



Moorside Primary School, Lancaster

EYFS & National Curriculum 2023 – 2024

	Autumn	Spring	Summer
Reception	<ul style="list-style-type: none"> Name and describe animals that live in different habitats. • Describe different habitats Describe people who are familiar to them • Learn about how to take care of themselves Explore the plants in the surrounding natural environment • Explore the animals in the surrounding natural environment • Explore plants and animals in a contrasting natural environment Play and explore outside in all seasons and in different weather • Observe living things throughout the year • Explore a range of materials, including natural materials • Make objects from different materials, including natural materials • Observe, measure and record how materials change when heated and cooled • Compare how materials change over time and in different conditions Explore shadows • Explore rainbows Explore how to change how things work • Explore how the wind can move objects • Explore how objects move in water Listen to sounds outside and identify the source • Make sounds Learn about the Solar System and stars • Learn about space travel 		
Year 1	<ul style="list-style-type: none"> Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. Identify and name a variety of common animals that are carnivores, herbivores and omnivores. Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets). Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. Observe changes across the four seasons. Observe and describe weather associated with the seasons and how day length varies. 	<ul style="list-style-type: none"> 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. Describe the simple physical properties of a variety of everyday materials. Compare and group together a variety of everyday materials on the basis of their simple physical properties. Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. (Y2 OBJECTIVE) Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. (Y2 OBJECTIVE) 	<ul style="list-style-type: none"> Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. Identify and describe the basic structure of a variety of common flowering plants, including trees.
Year 2	<ul style="list-style-type: none"> Explore and compare the differences between things that are living, dead, and things that have never been alive Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other 	<ul style="list-style-type: none"> Notice that animals, including humans, have offspring which grow into adults. Find out about and describe the basic needs of animals, including humans, for survival (water, food and air). Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene. Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. (Y1) Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. (Y1) 	<ul style="list-style-type: none"> 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. Identify and name a variety of plants and animals in their habitats, including microhabitats. (Y2 - Living things and their habitats) Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food
Year 3	<ul style="list-style-type: none"> Recognise that living things can be grouped in a variety of ways. Identify that humans and some other animals have skeletons and muscles for support, protection and movement. Construct and interpret a variety of food chains, identifying producers, predators and prey. 	<ul style="list-style-type: none"> Identify the different types of teeth in humans and their simple functions. Recognise that they need light in order to see things, and that dark is the absence of light. Notice that light is reflected from surfaces. Recognise that light from the sun can be dangerous and that there are ways to protect their eyes. Recognise that shadows are formed when the light from a light source is blocked by an opaque object. Find patterns in the way that the size of shadows change. 	<ul style="list-style-type: none"> 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. Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago. (Y6 - Evolution and inheritance) 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. Describe the simple functions of the basic parts of the digestive system in humans.

Year 4	<ul style="list-style-type: none"> Identify how sounds are made, associating some of them with something vibrating. Recognise that vibrations from sounds travel through a medium to the ear. Find patterns between the pitch of a sound and features of the object that produced it. Find patterns between the volume of a sound and the strength of the vibrations that produced it. Recognise that sounds get fainter as the distance from the sound source increases. 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). 	<ul style="list-style-type: none"> 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. 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. 	<ul style="list-style-type: none"> 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. Identify and describe the functions of different parts of flowering plants: roots; stem/trunk; leaves; and flowers. Explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant. Investigate the way in which water is transported within plants. Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.
Year 5	<ul style="list-style-type: none"> Describe the movement of the Earth, and other planets, relative to the Sun in the solar system. Describe the movement of the Moon relative to the Earth. Describe the Sun, Earth and Moon as approximately spherical bodies. Use the idea of the Earth's rotation to explain day and night and the apparent movement of the Sun across the sky. Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object. Identify the effects of air resistance, water resistance and friction that act between moving surfaces. Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect. 	<ul style="list-style-type: none"> Compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets. Know that some materials will dissolve in liquid to form a solution and describe how to recover a substance from a solution. Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating. Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic. Demonstrate that dissolving, mixing and changes of state are reversible changes. Explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda. Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature. 	<ul style="list-style-type: none"> Recognise that light appears to travel in straight lines. Use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye. Explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes. Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.

Year 6	<ul style="list-style-type: none"> Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit. Compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches. <p>Use recognised symbols when representing a simple circuit in a diagram.</p>	<ul style="list-style-type: none"> Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals. Give reasons for classifying plants and animals based on specific characteristics. Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago. Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents. Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution. 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. 	<ul style="list-style-type: none"> Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood. Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function. Describe the ways in which nutrients and water are transported within animals, including humans. Describe the changes as humans develop to old age.
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Do I know more? Do I remember more?

Rationale for the order in which knowledge is taught from year group to year group:

Following the National Curriculum and PLAN -Assessment documents to ensure that each strand is taught progressively throughout the school, ensuring that science is taught on a spiralling curriculum to ensure sticky learning.

Rationale for the order in which knowledge is taught *within each year group*:

Based on the placement of the topic across the year, which can be due to practical reasons, eg. visits, weather, context

How the curriculum has been designed to meet the needs of *Moorside learners*:

- As part of a caring community our science curriculum will enable Moorside pupils to make links between science in the classroom and its implications in today's world and the impact on their future.
- All children are encouraged to be active learners in developing their understanding of environmental issues both locally and globally.
- Scientific enquiry forms the basis for much of the curriculum, with children taking an increased responsibility for planning their own lines of enquiry and investigations. Through targeted questioning, children are encouraged to think scientifically and plan their own lines of enquiry.
- As enquiry led learners, Moorside children are challenged to participate in exploration activities, encouraging them to make predictions and carry out their own investigations and observations, linking these to real life contexts when appropriate and then drawing their own conclusions.
- Our curriculum gradually builds children's resilience and our science curriculum is sequential in building on previous knowledge and skills (sticky learning). Children are explicitly taught to be resilient, challenging themselves and learning from mistakes "A person who has never made a mistake never tried anything new." *Albert Einstein*. High expectations are built into our curriculum, with progressive aspiration and differentiation allowing all children to succeed at their own level.
- Children are learning to apply their learnt skills from the classroom into a scientific context promoting initial curiosity, consolidating learning and applying their skills and knowledge practically.
- Our science curriculum aims to immerse the children in understanding and appreciating their own environment. Therefore, opportunities are provided to make use of the varied outdoor areas around Moorside school. For example when teaching children about Botany in Year 2 and pollination/seed dispersal in Year 4.

How teachers are expected to teach this subject:

- They are expected to plan lessons around a sequence of learning (sticky learning), using *Plan Assessment*. It builds on prior knowledge and makes explicit the subject that children are working within. Teachers will use scientific vocabulary as an important part of this and embed it within scientific topics.
- Teachers are also expected to ensure that the science curriculum has elements that are both practical and contextual. All science learning should be put into real life contexts using actual scientific photographs rather than clipart images.
- They should use a variety of strategies for teaching: involving enquiry-led learning, promoting curiosity, applying skills in context, working methodically to understand trial and error, making careful observations and being challenged to explain their scientific thinking/findings.
- They should plan school visits that are purposeful and consolidate children's understanding how their everyday world is full of science so that they learn how to be scientists.

How is this subject assessed? How do teachers make a judgement?

- Teachers use the *Plan Assessment* tool based on the children's starting points, building on previous learning. They assess them at the end of the unit to see if the children know more or remember more. They indicate at the end learning point whether the child is EXP or WTS. Greater depth doesn't officially exist in Science but challenging deeper thinking is good practice and secures better understanding. Greater depth is NOT about remembering facts – greater depth is about encouraging deeper thinking, testing hypotheses and predictions.

What is expected in terms of recording and evidencing:

- Evidence needs to be specific enough to reflect scientific learning, which shows what an individual has learned.

How do you know that end points are met?

- Through the sequence of learning and teacher judgement as to whether the children have met the objectives and the summary of learning, which identifies whether a child is EXP OR WTS.

How is ambition for all promoted within this subject?

- Through practical, differentiated tasks where appropriate, through self-led learning and recording their learning in a way that motivates them. Through challenging deeper thinking, testing hypotheses and predictions. Ensure that writing isn't a barrier to the sharing of knowledge and understanding. Most importantly. Having a high expectation for all children.

How does the subject leader(s) *evaluate* impact to know how well the subject is taught?

- Through the use of monitoring and identifying areas for development, which will be revisited to judge the impact these changes have had on the children to gauge whether they know more, understand more and remember more.
- Pupil voice