year 1 are able to do this)

Although we often use our fingers and hands to feel objects, the children should understand that we can feel with many parts of our body.</td><td><u>Vocabulary</u>
• Leaf, flower, blossom, petal, names of fruits, names of vegetables, berry, root, seed, trunk, branch, stem, bark, bud, deciduous, evergreen, botanist
• Names of trees in the local area
• Names of garden and wild flowering plants in the local area</td></tr>
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<table>
<tr><th></th><th>Autumn</th><th>Spring</th><th>Summer</th></tr>
<tr><td>Y2</td><td colspan="3"><u>Working scientifically</u>
• Asking simple questions and recognising that they can be answered in different ways.
• Observing closely, using simple equipment;
• Performing simple tests;
• Identifying and classifying;
• Using their observations and ideas to suggest answers to questions;
• Gathering and recording data to help in answering questions.

<u>Key Information from Non-Statutory Requirements:</u>
• To use technical terminology accurately and precisely.
• Apply their mathematical knowledge to their understanding of Science, including collecting, presenting and analysing data.
• To use discussion to probe and remedy their misconceptions.
• To develop scientific vocabulary to articulate scientific concepts clearly and precisely.
• To encourage curiosity.
• To read and spell scientific vocabulary.</td></tr>
<tr><td rowspan="2">Y2</td><td><u>Uses of Everyday Materials</u>

‘Can you think and learn like a material scientist?’

• 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.</td><td>• <u>Animals, including Humans</u>

‘Does science enable you to have the right to the best possible health care?

• Notice that animals, including humans, have offspring which grow into adults. (Aut 2)
• Find out about and describe the basic needs of animals, including humans, for survival (water, food, air). (Aut 2)
• Describe the importance for humans of exercise, of eating the right amounts of different types of food, and hygiene. (Spr 1)

PHMW (Link to PSHE in Spring 1 – see PSHE Overview):
Growing and changing - Growing older; naming body parts; moving class or year: (Aut 2)
Children should know:

• how our needs and bodies change as we grow up;
• to identify and name the main parts of the body including external genitalia (e.g. vulva, vagina, penis, testicles)
Possible Resources: Medway Public Health Directorate – Primary RSE Lessons (KS1), Lesson 3, ‘Everybody’s body’*

Physical health and Mental wellbeing - Why sleep is important; medicines and keeping healthy; keeping teeth healthy; managing feelings and asking for help (Aut 2)
Children should know:

• about routines and habits for maintaining good physical and mental health;
• why sleep and rest are important for growing and keeping healthy
• How and when to seek support including which adults to speak to in school if they are worried about their health.</td><td><u>Plants</u>

‘How does a botanist learn?’

• 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.</td><td><u>Living Things and their Habitats</u>

What is zoology?

• Explore and compare the differences between 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 the basic needs of different 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 food sources.</td></tr>
<tr><td><u>Vocabulary</u>
Names of materials – wood, metal, plastic, glass, brick, rock, paper, cardboard
Properties of materials – as for Year 1 plus opaque, transparent and translucent, reflective, non-reflective, flexible, rigid
Shape, push/pushing, pull/puling, twist/twisting, squash/squashing, bend/bending, stretch/stretching</td><td><u>Vocabulary</u>
baby, toddler, child, teenager, adult, gender, pregnant, elderly, offspring, reproduction, growth, child, young/old stages, life cycle (examples - chick/hen, baby/child/adult, caterpillar/butterfly), vulva, vagina, penis, testicles
exercise, heartbeat, breathing, hygiene, germs, disease, food types (examples – meat, fish, vegetables, bread, rice, pasta), sleep, rest, routines, physical health, mental health</td><td><u>Vocabulary</u>
light, shade, sun, warm, cool, water, grow, healthy</td><td><u>Vocabulary</u>
• Living, dead, never been alive, suited, suitable, basic needs, food, food chain, shelter, move, feed
• Names of local habitats e.g. pond, woodland etc.
• Names of micro-habitats e.g. under logs, in bushes etc.</td></tr>
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	Autumn	Spring		Summer	
KS2					
Y3	**<u>Working scientifically</u>** • Asking relevant questions and using different types of scientific inquiries to answer them; • Setting up simple, practical enquiries, comparative and fair tests; • Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers; • Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions; • Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables; • Reporting on findings from enquiries, including oral and written explanations, displays and presentations of results and conclusions; • Using results to draw simple conclusions, making predictions for new values, suggest improvements and raise further questions; • Identifying differences, similarities or changes related to scientific ideas and processes; • Using straightforward scientific evidence to answer questions or to support their findings. **<u>Key Information from Non-Statutory Requirements:</u>** • To ask their own questions about what they observe and make some decisions about which types of scientific enquiry are likely to be the best ways of answering them. • Pupils should read and spell scientific vocabulary correctly.				
Y3	**<u>Forces and Magnets</u>** **What type of science is physics?** • 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 of 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.	**<u>Light</u>** **'Can we learn anything from our own shadows?'** • Recognise that they need light in order to see things and that 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 change.	**<u>Rocks</u>** **'Who is a geologist?'** • 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.	**<u>Plants</u>** **'What type of science is biology?'** • Identify and 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 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.	**<u>Animals, including Humans</u>** **'What would a human, dog, snail look like with no skeleton?'** • 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. **PHMW: Health choices and habits; what affects feelings; expressing feelings** Children should know: • about the choices that people make in daily life that could affect their health; • to identify healthy and unhealthy choices (in relation to food); • the positive and negative effects of habits, such as eating too much sugar, on a healthy lifestyle; • what is meant by a healthy, balanced diet including what foods should be eaten regularly or just occasionally • Identify that humans and some other animals have skeletons and muscles for support, protection and movement.
	<u>Vocabulary</u> Force, push, pull, twist, contact force, non-contact force, magnetic force, magnet, strength, bar magnet, ring magnet, button magnet, horseshoe magnet, attract, repel, magnetic material, metal, iron, steel, poles, north pole, south pole, physics	**<u>Vocabulary</u>** Light, light source, dark, absence of light, transparent, translucent, opaque, shiny, matt, surface, shadow, reflect, mirror, sunlight, dangerous	**<u>Vocabulary</u>** Rock, stone, pebble, boulder, grain, crystals, layers, hard, soft, texture, absorb water, soil, fossil, marble, chalk, granite, sandstone, slate, soil, peat, sandy/chalk/clay soil, geologist	**<u>Vocabulary</u>** Photosynthesis, pollen, insect/wind pollination, male, ovule, female, seed, seed formation, seed dispersal (wind dispersal, animal dispersal, water dispersal)	**<u>Vocabulary</u>** Nutrition, nutrients, carbohydrates, sugars, protein, vitamins, minerals, fibre, fat, healthy/unhealthy choices, habits, lifestyle, balanced diet, obese, water, skeleton, bones, muscles, support, protect, move, skull, ribs, spine, muscles, joints

	Autumn		Spring	Summer	
Y4	**<u>Working scientifically</u>** • Asking relevant questions and using different types of scientific inquiries to answer them; • Setting up simple, practical enquiries, comparative and fair tests; • Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers; • Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions; • Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables; • Reporting on findings from enquiries, including oral and written explanations, displays and presentations of results and conclusions; • Using results to draw simple conclusions, making predictions for new values, suggest improvements and raise further questions; • Identifying differences, similarities or changes related to scientific ideas and processes; • Using straightforward scientific evidence to answer questions or to support their findings. **<u>Key Information from Non-Statutory Requirements:</u>** • To ask their own questions about what they observe and make some decisions about which types of scientific enquiry are likely to be the best ways of answering them. • Pupils should read and spell scientific vocabulary correctly.				
Y4	**<u>Sound</u>** **'Can sound be seen?'** • 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.	**<u>States of Matter</u>** **'How can chemistry explain jelly?'** • 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 (^{o}C); • Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.	**<u>Electricity</u>** Note: Pupils should be taught about precautions for working safely with electricity. **'Knowledge is power, how do those who work with electricity keep safe?'** • 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 bulb 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.	**<u>Living Things and their Habitats</u>** **'Can your voice as a biologist be heard? Can your actions as a global citizen be seen?'** • 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 this can sometimes pose dangers to living things.	**<u>Animals, including Humans</u>** **' The science behind a right-holder's right to be healthy'** • Construct and interpret a variety of food chains, identifying producers, predators and prey. • 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. **PHMW: Maintaining a balanced lifestyle; oral hygiene and dental care** Children should know: • how to maintain oral hygiene and dental health, including how to brush and floss correctly; • the importance of regular visits to the dentist and the effects of different foods, drinks and substances on dental health
	<u>Vocabulary</u> Sound, source, vibrate, vibration, travel, pitch (high, low), volume, faint, loud, insulation, amplitude	**<u>Vocabulary</u>** Solid, liquid, gas, state change, melting, freezing, melting point, boiling point, condensation, evaporation, temperature, water cycle, chemistry	**<u>Vocabulary</u>** Electricity, electrical appliance/device, mains, plug, electrical circuit, complete circuit, component, cell, battery, positive, negative, connect/connections, loose connection, short circuit, crocodile clip, bulb, switch, buzzer, motor, conductor, insulator, metal, non-metal, symbol	**<u>Vocabulary</u>** Classification, classification keys, environment, habitat, human impact, positive, negative, migrate, hibernate, global citizen	**<u>Vocabulary</u>** Digestive system, digestion, mouth, teeth, saliva, oesophagus, stomach, small intestine, nutrients, large intestine, rectum, anus, teeth, incisor, canine, molar, premolars, oral hygiene, dental health, floss, flossing, herbivore, carnivore, omnivore, producer, predator, prey, food chain

	Autumn		Spring	Summer	
Y5	**<u>Working scientifically</u>** • Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary; • Taking measurements using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate; • Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs; • Using test results to make predictions to set up further comparative and fair tests; • Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations; • Identifying scientific evidence that has been used to support or refute ideas or arguments. **<u>Key Information from Non-Statutory Requirements:</u>** • Pupils should ask their own questions about scientific phenomena; and analyse functions, relationships and interactions more systematically; • Pupils should begin to recognise that scientific ideas change and develop over time; • They should select the most appropriate ways to answer science questions using different types of scientific enquiry; • Pupils should read, spell and pronounce scientific vocabulary correctly.				
Y5	**<u>Earth and Space</u>** **'Planetary science, would you go out into the field?'** • Describe the movement of the Earth, and the 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 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.	**<u>Forces</u>** **'How big is physics in your life?'** • 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, that act between moving surfaces; • Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.	**<u>Properties and Changes of Materials</u>** **'Why is the learning of chemistry important?'** • 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; • 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 soda.	**<u>Living Things and their Habitats</u>** **'Do all animals and plants start life as an egg?'** • Describe the differences in the lifecycle of a mammal, an amphibian, an insect and a bird; • Describe the life process of reproduction in some plants and animals.	**<u>Animals, including Humans</u>** **'Why is communication important as a scientist and a human?'** • Describe the changes as humans develop to old age. **PHMW: Growing and Changing- Physical and emotional changes in puberty; external genitalia; personal hygiene routines; support with puberty** Children should know: • about and identify external genitalia and reproductive organs; • about the physical and emotional changes during puberty; • key facts about the menstrual cycle and menstrual wellbeing, erections and wet dreams; • strategies to manage the changes during puberty including menstruation; • the importance of personal hygiene routines during puberty including washing regularly and using deodorant; • how to discuss the challenges of puberty with a trusted adult; • how to get information, help and advice about puberty *Possible Resources:* *Medway Public Health Directorate – Primary RSE lessons (Y4/5) 'Puberty'** *Betty: It's perfectly natural**
	<u>Vocabulary</u> Earth, Sun, Moon, (Mercury, Jupiter, Saturn, Venus, Mars, Uranus, Neptune), spherical, solar system, rotates, rotation, star, orbit, planets, planetary science, field – 'out into the field'	**<u>Vocabulary</u>** Force, gravity, Earth, air resistance, water resistance, friction, mechanisms, simple machines, levers, pulleys, gears	**<u>Vocabulary</u>** Thermal/electrical insulator/conductor, conductivity, change of state, mixture, dissolve, solubility, solution, soluble, insoluble, filter, sieve, reversible/non-reversible change, burning, rusting, new material, transparency, acid, bicarbonate of soda	**<u>Vocabulary</u>** Life cycle, reproduce, sexual, sperm, fertilises, egg, gestation period, live birth, live young, internal fertilisation, external fertilisation, metamorphosis, asexual, plantlets, runners, bulbs, cuttings, mammal, amphibian, insect, bird	**<u>Vocabulary</u>** Puberty, change, grow, mature, private parts, genitals, vagina, vulva, clitoris, penis, testicles, breasts, feelings, excited, attraction, worried, internal, inside, reproductive organs, menstruation, uterus, fallopian tubes, ovary/ovaries, cervix, menstrual cycle, period, blood, discharge, Adam's apple, penis, testicles, scrotum, sperm, semen, erection, ejaculation, wet dream, masturbation, sweat, body odour, sanitary towel, tampon

	Autumn		Spring		Summer
Y6	**<u>Working scientifically</u>** • Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary; • Taking measurements using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate; • Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs; • Using test results to make predictions to set up further comparative and fair tests; • Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations; • Identifying scientific evidence that has been used to support or refute ideas or arguments. **<u>Key Information from Non-Statutory Requirements:</u>** • Pupils should ask their own questions about scientific phenomena; and analyse functions, relationships and interactions more systematically; • Pupils should begin to recognise that scientific ideas change and develop over time; • They should select the most appropriate ways to answer science questions using different types of scientific enquiry; • Pupils should read, spell and pronounce scientific vocabulary correctly.				
Y6	**<u>Electricity</u>** **'What would you consider is the impact the science of electronics has had on modern life?'** • 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 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.	**<u>Light</u>** **'What is the fastest thing known to man and something which our very existence depends upon?'** • 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 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.	**<u>Living Things and their Habitats: Classification</u>** **'How can classification help inform scientists?'** • Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals; • Give reasons for classifying plants and animals based on specific characteristics.	**<u>Animals, including Humans</u>** **'Why is the study of human biology fundamental to your right to be safe and healthy?'** • Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood; • Describe the ways in which nutrients and water are transported within animals, including humans. • Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function. **PHMW: Keeping Safe - Medicines and household products; drugs common to everyday life** Children should know: • the importance of taking medicines correctly and using household products safely • to recognise what is meant by a 'drug' • that drugs common to everyday life (e.g. cigarettes, e-cigarettes/vaping, alcohol and medicines) can affect health and wellbeing • to identify some of the effects related to different drugs and that all drugs, including medicines, may have side effects • to identify some of the risks associated with drugs common to everyday life • that for some people using drugs can become a habit which is difficult to break • how to ask for help or advice *Possible Resources: PSHE Association drug and alcohol education programme being released in summer 2020**	**<u>Evolution and Inheritance</u>** **'Why do some scientists such as palaeontologist, biologists. Climatologists and meteorologist study into the past?'** • Recognise that living things have changed over time and that fossils provide information about living things that inhabited 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 that adaptation may lead to evolution.
	<u>Vocabulary</u> Circuit, complete circuit, circuit diagram, circuit symbol, cell, battery, bulb, buzzer, motor, switch, voltage, positive, negative **N.B.** Children do not need to understand what voltage is, but will use volts and voltage to describe different batteries. The words "cells" and "batteries" are now used interchangeably.	**<u>Vocabulary</u>** As for Year 3 - Light, plus straight lines, light rays, eyeball, retina, iris, lens, fluid, pupil, cornea, optic nerve	**<u>Vocabulary</u>** Vertebrates, fish, amphibians, reptiles, birds, mammals, invertebrates, insects, spiders, snails, worms, flowering, non-flowering, classification, classifying, observable characteristics, micro-organisms, common, specific	**<u>Vocabulary</u>** Heart, pulse, rate, pumps, blood, blood vessels, transported, lungs, oxygen, carbon dioxide, nutrients, water, muscles, cycle, circulatory system, diet, exercise, drugs, cigarettes, e-cigarettes, vaping, alcohol, addiction, lifestyle	**<u>Vocabulary</u>** Offspring, sexual reproduction, vary, characteristics, suited, adapted, environment, inherited, species, fossils, palaeontologist, climatologist, biologist, meteorologist, evolution, inheritance, adaptation, genes