Dale Community Primary School: **Science** Curriculum Progression Document:

National Curriculum	FOUNDATION STAGE Scientists can:	YEAR ONE Scientists can:	YEAR TWO Scientists can:
Animals including humans	ELG: Explore the natural world around them, making observations and drawing pictures of animals We use different names to label the different parts of a human or animal's body. These features change from person to person and animal to animal. Animals and humans have babies which have different features and names, Some creatures go through changes as they grow. Vocabulary: animal, human, bird, owl, wings, feathers, claws, beak, fox, bear, fur, paws, cow, calf, pig, piglet, sheep, lamb, horse, hen, chick, snout, trotters, tail, egg, caterpillar, pupa, butterfly, same, different, change, care	Identify and name a variety of local wildlife. Vocabulary: animal, mammal wild, wildlife, fox, rabbit, owl, squirrel, tadpoles, frogs, snake, duck, swans, hedgehog Identify and name a variety of wildlife by what they eat Animals that only eat meat (other animals) are called carnivores examples include lions and eagles. Animals that only eat plants are called herbivores. (examples include cows and giraffes) Animals that eat plants and meat are called omnivores (examples include humans and squirrels) Vocabulary: carnivore, herbivores and omnivores Describe and compare the structure of a variety of wildlife. Fish have fins and scales, breathe underwater. Birds have wings and beaks, have feathers, lay eggs. Reptiles lay eggs, have scales, and cannot breathe underwater Amphibians, lay eggs, live on land and water - can breathe underwater through gills. Vocabulary: fur, scales, wings, legs, feathers, tail, spikes Identify, name, draw and label the basic parts of the human body. The different parts of the body. Hair - this grows on our head and helps to protect our skull. The skull is the bone that protects our brain Eyes - these help us see Ears - these help us hear Mouth - we use our mouth to eat and talk. Inside our mouths are tongues which help us taste and teeth Shoulders - these help our arms to lift up Hands - these help us grab things and write Knees - these help us bend our legs Feet - these help us stay balanced and upright. Elbows - these help our arms to bend Neck - connects the head to the rest of the body Nose - helps us smell Eyebrows - these protect our eye Vocabulary: head, shoulders, knees, legs, arms, toes, mouth, feet, eyes, ears, mouth, nose, hands Know which part of the body is associated with each sense. We have five senses. 1) We smell using our nose. 2) We taste using our tongue. 3) We touch using parts of our body, like our hands. 4) We see using our eyes. 5) We hear using our ears. Vocabulary: senses, see, hear, smell, touch, taste	Notice that animals, including humans, have offspring which grow into adults. Life cycle is the series of changes that an animal or plant passes through from the beginning of its life until its death. Vocabulary: offspring, parent, humans, baby, child, adult, young, chick, egg, hen, reproduce Find out about and describe the basic needs of animals, including humans, for survival All animals need water, air and food to survive. Humans cannot make their own food like plants do - we need to eat plants and animals to get our energy Vocabulary: water, food, air Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene. All animals need water, air and food to survive. To keep healthy, humans need: to eat a balanced diet and healthy food, some exercise to keep their muscles and bones healthy, to take medicines that are given by doctors and nurses when feeling poorly, to keep good hygiene by washing regularly, having clean clothes, brushing teeth and hair. Healthy, balanced diets lead to healthy, active people. The different food types are: Fruit and vegetables; Bread, rice, potatoes, pasta and other starchy foods; Milk and, oils and spreads; Meat, fish, eggs, beans and other non-dairy sources of protein. Vocabulary: healthy, exercise, movement, respiration, sensitivity, growth, excretion, nutrition

Dale Community Primary School: **Science** Curriculum Progression Document:

Living things and their habitats	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; Humans and animals live in different homes in different places. These homes have different names and features. Vocabulary: home, house, park, tree, forest nest, farm, barn, sty, field, seaside, beach, sand, sea, pond		Explore and compare the differences between things that are living, dead and things that have never been alive Vocabulary: living, alive, dead, never alive, minibeast, worm, woodlice, spider 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 micro-habitats A habitat is a place where living things, such as animals and plants, can find all of the things they need to survive. This includes food, water, air, space to move and grow and some shelter. Some habitats are large, like the ocean, and some are very small, such as under a log. Other habitats include the coast and the forest. Microhabitats are very small habitats where minibeasts may live. Examples of microhabitats include under stones, in grass, under fallen leaves and in the soil. Vocabulary: habitat, suited, depend, shelter, conditions, coast, ocean, seashore, micro-habitat 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. Animals and plants depend on each other to survive. All living things (or things that were once living) have a part to play in food chains. Without them, other animals and plants may not be able to survive. A food chain is a simple way to show the direction in which energy moves from the producer to the various consumers to the top or tertiary consumer. Vocabulary: food chain, food source, prey, predator, producer
Plants	ELG: Explore the natural world around them, making observations and drawing pictures of plants: Trees and plants are all around us in our local environment and look different in size, colour and shape. A plant begins as a seed or bean and changes as it grows. Vocabulary: Tree, oak, acorn, leaf, branch, flower, bud, petal, blossom, bean, seed, root, shoot, grow, change, sunflower, tall.	Identify and name a variety of common wild and garden plants and trees. People may grow plants in their gardens and care for them. They may grow flowering plants. Some common wild plants are: dandelion, daisy, buttercup, nettle and clover. Vocabulary: deciduous, evergreen, plants, trees, flowers, oak, pine, sycamore, cherry, daffodils, holly, tulips, dandelion, daisy Identify and describe the basic structure of a variety of common flowering plants, including trees. Deciduous trees lose their leaves in the autumn every year. Their leaves are generally broad, flat and have veins running through them. Evergreen trees have green leaves all year round. Their leaves are generally thick, waxy and narrow like needles. Vocabulary: roots, trunk, branches, leaves, stem, petal, leaf twig, seed, flower.	Observe and describe how seeds and bulbs grow into plants Understand Seeds and bulbs need water to grow but most do not need light. Understand that seeds and bulbs have a store of food inside them. Vocabulary: seed, bulb, store, grow, water, light, temperature, germination, survival, reproduction Know what plants need in order to grow and stay healthy. A wild plant will grow by itself. It does not need to be cared for. If it grows somewhere unwanted, it may be a weed. Describe how plants need water, light and a suitable temperature to grow and stay healthy. Vocabulary: water, light & suitable temperature
Seasonal Changes	ELG: Understand some important processes and changes in the natural world around them, including the seasons. The weather changes throughout the year as do the trees and plants. We wear different clothes at different times of the year. We play different activities outside as the seasons change. Some animals hibernate in the winter. Vocabulary: year, season, autumn, winter, spring, summer, leaves, blossom, grow, hibernate, hedgehog, bat, dormouse, change, cold, frost, snow, rain, fog, hot, sun	Observe changes across the four seasons and describe weather associated with these and how day length varies. There are four seasons: Autumn - September, October, November Winter - December, January, February Spring - March, April, May Summer - June, July, August In Autumn - The temperature beings to fall, which means it gets colder. The leaves on deciduous trees change colour and begin to fall to the ground. The days get shorter and the nights get longer. There are more clouds in the sky during autumn compared to the summer. In Winter - As the seasons change from autumn to winter it gets colder still - this is because the temperature has fallen. Sometimes, it can freeze overnight and, in the mornings, there may be ice and frost. Deciduous trees have completely lost their leaves and the branches are bare. The days get shorter and the nights get longer. Winter has the shortest days and the longest nights of all the seasons. The weather may be windy, rainy and chilly. Sometimes it also snows. In Spring - As the seasons change from winter to spring, it gets warmer and the temperature begins to rise. Some things that happen in spring are: leaves begin to appear on deciduous trees. Some trees begin to blossom. Many plants begin to grow. Lambs are born and chicks begin to hatch. The days become longer and the nights become shorter. The weather may be slightly sunny but still a little windy and rainy on some days. As the seasons change from spring to summer it gets warmer still - this is because the temperature has risen. The days get longer and the nights get shorter. Summer has the longest days and the	

		shortest nights of all the seasons. The weather may be hot and sunny. There may not be many clouds in the sky. The clothes you might wear include t-shirts, shorts and swimming costumes. It is important to stay safe in the summer as the sun can be very strong. You can wear sun hats, sunglasses and sun cream to help keep you safe. Vocabulary: seasons, seasonal changes, weather, day, night, week, month, year, length, spring, summer, autumn, winter, sun, hours, daylight, temperature, warmer, colder, snow, frost.	

Everyday Materials	ELG: Understand some important processes and changes in the natural world around them, including changing states of matter: We can use our senses to explore different materials as they change. Vocabulary :change, hard, liquid, melt, float, sink, sound, loud, soft, light, dark, shadow, burnt, magnet	Identify and name a variety of everyday materials, distinguishing which objects are made from them. Objects are things that you can touch or see. Objects are made from materials. Some materials are natural while others are man -made. Natural materials are materials which are found in nature. Man-made materials are materials which have been produced by humans Vocabulary: material, wood, plastic, glass, metal, rock, fabric Describe the simple physical properties of a variety of everyday materials and compare and group them. Glass, material, wood, plastic, glass, metal, rock, fabric Vocabulary: hard, soft, stretchy, rough, smooth, waterproof, absorbent, transparent/opaque, stiff	Find out how the shapes of solid objects made from some materials can be changed. Materials are used for different purposes based on their properties. The shape of some materials can be changed when they are stretched, twisted, bent and squashed. Some materials are recyclable this means that waste materials can be processed and used again. Vocabulary: squashing, bending, twisting, stretching) Identify and compare the suitability of a variety of everyday materials for particular uses. Glass can be used to make windows because it is transparent. If an object is transparent, you can see through it. If an object or substance is opaque, you cannot see through it. Rulers can be made from wood, plastic or rubber because these materials are smooth and can be cut straight. Spoons are made from metal, because it is waterproof and can be cleaned easily. Plastic can also be used as it is light and it cannot hurt children's growing teeth. Waterproof does not let water pass through it. Absorbent materials soaks up liquid easily Vocabulary: wood, metal, plastic, glass, brick, rock, paper, cardboard, clothing, durability, elasticity

	YEAR THREE Scientists can:	**YEAR FOUR Scientists can:**	**YEAR FIVE Scientists can:**	**YEAR SIX Scientists can:**

Dale Community Primary School: **Science** Curriculum Progression Document:

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. The different types of nutrients: Proteins help your body to grow and repair itself, examples include red meat, yogurt, and beans. Carbohydrates give you energy, examples include bread, potatoes, pasta. Fats give you energy, examples include nuts, oils, and avocados. Vitamins keep your body healthy, examples of foods high in vitamins include oranges, carrots and nuts. Minerals keep your body healthy, examples of foods high in minerals include milk, sweetcorn, and spinach. Fibre helps you to digest the food that you have eaten, examples of foods high in fibre include wholegrain bread, cereals and lentils. Water helps to move nutrients in your body and get rid of waste that you don't need, examples of foods high in water include celery, cucumber, tomatoes. Vocabulary: nutrients, proteins, carbohydrates, fats, sugars, fibre, dairy produce, vitamins, mineral, food groups, food, nutrition, diet, healthy eating Identify that humans and some other animals (monkey, bird, and dog) have skeletons and muscles for support, protection and movement. Skeletons are on the inside of the bodies. These skeletons grow with the bodies. The three most important functions of a skeleton are: provide support and shape to an animal's body. Allow movement through the joints. Protect organs (e.g. the skull protects the brain) Joints are where bones meet - they allow our bodies to move. Muscles contract and relax. If you place an elbow on a desk and lift your arm up, muscles in your upper arm (biceps) contract while muscles behind the upper arm (triceps) relax. The muscles work together and in opposition to allow your arm to move. Muscles are connected to bones by tendons. Vocabulary: skeleton, skull, rib cage, bones, muscles, internal organs, support, protection, movement, tendons	Identify and name the basic parts of the human digestive system and the functions of the organs The digestive system begins with the mouth and teeth where food is ingested and chewed. Saliva is mixed with the food which helps to break it up. When the food is small enough to be swallowed, it is pushed down the oesophagus by muscles to the stomach. In the stomach, food is mixed further. The mixed food is then sent to the small intestine which absorbs nutrients from the food. Any leftover broken down food then moves on to the large intestine. The food minus the nutrients arrives in the rectum where muscles turn it into faeces. It is stored here until it is pushed out by the anus. This is called excretion. Vocabulary: nutrients, digestive system, internal organs, mouth, saliva, tongue, oesophagus, stomach, small intestine, large intestine, rectum, excretion, anus, faeces Identify and know the different types of human teeth and their functions. Teeth are used for cutting and chewing food. Humans look after their teeth by brushing and flossing and ensuring that they do not eat foods high in sugar. Not looking after teeth can lead to an increase in plaque and tooth decay. Canines are pointed for tearing and ripping food - these are usually used when chewing meat. Incisors are shovel shaped and help bite lumps out of and cutting food. Premolars and molars are flat and they grind and crush food. The smell of food triggers saliva to be produced. Vocabulary: saliva, molar, premolar, incisor, canine, plaque, decay Construct and interpret food chains to identify producers, predators and prey. The producer (a plant) gets its energy from the Sun. An example: the producer (wheat), gets its energy from the Sun. The mouse (primary consumer) eats the wheat and gets its energy from it. The mouse is then eaten by the owl (secondary consumer). The owl gets its energy from the mouse. The owl is the predator and the mouse is the prey. The owl is then eaten by the wolf (tertiary consumer). The wolf gets its energy from the owl. The arrows show the direction in which the energy travels. A food web shows the direction in which energy travels when animals and producers (plants) are eaten by more than one thing. When part of the food chain is removed, this has an impact on the other parts of the food chain. The number of some species will increase, while the population of others will decrease. This can have a direct impact on the survival of the species. Vocabulary: producers, predators, prey, ecosystem, food chains	Describe the changes as humans develop to old age. Baby: this is a human that has just been born. Toddler: this is a period of rapid change. Many toddlers learn to walk and talk at this stage. Childhood: children learn new things as they grow. They become more independent. Adolescence: this is when the body starts to change and prepare itself for adulthood. Early adulthood: this is when humans are usually at their fittest and strongest. Middle adulthood: changes such as hair loss may happen. Late adulthood: there is a decline in fitness and strength. Vocabulary: baby, toddler, childhood, adolescence, early adulthood, middle adulthood, late adulthood/ old age, develop, aging, reaction, reflex, skin, hair, teeth.	Identify and name the main parts of the human circulatory system The circulatory system is made of the heart, lungs and the blood vessels. Vocabulary: heart, lungs, blood, blood vessels, circulatory system Describe the function of the heart, blood vessels and blood Describe the ways in which nutrients and water are transported in humans and other animals. Arteries carry oxygenated blood from the heart to the rest of the body. Veins carry deoxygenated blood from the body to the heart. Nutrients, oxygen and carbon dioxide are exchanged via the capillaries. The heart is composed of four chambers; the right atrium, the right ventricle, the left atrium and the left ventricle. How often your heart pumps is called your pulse. 1. Deoxygenated blood is sent to the heart from the rest of the body. 2. This is then sent from the heart to the lungs. Here, the blood picks up oxygen and disposes of carbon dioxide. 3. Oxygenated blood is then sent back to the heart. 4. The heart sends the oxygenated blood back to the rest of the body Vocabulary: oxygenated blood, deoxygenated blood, chambers, ventricles, aorta, oxygen, carbon dioxide, nutrients, blood, transport, red blood cells, plasma, veins, capillaries, arteries Know the positive and negative impact of diet, exercise, drugs and lifestyle on health Some choices, such as smoking and drinking alcohol can be harmful to our health. Tobacco can cause short-term effects such as shortness of breath, difficulty sleeping and loss of taste and long-term effects such as lung disease, cancer and death. Alcohol can cause short-term effects such as addiction and loss of control and long-term effects such as organ damage, cancer and death Exercise can: tone our muscles and reduce fat, increase fitness, make you feel physically and mentally healthier, strengthens the heart, improves lung function, improves skin. Vocabulary: diet, exercise, drugs, lifestyle, health

Evolution and inheritance			.	Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago ** (see Year 3 Rocks for progression) Evolution is a process of change that takes place over many generations, during which species of animals, plants, or insects slowly change some of their physical characteristics. Evidence of evolution comes from fossils - when these are compared to living creatures from today, palaeontologists can compare similarities and differences. Other evidence comes from living things - comparisons of some species may reveal common ancestors. Vocabulary: fossils, preserve, remains, embedded, prehistoric, evolution, species, ancestors, generations Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents This is because offspring are not identical to their parents. It occurs when there is competition to survive. This is called natural selection. Difference within a species (for example between parents and offspring) can be caused by inheritance and mutations. Inheritance is when characteristics are passed on from one generation to the next. Mutations in characteristics are not inherited from the parents and appear as new characteristics. Vocabulary: characteristics (passed from parents), inherited, traits, variation, mutation Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution. Adaptation is when animals and plants have evolved so that they have adapted to survive in their environments. Undertake a study of Charles Darwin to show children how adaptation was discovered. For example, polar bears have a thick layer of blubber under their fur to survive the cold, harsh environment of the Arctic while giraffes have long necks to reach the leaves on trees. Sometimes adaptations can be disadvantageous. One example of this can be the dodo, which became extinct as it lost its ability to fly through evolution. Flying was unnecessary for the dodo as it had lived for so many years without predators, until its native island became inhabited. When adaptations are more harmful than helpful, these are called maladaptations. Vocabulary: Galapagos tortoise, marine iguana, inhabited, offspring, adapted, adaptation, evolution, variation, , environment

Living things and their habitats		Recognise that living things can be grouped in a variety of ways and use classification keys to group, identify and name living things in their local and wider environment Vertebrates are animals that have a backbone. There are five groups of vertebrates: mammals, fish, birds, reptiles, amphibians. Mammals give birth to live young, usually have hair or fur, warm-blooded, cannot breathe underwater. Some common mammals are: pets such as dogs, cats, hamsters, farm animals such as cows, sheep and horses. Wild animals such as foxes, hedgehogs, lions and giraffes and then humans Fish have fins and scales, breathe underwater using gills, lay eggs in water, and are cold-blooded. Some common fish are salmon, cod and tuna. Birds are warm-blooded, have wings and beaks, have feathers, lay eggs. Some common birds are ducks, chickens, penguins and pigeons. Reptiles are cold-blooded, lay eggs, have scales, and cannot breathe underwater. Some common reptiles are snakes and lizards. Amphibians are cold-blooded, lay eggs, live on land and water - can breathe underwater through gills. Some common amphibians are frogs and toads. Invertebrates are animals that do not have a backbone. They include: insects such as flies, ladybirds and bees, arachnids such as spiders, molluscs such as snails. Animals that only eat meat (other animals) are called carnivores examples include lions and eagles. Animals that only eat plants are called herbivores examples include cows and giraffes) Animals that eat plants and meat are called omnivores (examples include humans and squirrels) Vocabulary: classification, classify, group, animal, vertebrate, fish, amphibians, reptiles, birds, mammals, invertebrates, snails and slugs, worms, spider, insects, warm-blooded, cold-blooded, molluscs arachnids Recognise that environments can change and that this can sometimes pose dangers to living things Deforestation: Many of the things that humans do, destroy animal habitats. Only a very small amount of the world's land is covered in rainforest, but about half of all plants and animals live here. Humans have cut down large areas of the forest to clear space for building or farming. This has destroyed the habitats of many species and made it difficult for them to survive. Pollution: Waste from factories and pollution that contaminates the ground makes it difficult for plants to grow. This in turn means there is no food or shelter for the animals that once lived among the plants. Chemicals and waste that are spilled in the sea are very dangerous to all the living things in the marine habitat Pollution in and near rivers and streams kills the plants and animals in the water and poisons the drinking water of many living things. Vocabulary: habitats, micro-habitat, environment, pollution, pollutant, litter, deforestation, nature reserve, common, rare, endangered, extinct)	Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird. The life cycles of mammals, birds, amphibians and insects have similarities and differences. One difference is that amphibians and insects go through the process of metamorphosis. This is when the structure of their bodies changes significantly as they grow (for example, from tadpole to frog or caterpillar to butterfly). Vocabulary: life cycle, life process, mammal, amphibian, insect, bird, hatching, rearing, egg, baby, offspring, parent, live young, birth, grow, development Describe the life process of reproduction in some plants and animals Reproduction is when an animal or plant produces one or more individuals similar to itself Sexual reproduction: requires two parents with male and female gametes (cells) It will produce offspring that is similar to but not identical to the parent. Asexual reproduction: requires only one parent and will produce offspring that is identical to the parent. Plants reproduction - Male gametes can be found in the pollen. Female gametes can be found in the ovary (they are called ovules). Pollination occurs when pollen from the anther is transferred to the stigma by bees and other insects. The pollen then travels down and meets the ovule. When this happens, seeds are formed - this is called fertilisation. Seeds are then dispersed so that germination can begin again. Some plants, such as daffodils and potatoes, can also produce offspring using asexual reproduction. ** (see Year 3 plants for progression) Vocabulary: pollen, pollination, filament +anther=stamen (male part), style+stigma+ovary +ovule = carpel (female part), fertilisation, transport, support, reproduce, seed formation, seed dispersal, albumen, chalaza, germinal disk, membrane, pore, shell, yolk	Describe how living things are classified into broad groups according to invertebrates and vertebrates and based on similarities and differences, including micro-organisms, plants and animals. Living things can be grouped according to different criteria (where they live, what type of organism they are, what features they have). A classification key is a tool that is used to group living things to help us identify them using recognisable characteristics. Microorganisms are very tiny organisms where a microscope has to be used to see them. Examples of microorganisms include dust mites, bacteria and fungi, such as mould. ** (see Year 3 for specific vocabulary progression) Vocabulary: classification, micro- organisms, subdivided, invertebrates, vertebrates, plants, animals, arctic Give reasons for classifying plants and animals in a specific way The **Linnaean system**, named after Carl Linnaeus, has different levels where the number of living things in each group gets smaller and smaller, until there will just be one type of animal in the species group. Vocabulary: Taxonomist, Carl Linnaeus

Dale Community Primary School: **Science** Curriculum Progression Document:

Plants	Identify and describe the functions of different parts of flowering plants Petal: The brightly coloured part of the flower that attracts insects to pollinate the plant. Stamen: The male parts of the flower. The stamen is made up of the anther and the filament. The filament's job is to hold up the anther. The job of the anther is to make the pollen. Sepal: Leaf-like structures that protect the flower and petals before they open out. Carpel: The female parts of the flower. Made up of the stigma, style and ovary. The job of the style is to hold up the stigma. The stigma collects the pollen when a pollinator brushes by it. The ovary contains the ovules, which are the part of the flower that gets fertilised and eventually becomes the new seed. Vocabulary: roots, stem/trunk, leaves, petal, stamen, sepal, carpel, stigma, style, ovary, ovule, flowers, flowering plant, non-flowering plant, structure, function, nutrients, nutrition, reproduction, life cycle. Explore the requirements of plants for life and growth If a seed is not **warm** enough, it will not germinate. **Germination** is when the seed starts to sprout into a plant. If a plant does not have enough **light**, it will grow to be tall and flimsy as it searches for light. It will probably die. If a plant is not **watered** enough, its stem will be fragile and have very dry leaves. It will eventually die. Vocabulary: germination, fertilisation, air, light, water, nutrients from soil, room to grow, fertiliser Investigate the way in which water is transported within plants The process of water transportation is the way water moves through a plant. The roots absorb water from the soil. The stem transports water to the leaves. Water evaporates from the leaves. This evaporation causes more water to be sucked up the stem. The water is sucked up the stem like water being sucked up through a straw. Vocabulary: roots, absorb, soil, stem, transport, leaves, evaporates, stem Explore the part that flowers play in the life cycle of flowering plants The parts we all recognise on a flower are called the petals. They can be different shapes and sizes and many of them are very colourful and decorative to attract insects or animals. This is vital for the movement of pollen for pollination to occur and in some cases for seed dispersal. The sepals are the outer part of the flower and are usually green and they protect the petals before the flower opens. Vocabulary: pollination, seed formation, seed dispersal			

Dale Community Primary School: **Science** Curriculum Progression Document:

Properties and changes in materials/ States of matter/ Rocks	Rocks: Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties Vocabulary: rock, hard, soft, shiny, dull, permeable Rocks: Describe in simple terms how fossils are formed when things that have lived are trapped within rock There are three types of rocks that are formed naturally. Igneous: When molten magma cools, igneous rocks are formed. This either cools and forms rocks under the earth's surface, or flows out of erupting volcanoes as lava and may mix with other minerals. Examples include granite and basalt. This type of rock is strong, hardwearing and nonporous. Sedimentary: Sometimes, little pieces of rocks that have been weathered can be found at the bottom of lakes, seas and rivers. This is called sediment. Over millions of years, layers of this sediment build up forming sedimentary rocks. Examples include limestone and chalk. Sedimentary rocks are porous and can easily be worn down. Metamorphic: When some igneous and sedimentary rocks are heated and squeezed (pressured), they form metamorphic rocks. Examples include slate and marble. Metamorphic rocks are strong. Fossils are the remains of prehistoric life. They are usually formed when a living thing (plant or animal) dies and the body is covered up or buried by sediment over tens of thousands of years. Some fossils are formed when the tough bones and teeth in animals, and the woody part of plants are preserved. Other fossils are made from imprints in surrounding sedimentary rock such as footprints or imprints from shells. Vocabulary: sedimentary, igneous, metamorphic, layers, mould, cast, erosion, fossilisation, palaeontology Rocks: Recognise that soils are made from rocks and organic matter. Soil: is made from pieces of rock, minerals, decaying plants and water. When rock is broken down into small grains, soil is formed. There are layers of soil: Above the soil is leaf litter and recently decaying plants. As the soil becomes deeper, the rock grains become larger until bedrock is reached. Vocabulary: top solid, subsoil, bedrock, minerals, air, water, organics matter	States of matter: Compare and group materials together, according to whether they are solids, liquids or gases Particles are what materials are made from. They are so small that we cannot see them with our eyes. Particles behave differently in solids, liquids and gases. In the solid state, the material holds its shape. Solids have vibrating particles which are closely packed in and form a regular pattern. This explains the fixed shape of a solid and why it can't be poured. Solids always take up the same amount of space. In the liquid state, the material holds the shape of the container it is in. This means that liquids can change shape, depending on the container. Liquids have particles which are close together but random. Liquid particles can move over each other. Liquids can be poured. In the gas state, particles can escape from open containers. Gases have particles which are spread out and move in all directions. Vocabulary: solid, liquid, gas States of matter: 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) When water (in its liquid form) is heated, the particles start to move faster and faster until they have enough energy to move about more freely. The water has evaporated into a water vapour. When water vapour is cooled, the particles start to slow down. They return to a liquid in a process called condensation. With further cooling they turn into a solid structure and ice is formed. The water has frozen. The temperature at which water turns to ice is called the freezing point. This happens at 0ºC. The temperature at which water turns to gas is called the boiling point. This happens at 100ºC. Vocabulary: solidify, ice, melt, freeze, evaporate, condense, container, changing state, heat, heated, cool, cooled, degrees Celsius, thermometer States of matter: Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature. Evaporation: Heat from the Sun causes water to evaporate from seas, lakes, rivers and streams. Water also evaporates from puddles and ponds. This evaporation happens even on cloudy or cold days. The liquid water turns into water vapour when it has evaporated. Condensation: Clouds are made from water vapour that has condensed to form tiny water droplets, When the water droplets get too big, they fall from the clouds. The water droplets can fall as rain, hail or snow The water vapour in the air rises, and as it does so, it cools down. Vocabulary: water cycles, evaporation, condensation, temperature, warm/cool, water vapour	Properties and changes in materials: 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 Properties and changes in materials: Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic Materials which are good thermal conductors allow heat to move through them easily, such as a saucepan which requires heat to travel through to cook food. Thermal insulators do not let heat travel through them easily. Such as woollen clothes and flasks for hot drinks. Electrical conductors allow electricity to pass through them easily while electrical insulators do not. Electrical insulators have a high resistance which means that it is hard for electricity to pass through these objects. Vocabulary: hardness, solubility, transparency, conductivity, electrical, thermal, magnets Properties and changes in materials: Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution When the particles of a solid mix with the particles of a liquid, this is called dissolving. The result is a solution. Materials that dissolve are soluble. Materials that do not dissolve are insoluble. Some materials can be separated after they have been mixed based on their properties - this is called a reversible change. Vocabulary: dissolve, insoluble, soluble, solute, solution, solvent, solids, liquids Properties and changes in materials: Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating Some methods of separation include the use of a magnet, a filter (for insoluble materials), a sieve (based on the size of the solids) and evaporation. When a mixture cannot be separated back into the original components, this is called an irreversible change. Examples of this include when materials burn or mixing bicarbonate of soda with vinegar. Filtration is when a liquid and a solid mixture is poured through a filter which allows the liquid through and catches the solid. Vocabulary: separate, filtering, sieving evaporating Properties and changes in materials: Demonstrate that dissolving, mixing and changes of state are reversible changes. A reversible change is when a material can be changed back to its original state Vocabulary: dissolving, mixing, reversible Properties and changes in materials: 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 When a mixture cannot be separated back into the original components, this is called an irreversible change. Examples of this include when materials burn or mixing bicarbonate of soda with vinegar. Vocabulary: irreversible, burning	

Dale Community Primary School: **Science** Curriculum Progression Document:

Earth and space			Describe the movement of the Earth, and all other planets, relative to the Sun in the solar system There are 8 planets in our Solar System (Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune). Pluto is a dwarf planet. They all orbit the Sun, which is a star. Vocabulary: solar system, dwarf planet, Mercury, Venus, Mars, Jupiter, Saturn, Neptune, Uranus, Pluto) Describe the movement of the Moon relative to the Earth The Moon spins once on its axis every time it orbits Earth. This means that we only see one side of the Moon. The Moon has different phases depending on where it is in its orbit. The Moon's gravity causes high and low tides. Vocabulary: moon, orbits, Earth, spinning, axis, phases of the moon, full moon, new moon, crescent, gibbous. Describe the Sun, Earth and Moon as approximately spherical bodies Discuss relevant evidenced that shows the Earth is spherical. Observations made of the position of the sun and stars. Ships have sailed all the way around the Earth. Planes have flown around the world and never seen the edge. Ships sailing into the horizon and they disappear slowly, bowl first. Pictures of Earth from Space. Shadows cast by Earth on the Moon. Vocabulary: spherical bodies, gravity. Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky The Earth rotates on its axis anti-clockwise and makes a complete rotation over 24 hours (a day). This makes it appear as though the Sun moves through the sky but the Earth's rotation causes day and night. Vocabulary: rotates, axis, rotation, 24 hours, orbit, day, night	

Forces and Magnets	Describe magnets as having two poles and predict whether two magnets will attract or repel each other, depending on which poles are facing. Observe how magnets attract or repel each other and attract some materials and not others Magnets produce an area of force around them called a magnetic field. Forces are pushes and pulls. These forces change the motion of an object. They will make it start to move or speed up, slow it down or even make it stop. Forces act in opposite directions to each other. When objects enter this magnetic field, they will be attracted to or repelled from the magnet if they are magnetic. When magnets repel, the push each other away. When magnets attract, they pull together. 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. Objects that are magnetic, are attracted to magnets. Iron and steel are magnetic. Aluminium and copper are non-magnetic. The ends of a magnet are called poles. One end is called the north pole and the other end is called the south pole. Opposite poles attract, similar poles repel. Vocabulary: magnet, magnetic field, poles, repel, attract, magnetic, non-magnetic, iron, steel, aluminium, copper Compare how things move on different surfaces. Notice that some forces need contact between two objects, but magnetic forces can act at a distance When an object moves across a surface, friction acts as an opposite force. Friction is a force that holds back the motion of an object. Some surfaces create more friction than others which means that objects move across them slower. On a ramp, the force that causes the object to move downwards is gravity. Objects move differently depending on the surface of the object itself and the surface of the ramp. Vocabulary: friction, roughness, force, surface, non-contact force, contact force		Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object Forces are pushes and pulls. These forces change the motion of an object making it start, speed up, slow down or stop moving. Gravity is the force that pulls objects to the centre of the Earth. Vocabulary: gravity, Isaac Newton, centre of the Earth Identify the effects of air resistance, water resistance and friction that act between moving surfaces. Air resistance pushes up on the parachute, opposing the force of gravity. This makes the parachute land more slowly. Water resistance is the friction that is created between water and an object that is moving through it. Some objects can move through water with less resistance if they are streamlined. Friction is a force, the resistance of motion when one object rubs against another. Whenever two objects rub against each other, they cause friction. Friction works against the motion and acts in the opposite direction Vocabulary: Friction, start, speed up, slow down, stop, resistance, air resistance, water resistance Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect Levers, gears and pulleys allow us to do heavy work with less effort e.g. lift heavy objects, move things up and down, or turn things. Gears are toothed wheels. Their 'teeth' can fit into each other so that when the first wheel turns, so does the next one. This allows forces to move across a surface. Springs can be stretched or squashed. The greater the force pulling or pushing the spring, the greater the force the spring uses to move. Vocabulary: force, pulleys, gears, leavers	

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Light	Recognise that they need light in order to see things and that dark is the absence of light A light source is something that emits light by burning, electricity or chemical reactions. We need light so that we are able to see in the dark. Vocabulary: light, dark, light source, travel, shine, absence Notice that light is reflected from surfaces Light travels in straight lines.Reflection is when light bounces off a surface - this changes the direction in which the light travels. The Sun's light reflects on the surface of the Moon making it appear as though the Moon emits light. The Moon is not a source of light. Shiny things are not light sources - they also reflect the light Vocabulary: reflect, reflective, mirror, surface Recognise that light from the sun can be dangerous and that there are ways to protect their eyes We must never look directly at the Sun as the light produced is very bright and can be harmful to our eyes. This is why we wear sunglasses. 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. When light is blocked by an opaque object, a dark shadow is formed. These shadows have the same shape as the objects that cast them. The size of a shadow changes as the light source moves closer or further away. The further away the light source is, the smaller the shadow is. The closer the source of the light, the bigger the shadow. Vocabulary: shadow, cast, straight line, block, opaque, transparent, translucent, distance, size			Recognise that light appears to travel in straight lines. Use this idea to explain why shadows have the same shape as the objects that cast them. Light appears to travel in straight lines and we see objects when light from them goes into our eyes. The light may come directly from light sources but for other objects some light must be reflected from the object into our eyes for the object to be seen. Objects that block light (are not fully transparent) will cause shadows. Because light travels in straight lines the shape of the shadow will be the same as the outline shape of the object and the size of the shadow is larger when the light source and object move closer to each other as more of the light is blocked. Vocabulary: light, light source, travel, rays, beams, reflect, shadow, mirror, reflect, opaque, transparent, translucent 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 Rays of light travel from a light source and hit objects around us. Reflection is when light bounces off a surface, changing the direction of a ray of light. The rays of light reflect, or bounce, off an object, and then travel into our eyes. This reflection of light allows us to see the object Vocabulary: reflect, reflective, mirror, surface 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 Cornea: is convex, transparent and allows light to enter the eye. Iris: contracts and relaxes to control the amount of light entering the eye Pupil: a hole through which light passes to enter the eye Lens: is transparent and biconvex. The lens focuses light onto the retina Retina: the lining of the back of eye which contains light receptors Optic nerve: bundles of neurones which carry impulses from the eye to the brain Light reflects off an object, enters the cornea of the eye and passes the pupil. The retina contains light-sensitive cells that gather information (light, dark, colour, movement) and sends this information to the optic nerve. The optic nerve transmits visual information from the retina to the brain. This information is carried in tiny electrical signals along the nerve cells (also called neurones). Once the electrical signals reach the brain, brain cells in the visual cortex can process the image, turning it the correct way round. Vocabulary: cornea, iris, pupil, lens, retina optic nerve

Electricity		Identify common appliances that run on electricity Some appliances use batteries and some use mains electricity. Vocabulary: electricity, electric, electrical, appliance 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 A complete circuit is a loop that allows electrical current to flow through wires. Vocabulary: circuit, components, cell, battery, electricity, complete, incomplete, break, simple series circuit, Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit A switch can break or reconnect a circuit. A switch controls the flow of the electrical current around the circuit. When the switch is off, the current cannot flow. Vocabulary: complete, incomplete, break, open / closed circuit, series circuit, switch Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers A circuit contains a battery (cell), wires and an appliance that requires electricity to work (such as a bulb, motor or buzzer) The electrical current flows through the wires from the battery (cell) to the bulb, motor or buzzer).. Vocabulary: bulb, wire, buzzer, motor, simple series circuit, cell Recognise some common conductors and insulators, and associate metals with being good conductors. When objects are placed in the circuits, they may or may not allow electricity to pass through. Objects that are made from materials that allow electricity to pass through and create a complete circuit are called electrical conductors. Objects that are made from materials that do not allow electricity to pass through and do not complete a circuit are called electrical insulators. Vocabulary: insulator, conductor		Use recognised symbols when representing a simple circuit in a diagram. Circuit symbols: a bulb, cell, battery, wire, motor, buzzer, open switch-off, Closed switch-on Vocabulary: circuit, components, cell, bulb, wire, switch, buzzer, circuit diagram, circuit symbol. 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. The higher the voltage of cells or number of cells used, the brighter the bulb or the louder the volume of a buzzer. Current: This is the steady flow of electrons. This is measured in amperes (amps) Voltage: This is the force that makes the electric current flow. This is measured in volts (V) The greater the voltage, the more current will flow. Vocabulary: electricity, electric, electrical, voltage, current voltage, current, components, bulbs, buzzers, switch, on/off, open/closed circuit.

Sound		Know how sound is made, associating some of them with vibrating When objects vibrate, a sound is made. The vibration makes the air around the object vibrate and the air vibrations enter your ear. Vocabulary: sound, source, vibration, vibrate Know how sound travels from a source to our ears Sound waves travel through a medium (such as air, water, glass, stone, and brick). The sound waves travel to the ear and make the eardrums vibrate. Once in your ear, the vibrations travel into the ear canal until they reach the eardrum. The eardrum passes the vibrations through the middle ear bones into the inner ear. Hair cells change the vibrations into electrical signals that are sent to the brain through the hearing nerve. The brain tells you that you are hearing a sound and what that sound is. Vocabulary: air, ear, sound waves, vibration, vibrate, outer/middle/inner ear, ear drum, ear canal, auditory, nerve Know the correlation between pitch and the object producing a sound In a percussion instrument, the surface or object that is struck is the thing that vibrates to create the sound. The pitch of a percussion instrument can be changed in different ways There may be a series of different length bars or keys, such as in a xylophone. The shorter the bar or key, the higher the pitch will be. A thinner skin will make a higher pitched sound and a thicker skin will make a lower pitched sound. Vocabulary: pitch, short sound waves, long sound waves, Know the correlation between the volume of a sound and the strength of the vibrations that produced it. Messages are sent to the brain which recognises the vibrations as sounds. The volume of a sound is how loud or quiet it is. When a sound is created by a little amount of energy, a weak sound wave is created which doesn't travel far. This makes a quiet sound. A vibration with lots of energy makes a powerful sound wave and therefore a loud sound. Vocabulary: volume, loud, soft, sound, weak sound waves,, powerful sound waves, Strength, insulate, amplify Know that sounds get fainter as the distance from the sound source increases Sounds get quieter as you move further away because the sound energy of the vibrations disappears. Vocabulary: distance, faint, loud		

Dale Community Primary School: **Science** Curriculum Progression Document:

Working Scientifically Skills **Foundation stage**		
In the EYFS, the characteristics of effective learning from the Statutory Framework for the Early Years Foundation Stage are the foundations on which the working scientifically skills build in Key Stage 1. While children are playing and exploring, teachers should be modelling, encouraging and supporting them to do the following: • show curiosity and ask questions • make observations using their senses and simple equipment • make direct comparisons • use equipment to measure • record their observations by drawing, taking photographs, using sorting rings or boxes and, in Reception, on simple tick sheets • use their observations to help them to answer their questions • talk about what they are doing and have found out • identify, sort and group		
Working Scientifically Skills **Year 1 and 2**	**Working Scientifically Skills** **Year 3 and 4**	**Working Scientifically Skills** **Year 5 and 6**
Asking simple questions and recognising that they can be answered in different ways While exploring the world, the children develop their ability to ask questions (such as what something is, how things are similar and different, the ways things work, which alternative is better, how things change and how they happen). Where appropriate, they answer these questions. The children answer questions developed with the teacher often through a scenario. The children are involved in planning how to use resources provided to answer the questions using different types of enquiry, helping them to recognise that there are different ways in which questions can be answered.	Asking relevant questions and using different types of scientific enquiries to answer them The children consider their prior knowledge when asking questions. They independently use a range of question stems. Where appropriate, they answer these questions. The children answer questions posed by the teacher. Given a range of resources, the children decide for themselves how to gather evidence to answer the question. They recognise when secondary sources can be used to answer questions that cannot be answered through practical work. They identify the type of enquiry that they have chosen to answer their question.	Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary Children independently ask scientific questions. This may be stimulated by a scientific experience or involve asking further questions based on their developed understanding following an enquiry. Given a wide range of resources the children decide for themselves how to gather evidence to answer a scientific question. They choose a type of enquiry to carry out and justify their choice. They recognise how secondary sources can be used to answer questions that cannot be answered through practical work.
Observing closely, using simple equipment Children explore the world around them. They make careful observations to support identification, comparison and noticing change. They use appropriate senses, aided by equipment such as magnifying glasses or digital microscopes, to make their observations. They begin to take measurements, initially by comparisons, then using non-standard units.	Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers The children make systematic and careful observations. They use a range of equipment for measuring length, time, temperature and capacity. They use standard units for their measurements.	Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate The children select measuring equipment to give the most precise results e.g. ruler, tape measure or trundle wheel, force meter with a suitable scale. During an enquiry, they make decisions e.g. whether they need to: take repeat readings (fair testing); increase the sample size (pattern seeking); adjust the observation period and frequency (observing over time); or check further secondary sources (researching); in order to get accurate data (closer to the true value).
Performing simple tests The children use practical resources provided to gather evidence to answer questions generated by themselves or the teacher. They carry out: tests to classify; comparative tests; pattern seeking enquiries; and make observations over time. Identifying and classifying Children use their observations and testing to compare objects, materials and living things. They sort and group these things, identifying their own criteria for sorting. They use simple secondary sources (such as identification sheets) to name living things. They describe the characteristics they used to identify a living thing.	Setting up simple practical enquiries, comparative and fair tests The children select from a range of practical resources to gather evidence to answer questions generated by themselves or the teacher. They follow their plan to carry out: observations and tests to classify; comparative and simple fair tests; observations over time; and pattern seeking. **<u>Explanatory note</u>** A comparative test is performed by changing a variable that is qualitative e.g. the type of material, shape of the parachute. This leads to a ranked outcome. A fair test is performed by changing a variable that is quantitative e.g. the thickness of the material or the area of the canopy. This leads to establishing a causative relationship.	Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary The children select from a range of practical resources to gather evidence to answer their questions. They carry out fair tests, recognising and controlling variables. They decide what observations or measurements to make over time and for how long. They look for patterns and relationships using a suitable sample.
Gathering and recording data to help in answering questions. The children record their observations e.g. using photographs, videos, drawings, labelled diagrams or in writing. They record their measurements e.g. using prepared tables, pictograms, tally charts and simple bar graphs. They classify using simple prepared tables and sorting rings.	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 The children sometimes decide how to record and present evidence. They record their observation e.g. using photographs, videos, pictures, labelled diagrams or writing. They record their measurements e.g. using tables, tally charts and bar charts (given templates, if required, to which they can add headings). They record classifications e.g. using tables, Venn diagrams, Carroll diagrams. Children are supported to present the same data in different ways in order to help with answering the question.	Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs The children decide how to record and present evidence. They record observations e.g. using annotated photographs, videos, labelled diagrams, observational drawings, labelled scientific diagrams or writing. They record measurements e.g. using tables, tally charts, bar charts, line graphs and scatter graphs. They record classifications e.g. using tables, Venn diagrams, Carroll diagrams and classification keys. Children present the same data in different ways in order to help with answering the question.
Using their observations and ideas to suggest answers to questions Children use their experiences of the world around them to suggest appropriate answers to questions. They are supported to relate these to their evidence e.g. observations they have made, measurements they have taken or information they have gained from secondary sources.	Using straightforward scientific evidence to answer questions or to support their findings. Children answer their own and others' questions based on observations they have made, measurements they have taken or information they have gained from secondary sources. The answers are consistent with the evidence.	Identifying scientific evidence that has been used to support or refute ideas or arguments Children answer their own and others' questions based on observations they have made, measurements they have taken or information they have gained from secondary sources. When doing this, they discuss whether other evidence e.g. from other groups, secondary sources and their scientific understanding, supports or refutes their answer. They talk about how their scientific ideas change due to new evidence that they have gathered. They talk about how new discoveries change scientific understanding.
Using their observations and ideas to suggest answers to questions The children recognise 'biggest and smallest', 'best and worst' etc. from their data.	Identifying differences, similarities or changes related to simple scientific ideas and processes Children interpret their data to generate simple comparative statements based on their evidence. They begin to identify naturally occurring patterns and causal relationships. Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions They draw conclusions based on their evidence and current subject knowledge.	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 In their conclusions, children: identify causal relationships and patterns in the natural world from their evidence; identify results that do not fit the overall pattern; and explain their findings using their subject knowledge.

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	Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions They identify ways in which they adapted their method as they progressed or how they would do it differently if they repeated the enquiry.	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 They evaluate, for example, the choice of method used, the control of variables, the precision and accuracy of measurements and the credibility of secondary sources used. They identify any limitations that reduce the trust they have in their data.
	Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions Children use their evidence to suggest values for different items tested using the same method e.g. the distance travelled by a car on an additional surface. Following a scientific experience, the children ask further questions which can be answered by extending the same enquiry.	Using test results to make predictions to set up further comparative and fair tests Children use the scientific knowledge gained from enquiry work to make predictions they can investigate using comparative and fair tests.
	Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions They communicate their findings to an audience both orally and in writing, using appropriate scientific vocabulary.	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 They communicate their findings to an audience using relevant scientific language and illustrations.