**Moor First**

**School: Progression of Skills in Science**

**Working Scientifically**

**EYFS**

**30 - 50 months**

To comment and ask questions about aspects of their familiar world, such as the place where they live or the natural world.

To talk about some of the things they have observed, such as plants, animals, natural and found objects.

To talk about why things happen and how things work.

To develop an understanding of growth, decay and changes over time.

To show care and concern for living things and the environment.

**40 - 60 months**

To look closely at similarities, differences, patterns and change.

**ELG**

To know about similarities and differences in relation to places, objects, materials and living things.

**KS1**

I can ask questions about what I notice.

I can use simple equipment.

I can use different types of scientific enquiry to gather and record data.

I can identify, group and classify things.

I can observe changes over time.

I can use my observations, ideas and simple data to answer questions.

I can notice similarities, differences and patterns.

I can find things out using secondary sources of information.

I can use scientific language to communicate my ideas and explain what I find out.

I can carry out simple comparative tests.

**LKS2**

I can ask relevant scientific questions and use different types of scientific enquiries to answer them.

I can set up simple practical enquiries.

I can set up a fair, comparative tests and explain why they are fair.

I can make systematic, careful and accurate observations, including; the use of standard units.

I can use equipment, including; thermometers and data loggers to make measurements.

I can gather, record, classify and present data in different ways to answer scientific questions.

I can record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.

I can report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.

I can use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.

I can identify differences, similarities and changes related to simple scientific ideas and processes.

I can use straightforward scientific evidence to answer questions or to support my findings.

I can use, read and spell scientific vocabulary correctly and with confidence.

**Biology**

**Animals including humans**

**EYFS**

**30 - 50 months**

To observe the effects of physical activity on their bodies.

**40 - 60 months**

To eat a healthy range of foodstuffs and understand a need for variety in food.

To show some understanding that good practices with regard to exercise, eating, sleeping and hygiene can contribute to good health.

**ELG**

To know the importance for good health of physical exercise, and a healthy diet, and talk about ways to keep healthy and safe.

**Year One**

I can identify and name a variety of animals including fish, amphibians, reptiles, birds and mammals.

I can identify, name and group animals by what they eat (carnivore, herbivore and omnivore).

I can describe and compare the observable features of animals from a range of groups.

I can name and locate parts of the human body.

I can link the correct part of the human body to the senses.

**Year Two**

I can describe the basic needs of animals and humans for survival (water, food and air).

I can describe why exercise, a balanced diet and good hygiene are important for humans.

I can describe the main changes as young animals, including humans, grow into adults.

**Year Three**

I can 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.

I can identify that humans and some other animals have skeletons and muscles for support, protection and movement.

I can describe and explain the skeletal system of a human.

I can describe and explain the muscular system of a human.

**Year Four**

I can identify and name the parts of the human digestive system.

I can describe the simple functions of the basic parts of the human digestive system.

I can identify and describe the different types of teeth in humans and their functions.

I can interpret food chains to identify producers, predators and prey.

I can construct food chains to identify producers, predators and prey.

**Living things and their habitats**

**Year Two**

I can identify, explore and compare the differences between things that are alive, dead and have never lived.

I can identify different plants and animals in their habitats, including microhabitats.

I can describe how different plants and animals are suited to their habitats.

I can describe how different habitats provide for the basic needs of different kinds of plants and animals, and how they depend on each other.

I can describe how animals get their food from other animals/ plants and identify and name different sources of food.

I can use simple food chains to describe these relationships.

**Year Four**

I can group living things in different ways.

I can explore and use classification keys to group, identify and name living things in the local and wider environment.

I recognise that environments can change and that this can have an impact on and sometimes pose dangers to living things.

**Plants**

**Year One**

I can name a variety of common wild and garden plants, including deciduous and evergreen trees.

I can name the petals, flower (blossom), stem, leaf, seeds, bulb and root of a plant.

I can name the roots, trunk, branches and leaves of a tree.

**Year Two**

I can describe the basic needs of plants for survival and the impact of changing these (water, light and suitable temperature).

I can describe the main changes as seeds and bulbs grow into mature plants.

**Year Three**

I can identify and describe the function of different parts of flowering plants and trees (roots, stem/trunk, leaves and flowers).

I can 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.

I can explore and describe how water is transported within plants.

I can explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.

**Physics**

**Seasonal Changes**

**Year One**

I can observe and describe changes across the four seasons.

I can observe and describe the weather associated with the seasons and how day length varies.

**Light**

**Year Three**

I can describe what dark is (the absence of light).

I can explain that light is needed in order to see.

I can explain that light is reflected from a surface.

I can recognise that shadows are formed when the light from a light source is blocked by an opaque object.

I can find patterns in the way that the size of shadows change.

I can explain the danger of direct sunlight and describe how to keep protected.

**Forces and Magnets**

**Year Three**

I can explore, describe and compare how objects move on different surfaces.

I can notice and describe that some forces need contact between 2 objects, but magnetic forces can act at a distance.

I can observe and describe how magnets attract or repel each other and attract some materials and not others.

I can describe how magnets have two poles.

I can predict whether magnets will attract or repel, depending on which poles are facing.

I can 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.

**Sound**

**Year Four**

I can identify how sound is made, associating some of them with something vibrating.

I can recognise that vibrations from sounds travel through a medium to the ear.

I can find patterns between the pitch of a sound and the features of the object that produced it.

I can find patterns between the volume of a sound and the strength of the vibrations that produced it.

I can recognise that sound gets fainter as the distance from the sound source increases.

**Electricity**

**Year Four**

I can identify and name appliances that require electricity to function.

I can construct a series circuit.

I can identify and name the components in a series circuit, including cells, wires, bulbs, switches and buzzers.

I can predict and test whether a lamp will light within a circuit.

I can recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit.

I can recognise some good conductors and insulators, giving examples of each and associate metals with being good conductors.

**Chemistry**

**Materials**

**EYFS**

**30 - 50 months**

To begin to be interested in and describe the texture of things.

**Year One**

I can distinguish between an object and the material it is made from.

I can describe the simple physical properties of everyday materials.

I can identify and group everyday materials, including wood, plastic, glass, metal, water and rock.

**Year Two**

I can identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.

I can explain how shapes can be changed by squashing, bending, twisting and stretching.

**Rocks**

**Year Three**

I can identify, compare and group rocks based on their appearance and physical properties,

I can describe in simple terms how fossils are formed when things that have lived are trapped within rocks.

I can recognise that soils are made from rocks and organic matter.

**States of Matter**

**Year Four**

I can compare and group materials based on their state of matter (solid, liquid, gas).

I can observe and describe how some materials change state when they are heated or cooled.

I can measure or research the temperature at which materials change state in degrees Celsius (°C).

I can explain the water cycle and the part played by evaporation and condensation in this process.

I can associate the rate of evaporation with temperature.