Year group	unit	Unit overview and progression through units	National curriculum content	Key knowledge	Prior knowledge and skills to be recapped	Key vocabulary (tier 3).
Structure	Title of unit	Summary of unit	National curriculum	Key knowledge Learning objectives.	Prior knowledge from other years	Should match unit markers
Year 1	Seasonal changes	In this unit children will understand there are four seasons, the changes that take place in each, and measure other weather such as rainfall.	Observe changes across the four seasons Observe and describe weather associated with the seasons and how day length varies	Understand there are four seasons Understand the changes that take place in autumn Understand and identify changes that take place in winter. Understand and identify changes that take place in spring. Understand and identify changes that take place in summer. Investigate and measure rainfall.	EYFS- observing changes between seasons. Observe changes across the 4 seasons Observe and describe weather associated with the seasons and how day length varies	season spring summer autumn winter hibernate weather harvest frost sleet temperature
Year 1	Materials- everyday 1	In this unit children will identify a range of everyday materials and objects that are made by them. This includes looking at manmade and natural.	Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water and rock are natural and those that are manmade Compare and group together a variety of everyday materials on the basis of their simple physical properties	Identify and name a variety of everyday materials Distinguish between an object and the material it is made from Describe the properties of everyday materials Identify objects that are natural and those that are manmade Predict and identify if an object will float or sink Explore which materials are best for different objects	Observe and make assessment EYFS.	material fabric wood plastic metal object glass property brick elastic natural man made
Year 1	Humans	In this unit children will discover basic parts of the human body.	Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense	Discover the basic parts of the human body Learn about eyes and sight Learn about ears and hearing Explore the tongue and taste Explore the sense of touch Discover how your nose smells	Children will know basic needs of a human to live-EYFS	head body skeleton limb joint brain eyelash eye sight pupil

Year 1	Plants	In this unit children will learn that seeds grow into plants and the basic parts of plants.	Become familiar with common names of flowers and plant structures including seeds Identify and describe the basic structure of a variety of common flowering plants, including trees	Understand that seeds grow into plants Identify the basic parts of a plant and tree Understand that different plants can grow in the same environment Know the difference between deciduous and evergreen trees Know that fruit trees and vegetables are varieties of plants Record the growth of a plant	To know what a plant is.	seed plant tree soil predict stem petal leaf root flower
Year 1	Animals	In this unit children will learn about animal families and different types of common animals.	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	Discover animal families Learn about the differences between mammals and birds Learn about the differences between amphibians, reptiles and fish Discover the types of food living things eat Explore the difference between wild animals and pets Explain the characteristics of an animal	To know some animals. Eyfs	amphibian reptile mammal bird pet wild shelter veterinary natural
Year 1	Exploring materials- Building	In this unit the children will learn about structures, materials and why materials are suitable for different uses.	Describe the simple physical properties of everyday materials Compare and group together a variety of everyday materials on the basis of their simple physical properties	Build a structure strong enough to withstand wind Build a waterproof structure Understand the properties of glass and its uses Understand that materials are used to create a variety of furniture Explore a variety of fabrics and understand their different properties Explain the uses of materials and why they are suitable	To be able to identify different materials are used for different purposes.	solid strong brick clay wind absorbent non-absorbent
Year 2	Living things and their habitats	In this unit children will compare the differences between things that are living,	Explore and compare the differences between things that are living, dead, and things that have never been alive. Identify and name a variety of plants and animals	Explore and compare the differences between things that are living, dead, and things that have never been alive	Eyfs- observing changes between living, dead.	senses nutrition reproduce excrete respire

		dead, and things that have never been alive. Identify plants and animals in a microhabitat	in their habitats, including microhabitats. Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain	Identify and name a variety of plants and animals in a microhabitat Design a suitable microhabitat where living things could survive Find out what animals eat to survive in their habitats Understand a food chain Understand the journey food makes from the farm to the supermarket		habitat microhabitat producer consumer herbivore carnivore omnivore
Year 2	Use of everyday materials	To identify materials and compare how they are used.	Identify and compare the suitability of a variety of everyday materials. Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.	Identify different materials and their uses Understand how to select the right materials to build a bridge Explore and test the stretchiness of materials Understand that materials can change their shape by twisting, bending, squashing or stretching Find out about Charles Macintosh and explore how materials are suitable for different purposes Discover which materials change shape when making a road with John McAdam	Understanding of basic materials from year 1 lessons on everyday materials.	material property suitable object brick obstacle structure construction
Year 2	Living things and their habitats around the world	In this unit children will learn about animals and insects around the world and how different temperatures and environments affect their habitats.	Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other Identify and name a variety of plants and animals in their habitats, including microhabitats	Learn about habitats Appreciate that environments are constantly changing Explore the rainforest and its problems Describe life in the ocean Discover the Arctic and Antarctic habitat Create a model of a habitat	Understanding of living, alive and not alive from unit in yr2. Understanding of habitats from yr 2 Understanding of animals-yr1	Habitat Microhabitat Environment Moisture Climate Endangered.
Year 2	Animals including humans- Health and survival.	In this unit children will learn about the basic needs of an animal,	Find out about and describe the basic needs of animals, including humans, for survival (water, food and air) Describe the importance for humans of exercise, eating the right amounts of	Describe the needs of animals for survival Describe the needs of humans, for survival Describe the needs of humans, for survival	Animals from EYFS and yr 1. Know what habitats are from yr1.	survival shelter nutrition oxygen essential protein carbohydrate dairy

			different types of food, and hygiene	Describe what a healthy, balanced diet looks like Investigate the impact of exercise on our bodies Investigate the importance of hygiene		vitamins calcium fat
Year 2	Plants	In this unit children will observe and describe the life cycle of plants and different processes of plant life.	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 Understand the requirements of plants for germination, growth and survival, as well as the processes of reproduction and growth in plants	Know the difference between seeds and bulbs Design an experiment to find out what plants need to grow Describe what plants need to grow and stay healthy Describe the life cycle of a plant Observe and record the growth of plants over time Understand that plants adapt to suit their environment	Yr1 plants	Growth Photosynthesis Pollination Germination reproduction
Year 2	Animals including humans 2 Life cycles.	In this unit children will learn about the life stages of humans and animals.	Notice that animals, including humans, have offspring which grow into adults	Order the stages of the human life cycle Describe the stages of a human life cycle Identify the offspring and parent of an animal Explore the life cycle of a chicken Describe the life cycle of a butterfly Explore the life cycle of a frog	Yr 1 animals unit. Yr1-living things and their habitats.	Life cycle Offspring Reproduction metamorphisis
Year 3	Animals including humans	In this unit children will learn about the 5 food groups, nutrition, human body and different skeletons.	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. Identify that humans and some other animals have skeletons and muscles for support, protection and movement	Explore the 5 key food groups Learn about the nutrition in the food we eat Learn about the different types of skeletons Learn about the human skeleton Learn about animals and their skeletons Explore the role of muscles	Year1- identify that humans and animals need nutrition to survive. Year 2- imoortance of exercise and eating the right amount.	nutrition carbohydrate protein vitamin mineral vertebrate invertebrate endoskeleton exoskeleton
Year 3	Forces and magnets	To explore different forces and how they move against different surfaces.	Notice that some forces need contact between 2 objects, but magnetic forces can act at a distance Compare how things move on different surfaces Describe magnets as having 2 poles Predict whether 2 magnets will attract or repel	Explore contact and non-contact forces Compare how things move on different surfaces Explore different types of magnets Explore the properties of magnets and	Basic understanding of materials from KS1 that links to different textures and surfaces.	Force Air resistance Friction Attract Repel Magnetism.

			each other, depending on which poles are facing 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	everyday objects that are magnetic Understand that magnetic forces can act at a distance Explore the everyday uses of magnets		
Year 3	Rocks and soil	In this unit children will learn about different rocks and compare their properties.	Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties Explore how and why [rocks] might have changed over time (non-statutory) Describe in simple terms how fossils are formed when things that have lived are trapped within rock	Explore the formation and properties of igneous rocks Explore the formation and properties of sedimentary and metamorphic rocks Weathering and the suitability of rocks for different purposes Explore how water contributes to the weathering of rocks Understand how fossils are formed Explore different types of soil	Year 1 plants Year 2 plants.	Igneous Sedimentary Metamorphic Erosion Fossil Sediment extinct
Year 3	Light and shadows	In this unit children will learn about light, how shadows are formed.	Recognise that they need light in order to see things and that dark is the absence of light Recognise that shadows are formed when the light from a light source is blocked by an opaque object Find patterns in the way that the size of shadows change	Identify the difference between light sources and non light sources Explore the light that comes from the sun and how to stay safe Explore materials which are reflective Discover how shadows are formed Investigate how shadows change throughout the day Investigate how you can change the size of a shadow	Year 1 and 2 understanding of different materials.	Light Source Natural Artificial Reflective Opaque Translucent Transparent.
Year 3	Plants	In this unit children will learn about what a plant needs to live, how is transports water and absorbs energy.	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 Identify and describe the functions of different parts of a flowering 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	Compare the effect of different factors on plant growth Identify and describe the functions of different parts of a flowering plant and how they are used in photosynthesis Investigate the way in which water is transported within plants Explore the part that flowers play in the life cycle of flowering plants Understand the pollination process and	Year 1 and 2 plants. Basic understanding of needing water and sunlight.	chlorophyl stomata xylem photosynthesis UV light pollination pollen nectar seed dispersal pollinator

				the ways in which seeds are dispersed Compare the effect of different factors on plant growth		
Year 3	Scientific enquiry	In this unit children will learn about making predictions, observations and how to work scientifically.	Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables	How can a solar oven be made more effective: posing questions and writing predictions How can a solar oven be made more effective: recording and presenting results Cleaning coins: writing a method and carrying out a practical test Cleaning coins: writing a conclusion Making a cake: fair testing, controls and variables Making a cake: scientific enquiry	EYFS/ KS1- making observations and predictions.	conclusion evidence explanation compare enquiry
Year 4	Animals including humans	In this unit children will learn about organs and the digestive system, teeth and their functions and food chains.	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	Identify the organs in the digestive system Describe the functions of the main organs in the digestive system Identify the types of human teeth and their functions Investigate the effects of different liquids on the teeth Understand food chains Explore food webs	Year 3- identify that animals and humans need the right amount of exercise, food and drink to survive.	digestive system oesophagus enamel plaque tooth decay cavity fluoride
	Living things and their habitats	In this unit children will learn about habitats, adaptations and classifications within species.	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	Explore different habitats Research a habitat Explore how animals can be classified Create a classification key Adaptations and classification within species Explore and classify pond plants	EYFS and KS1 understanding of habitats and basic classification of living things. Y3- understanding of animals diet.	habitat microhabitat environment vertebrate invertebrate ecosystem
	Living things and their habitats- conservation	In this unit the children will learn about how seasons change, about air pollution and how to save habitats.	Recognise that environments can change and that this can sometimes pose dangers to living things	Describe ecosystems and how they are affected by changes in the seasons Understand human impact on the environment through deforestation Explore air pollution Understand water pollution	KS1- understanding of living things and their habitats.	rainforest deforestation drought biodiversity recycling

				Explore methods that can be used to conserve water Understand that humans can have a positive impact on nature		
	States of matter.	In this unit children will understand different 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)	Compare and group the 3 states of matter Explore how particles behave in solids, liquids and gases Investigate melting points Explore freezing and boiling points Explore evaporation and condensation Understand the water cycle	KS1- Understanding of materials.	matter solid liquid gas volume particle melting melting point temperature thermometer
Year 4	Sound	In this unit children will learn about volume, pitch and sound insulation.	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 volume of a sound and the strength of the vibrations that produced it	Identify how sounds are made Explore how vibrations from sounds travel through a medium to the ear Explore sound insulation Explore volume Explore pitch Explore sounds from near and from far	KS1- understanding of sound and use of ears.	vibration medium waves eardrum signals materials reflect absorb insulate defenders
Year 4	Electricity	In this unit children will learn about electricity and electrical circuits.	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 Recognise some common conductors and insulators, and associate metals with being good conductors	Explore electrical appliances and electrical safety Learn about electrical components in a series circuit Investigate electrical circuits Explore conductors and insulators Learn about electrical switches Investigate how electrical components can change within a circuit	LKS2- understanding of electricity being used for appliances.	electricity batteries mains electricity appliance socket circuit series circuit component cell voltage
Year 5	Forces	In this unit children will learn about gravity, Isaac Newton, air resistance, water resistance and friction. Recognise the link between force and mechanisms.	Identify force of gravity and its effects on objects. 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	Explore gravity and the life and work of Isaac Newton Examine the connection between air resistance and parachutes Explore factors which affect an object's ability to resist water Investigate the effects of friction on different surfaces. Investigate mechanisms - levers and pulleys.	Y3-compare how things move on different surfaces, observe magnetic forces and identify materials that attract magnets.	Gravity Resistance Weight Astronomy Friction mechanism

				Investigate mechanisms - gears		
Year 5	Properties of materials	In this unit children will learn about properties of materials, conductors, insulators.	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	Exploring properties of materials Explore thermal conductors and thermal insulators Explore the hardness of materials Discover materials that become soluble in water Investigate the solubility of materials Explore how mixtures could be separated by filtering, sieving, evaporating or magnets	KS1 understanding different types of materials. Y3 forces understanding of different types of materials.	Conductive Magnetic Durable Soluble Insoluble
Year 5	Changes of materials	In this unit children will learn about chemical reaction and how some changes result in different materials.	Describe how to recover a substance from a solution Explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible	Use evaporation to recover the solute from a solution Recognise and describe reversible changes Observe chemical reactions and describe how we know new materials are made Investigate rusting reactions Investigate burning reactions. Investigate chemical reactions - acids and bicarbonate of soda	Yr1- materials Yr4-states of matter.	solvent solution evaporate fair test variable control variable corrosion rusting
Year 5	Animals including humans	In this unit children will learn about changes in human life and the life cycle.	Describe the changes as humans develop to old age	Identify the key stages of a mammal's life cycle Explore the gestation periods of mammals Learn about foetal development Investigate the hand span of different aged children Learn about the changes experienced during puberty Describe the changes humans may experience during adulthood and old age	EYFS-baby to adult observations KS1 animals and humans. Yr3-humans growth. Yr4 humans and animals	foetus dependent adolescent puberty reproduce
Year 5	Earth and space	In this unit children will learn about the sun, earth and moon and where the earth is in	Describe the movement of the Earth and other planets relative to the Sun in the solar system Use the idea of the Earth's rotation to explain day and night and the apparent	Explore the solar system and its planets Understand the heliocentric model of the solar system Explain the Earth's movement in space	KS1- understanding of Earth through geography.	terrestrial planet gas giant planets Solar System spherical orbit

		relation to other planets.	movement of the Sun across the sky	Explain the Earth's rotation and night and day Explain the movement of the Moon Design a planet using knowledge gained		
Year 5	Living things and their habitats	In this unit children will learn about the life process of plants and animals. They will also be able to describe differences in life cycles.	Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird Describe the life process of reproduction in some plants and animals	Understand the life process of a plant Understand the life cycles of mammals Compare the life cycles of insects and amphibians Understand the life cycle of birds and reptiles Know about the life and work of Jane Goodall and David Attenborough Research and present the life cycle of a creature	KS1-living things and their habitats.	living organism reproduction life cycle vertebrate warm-blooded
Year 6	Electricity	In this unit children will learn about electrical circuits, inputs, outputs, switches, conductors and insulators.	Use recognised symbols when representing a simple circuit in a diagram, associate the brightness of a bulb 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	Describe the parts of an electric circuit Explore voltage and its effect on an electrical circuit Apply knowledge to identify and correct problems in a circuit Investigate what affects the output of a circuit Build a set of traffic lights Apply knowledge of conductors and insulators	Y4-identify common appliances that run on electricity. Construct a simple electrical circuit. Recognise that a switch opens and closes a circuit. Recognise some common conductors.	output variable fair test control test systematically circuit, bulb, electricity, switch, wire, cell, battery
Year 6	Light and reflections	In this unit children will learn how light travels, explore reflections and how shadows can change.	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	Explore how light travels Explore reflection Explore reflection and explain how it can be used to help us see Investigate how shadows can change Investigate how we can show why shadows have the same shape as the object that casts them Investigate how we see objects	Y3-lights and shadows.	shadow block opaque transparent translucent

Year 6	Animals including humans	In this unit children will learn about circulation and bodies functions in the human body.	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	Understand the function of the heart and its role in the circulatory system Identify and compare blood vessels Explore blood Learn how the body transports water and nutrients Investigate what affects your heart rate Learn about the impact of drugs and alcohol on the body	Ks1-animals Year 3- humans and growth Year 4- humans (teeth) year 5- Humans- digestive system.	circulatory system atrium ventricle vessel valves
Year 6	Living things and their habitats	In this unit children will learn how the classify plants into broad groups based on characteristics.	Give reasons for classifying plants and animals based on specific characteristics Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals	Classify living organisms Understand the kingdoms of life Classify living things using the Linnaean system Identify the characteristics of different types of microorganisms Investigate asexual reproduction through spore dispersal Classify and describe a living organism	KS1-living things and trheir habitats. Yr3,4,5	classify microorganism fern living organism conifer
Year 6	Evolution and inheritance	In this unit children will learn about living things and how they adapt to the changing environment.	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	Understand how offspring vary and are not identical to their parents Learn about animal adaptations Learn about plant adaptations Explore what we can learn from fossils Explore the theory of evolution Explore human evolution	Yr4- conservation	adaptation habitat climate nutrition feature
Year 6	Looking after the environment.	In this unit children will learn about climate change and how to work scientifically.	Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs. Identifying scientific evidence that has been used to support or refute ideas or arguments. Using test results to make predictions to set up further comparative and fair tests.	Learn about climate change Explore ways to reduce how much rubbish is sent to landfill Explore ways to reduce energy consumption Explore what happens when fuels are burnt Explore the outcomes of COP26 Compare data associated with the weather	Yr4 conservation. Yr6- evolution and inheritance.	recycle landfill rubbish biodegrade