

Science 2019-2020

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Year 1	Parts of animals, including humans	Changing seasons, including weather	Identify and compare materials	Identify and compare materials	Growing plants	Plants and animals in the environment
Year 2	Understanding more about plants	Animals including animals healthy lifestyles	Everyday materials and their properties	Everyday materials and their properties	Habitats	Habitats
Year 3	Animals including humans	Light and shadows	Forces and Magnets	Parts of plants	Parts of plants	Rocks and soil
Year 4	Animals including humans	Animals including humans	Electricity	Electricity	Sound	States of matter

Year 1 - Working scientifically statement - The pupil can, using appropriate scientific language from the national curriculum, use different types of scientific enquiry to gather and record data, using simple equipment where appropriate, to answer questions and observe changes over time.

	Skills required	Working towards	Working at expected level	Working at mastery level
Parts of animals, including humans	Name and locate parts of the human body, including those related to the senses	Name and identify the main human body parts.	Identify the five senses. Identify which body part is identified with each sense.	Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.
Changing seasons, including weather	Describe seasonal changes	Name the four seasons. List the different types of weather and describe changes across the seasons.	Identify local plants and animals found across the seasons. Compare how light or dark it is at start of the day or bedtime across the seasons.	Observe changes across the four seasons. Observe and describe weather associated with the seasons and how day length varies.
Identify and compare materials	Distinguish objects from materials, describe their properties, identify and group everyday materials	Identify a variety of different objects. Match objects made from the same material. Understand the terms that describe materials including hard/soft, rough/smooth and shiny/dull. Outline differences/similarities between two materials.	Understand the same object can be made from different materials. List some common materials, including solids and liquids. Identify materials that feel soft, hard, flexible, rough, smooth, transparent etc. sort materials into two groups using opposites or by whether something has a certain property.	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. Compare and group together a variety of different materials on the basis of their simple physical properties.
Growing plants	Describe the basic needs of plants for survival.	Understand that some things are living and some are not and be able to distinguish between them. Identify the leaf, flower, root and stem in plant specimens and photographs.	Know the difference between deciduous and evergreen trees. Know that some trees have special names for plant parts e.g. trunk, branch, blossom.	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 flowering plants, including trees.
Plants and animals in the environment	Be able to group animals according to what they eat. To describe and compare the observable features of animals from a range of groups	Be able to sort animals by observable features e.g. scales, wings, beaks. Know that animals eat different things.	Compare external features of humans with other animals. Know that animals can be sorted by what they eat e.g. herbivores, carnivores and omnivores.	Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets).

Year 2 - Working scientifically statement - The pupil can, using appropriate scientific language from the national curriculum, use different types of scientific enquiry to gather and record data, using simple equipment where appropriate, to answer questions and observe changes over time.

	Skills required	Working towards	Working at expected level	Working at mastery level
Understanding more about plants	Describe the main changes as seeds and bulbs grow into mature plants.	Recognise that seeds from different plants are different from each other. Be able to name basic plant needs. Know that when people produce plants from seeds they need to provide particular conditions.	Understand that seeds and plants have the potential to grow into plants that are the same as their parent plants. Understand that plants can produce seeds and new plants without human intervention.	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.
Animals including animals healthy lifestyles	Describe the importance of exercise, a balanced diet and hygiene for humans. Describe the basic needs of animals for survival and the main changes as young animals, including humans, grow into adults. Describe the importance of exercise, a balanced diet and hygiene for humans. Identify whether things are alive, dead or have never lived. Describe how animals get their food from other animals and/or from plants, and use simple food chains to describe these relationships.	Know that baby animals grow to resemble their adult parents. Understand that all living things have the same basic needs to stay alive. Understand the importance for humans of eating the right amount of different types of food.	Be able to distinguish living things from non-living things or things that were once alive. Know that all animals, including humans need to eat, drink and 'breathe' to stay alive. Understand the consequences of insufficient exercise, poor diet and poor personal hygiene.	Notice that animals including humans have offspring which grow into adults. Find out 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 amount of different types of food and hygiene.
Everyday materials and their properties	Distinguish objects from materials, describe their properties, identify and group everyday materials and compare their suitability for different uses.	Identify the properties of a variety of everyday materials. Compare the stretchiness of different materials. Understand that bending can change the shape of some materials. Classify materials according to their ability to bend.	Understand that similarities in physical properties of different materials can make them suitable for use in the same type of object. Explain why a material will make it suitable or unsuitable for a particular object. Compare materials that change their shape by squashing, bending, twisting or stretching.	Identify and compare the suitability of a variety of everyday materials for particular purposes. Recognise that twisting some materials can increase their strength. Find out how the shape of solid objects made from some materials can be changed by squashing, bending, twisting or stretching.

Habitats	Name different plants and animals and describe how they are suited to different habitats.	Know that living things can die. Recognise that different living things live in different habitats. Understand that some animals eat plants, others eat animals and that some eat both animals and plants.	Know that non-living things may have once been alive. Recognise that some animals and plants have features that best suit them to a particular habitat and that it may be difficult for them to survive in habitats which are not suitable. Understand that within different habitats there may be smaller habitats called micro-habitats. Know the term 'food-chain' and recognise its sequential nature starting with plants.	Explore and compare the differences between things that are living, dead and things that have never been alive. Recognise that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different 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. Identify and name different sources of food.
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Year 3 - Working scientifically statement - The pupil can, using appropriate scientific language from the national curriculum, use different types of scientific enquiry to gather and record data, using simple equipment where appropriate, to answer questions and observe changes over time. They set up simple practical enquiries, comparative and fair tests and present data in a variety of ways. Also identify differences, similarities or changes related to simple scientific ideas and processes.

	Skills required	Working towards	Working at expected level	Working at mastery level
Animals including humans	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.	Know we need different types of food to stay healthy. Sort different types of foods into groups. Name some common bones and know that bones are strong and rigid.	Understand that some foodstuffs can be harmful to some animals. Explain why undereating or overeating can be harmful. Describe how muscles and tendons contract and relax to help with movement.	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.
Light and shadows	Recognise that light is needed 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 an opaque object. Find patterns in the way that the size of shadows change.	Know that light comes from a source and that shiny objects can reflect light. Understand that some powerful sources of light, such as the Sun can cause damage to eyes. Understand that when light is blocked from a source a shadow will form which is similar in shape to the object.	Distinguish between light sources and light reflectors. Know that they should not look directly at the Sun, even when wearing dark glasses. Be able to sort materials into transparent, translucent and opaque.	Recognise that light is required to see things and that darkness is an absence of light. Recognise that light from the Sun can be dangerous and that there are ways to protect our eyes. Make and record observations of shadows and find patterns in the way that the size of shadows change.
Plants	Name, locate and describe the functions of the main parts of plants, including those involved in transporting water and nutrients. Describe the requirements of plants for life and growth. Explore the part that	Be able to recognise and name major plant parts. Be able to describe the functions of the roots of plants. Recognise that plants need the correct amount of water to grow well e.g. they will not grow well if they have	Know that each part of a plant has a different function. Describe how water moves from the soil into the plants roots and up through the stem to the plant. Recognise that some soils are	Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers. Investigate the way that water is transported through plants. Explore the requirements of

	flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.	too much or too little water. Recognise that soil provides the nutrients to help plants grow. Understand that many plants grow from seeds and that flowers are the part of the plant where the seed is produced.	better at supporting plant growth than others.	plants for life and growth (air, light, water, nutrients from soil and room to grow) and how they vary from plant to plant.
Rocks and soil	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.	Understand that different rocks have different observable properties and physical properties. Know that different rocks were formed in different ways. Understand that soil contains small pieces of rock and rotting organic matter.	Be able to compare and contrast the properties of different rocks. Identify different rocks using research or by comparing to samples. Describe how sedimentary rock is formed and know that a fossil is the remains of a once living thing that has died and been preserved and changed into sedimentary rock as the rock formed. Know that soils have different characteristics.	Compare and group together different types 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 have been trapped in rock. Know that the type of soil depends upon its constituent parts.
Forces and Magnets	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.	Describe how a rolling object moves and compare how objects slide on different surfaces. Know that a magnetic force can move some objects without making direct contact. Describe magnets as having a north and south pole.	Understand that a force is needed to make an object move and describe how the amount of force applied changes how objects move. Identify materials which are magnetic and non-magnetic. Use the terms 'repel' and 'attract' correctly. Describe how opposite poles on a magnet will attract each other and two like poles repel each other.	Compare how different objects move on different surfaces. 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. Predict whether two magnets will attract or repel each other, depending upon which poles are facing.

Year 4 - Working scientifically statement - The pupil can, using appropriate scientific language from the national curriculum, use different types of scientific enquiry to gather and record data, using simple equipment where appropriate, to answer questions and observe changes over time. They set up simple practical enquiries, comparative and fair tests and present data in a variety of ways. Also identify differences, similarities or changes related to simple scientific ideas and processes.

	Skills required	Working towards	Working at expected level	Working at mastery level
Living things and their habitats	To 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	Know that living things can be grouped according to the features that they share. Recall and use appropriately the term 'classification'. Understand that environments can be changed in both positive and negative ways.	Use more than one way to sort the same group of living things. Use a simple classification key to identify and name a living thing. Identify ways in which humans can reduce the effects of environmental change.	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.
Animals including humans	Name and describe the functions of the main parts of the digestive system. 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.	Know that the human body has organs, be able to name and describe the function of some, including the digestive system. Be able to identify and name the main types of teeth in humans. Know that green plants are producers because they make their own food and that all food chains begin with a plant.	Be able to name and describe the main organs of the digestive system and sequence the process of digestion. Understand that the shape of a tooth is linked to its function. Define a predator as an animal that eats another animal and prey as an animal that gets eaten.	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.
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	Know that solids, liquids and gases are groups of materials with different general properties and they are called states of matter. Know that heating or cooling a material can change its properties.	Be able to identify the state of matter of a material by its physical properties. Understand how materials change through melting, evaporation, condensation and freezing. Recognise that not every material needs to be cold to be a solid and that different substances change state at	Compare and group materials together, according to whether they are solids, liquids or gases. Observe that some materials change shape when they are heated or cooled and measure or research the temperature at which this happens in degrees Celsius. Identify the part played by evaporation and

	condensation in the water cycle and associate the rate of evaporation with temperature.		different temperatures. Be able to describe the changes of state in the water cycle.	condensation in the water cycle and associate the rate of evaporation with temperature.
Sound	Understand the idea that sounds are associated with vibrations, and that they require a medium to travel through, to explain how sounds are made and heard. Describe the relationship between the pitch of a sound and the features of its source; and between the volume of a sound, the strength of the vibrations and the distance from its source.	Understand the term 'vibrate'. Know that sounds can travel. Recognise that there can be high and low pitched sounds and that the pitch can be changed. Know that the volume of sounds can be measured with a sound meter.	Understand and identify that all sounds are made by something vibrating. Know that sounds can travel through solids, liquids and gases. Identify features of an object that can be changed to alter its pitch. Know that the unit of measurement of volume is a decibel. Know that sounds travel from a source.	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 vibrations that produced it. Recognise that sound gets fainter as the distance from the sound source increases.
Electricity	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.	Understand that electricity is needed to make some appliances work. Explore making bulbs light and buzzers buzz. From looking at a circuit and bulb, predict whether the bulb will light and test their prediction. Explain what an electrical conductor and insulator are.	Identify common appliances that run on electricity. Describe how to use a switch to turn off a light or stop a buzzer buzzing. 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. Test and then classify objects as those that conduct electricity and those that don't.	Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers. Recognise that a switch opens or 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.