Science MTP: Sequence of lessons				Animals including Humans (Animal Nutrition & Skeletons)		Year 3	Focus Scientist: Diane France
Reference to the Programme of Study 2014 Pupils should be taught to: Identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat Identify that humans and some animals have skeletons and muscles for support, protection and movement.				**Key vocabulary** Nutrition Diet Vitamins, minerals, fats, proteins and carbohydrates Functions of skeletons – protect, support and aid movement Muscle Types – skeletal, cardiac and smooth. Endoskeleton Exoskelton			
Lesson 1 To know that animals cannot make their own food. To be able to record using drawings. To ask questions and make predictions based on prior knowledge. L7 L8	**Lesson 2** To know that humans, need the right amounts and types of food. To gather information from research and report findings.	**Lesson 3** To know that humans, need the right amounts and types of food. To plan and carry out a fair test.	**Lesson 4** To know that animals, including humans, need the right amounts and types of food. To record results in a table and use them to answer questions.	**Lesson 5** To know that humans and some animals have skeletons and muscles for support, protection and movement. To make careful observations to identify the functions of the skeleton.	**Lesson 6** To plan and carry out an investigation.	**Lesson 7** To identify and group animals that have no skeleton, an internal skeleton (endoskeleton) and an external skeleton (exoskeleton). To classify animals using a three-way Venn diagram and explain decisions.	**Lesson 8** To know that humans and some animals have skeletons and muscles for support, protection and movement. To collect and record data in a table and describe patterns..
Starting Point: Link to Year 2 Previous Learning. How do living things get their food?	**Types of Food - Humans** Why do humans need to eat different foods?	**Investigating Fatty Foods** What food contains the most fat?	**Types of Food - Animals** Which foods do animals need in order to survive?	**Functions of Skeleton** Why is the skeleton important?	**Bone Length** Do bones grow, as we get older?	**Skeleton Types** Do all animals have bones?	**Muscles** What is the function of muscles?

Science MTP: Sequence of lessons	Rocks, Fossils and Soils	Year 3	Focus Scientist: Ian Stewart Mary Anning

Reference to the Programme of Study 2014

Pupils should be taught to:

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.

Key vocabulary

Names of rocks – Chalk, limestone, granite, basalt, sandstone, flint, slate, shale, marble

Types of rock – Sedimentary, metamorphic, igneous

Types of minerals – Calcite, feldspar, topaz, diamond, talc, corundum

Properties of rocks – Hard/soft, permeable/impermeable

Processes – Heat, pressure, erosion, transportation, deposition, melt, solidify

Size of rocks – Grain, pebbles Rock describing words – Crystals, layers

Early areas of land – Gondwana, Pangea Land formations – Plates, volcanoes, mountains, valleys

Lesson 1	Lesson 2	Lesson 3	Lesson 4	Lesson 5	Lesson 6	Lesson 7	Lesson 8
To be able to compare and group together different kinds of rocks on the basis of their appearance. To make careful observations and compare rocks based on appearance.	To be able to compare and group together different kinds of rocks on the basis of their appearance and simple physical properties. To group and classify rocks using observable properties.	To be able to compare and group together different kinds of rocks on the basis of their appearance and simple physical properties. To compare rocks using evidence from observation.	To be able to compare and group together different kinds of rocks on the basis of their appearance and simple physical properties. To be able to set up simple comparative tests.	To be able to describe in simple terms how fossils are formed when things that have lived are trapped within rock. To sequence events to explain how fossils are formed.	To be able to recognise that soils are made from rocks and organic matter. To be able to set up simple comparative tests. To be able to present information in a branching key.	To be able to recognise that soils are made from rocks and organic matter. To make comparisons and identify the features of soil. To compare soils and identify similarities and differences.	To be able to recognise that soils are made from rocks and organic matter. To be able to set up simple comparative tests. To be able to measure using beakers.
Rocks Appearance What do different rocks look like?	**Types of Rocks** How were different rocks formed?	**Uses of Rocks** How are different rocks used?	**Permeability** Which rock is the most permeable?	**Fossils – Make links to Mary Anning.** How are fossils made?	**Soil** What are soils made from? What are the different types of soil?	**Soil at CHPA** What type of soil can be found at CHPA?	**Soil Absorbency** How much water do different soils absorb?

Science MTP: Sequence of lessons	Forces and Magnets	Year 3	Focus Scientist: James Clerk Maxwell

Reference to the Programme of Study 2014	Key vocabulary
Pupils should be taught to: 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.	Magnets – bar and horseshoe Attract, repel North and south poles Magnetic Magnetic field

Lesson 1	Lesson 2	Lesson 3	Lesson 4	Lesson 5	Lesson 6
To be able to compare how things move on different surfaces. To plan and carry out a simple fair test.	To be able to 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. To be able to use results to draw simple conclusions.	To be able to 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. To communicate findings through oral explanation.	To be able to notice that some forces need contact between two objects, but magnetic forces can act at a distance. To be able to make systematic and careful observations.	To be able to notice that some forces need contact between two objects, but magnetic forces can act at a distance. To carry out comparative tests to answer a question.	To be able to predict whether two magnets will attract or repel each other, depending on which poles are facing. To be able to describe magnets as having two poles. To make predictions and test ideas about magnetism.
Different Surface Types How does the type of surface on the table affect the speed of the tub travelling on it?	**Magnetic Materials** Which materials are attracted to magnets?	**Attracting Magnets** Which materials can magnets attract through?	**Strength of Magnets** Which magnet is the strongest?	**Making a Compass** How do I create my own magnet?	**Exploring – Attracting & Repelling** Which magnet poles attract and which repel?

Science MTP: Sequence of lessons			Plants (Plant Nutrition & Reproduction)		Year 3	Focus Scientist: Jan Ingenhousz
Reference to the Programme of Study 2014 Pupils should be taught to: Identify and describe the functions of different parts of plants; roots, stem, leaves and flowers. Explore the requirements of plants for life and growth (air, light, nutrients from soil and room to grow) and how they vary from plant to plant. Investigate the ways in which water is transported within plants. Explore the role of flowers in the life cycle of flowering plants, including pollination, seed formation and seed dispersal			**Key vocabulary** **Trees** - deciduous, evergreen, ash, birch, beech, rowan, common lime, oak, sweet chestnut, horse chestnut, apple, willow, sycamore, fir, pine , holly, etc **Wild flowering plants** - cleavers, coltsfoot, daisy, dandelion, garlic mustard, mallow, mugwort, plantain, red clover, self heal, shepherd's purse, sorrel, spear thistle, white campion, white deadnettle and yarrow. **Garden plants** – crocus, daffodil, bluebells, etc **Parts of plants** – roots, branch, trunk, stalk, leaf, flower, petal, seeds, bulbs and twigs **Parts of a flower** – petal, stamen (anther + filament), carpel (stigma + style + ovary + ovule) **Processes** – pollination, fertilisation, germination			
Lesson 1 To be able to identify and describe the different functions of a plant. To ask questions and make observations about plants.	**Lesson 2** To be able to identify and describe the function of the roots To make careful observations using simple equipment..	**Lesson 3** To be able to investigate the ways in which water is transported within plants. To be able to identify and describe the function of the stem. To observe changes over time and record findings.	**Lesson 4** To be able to identify and describe the function of the leaves. To be able to gather and record data.	**Lesson 5** To be able to identify and describe the function of the flower. To observe closely and identify the functions of flowers.	**Lesson 6** To be able to identify and describe the function of the flower. To gather information from secondary sources.	**Lesson 7** To be able to explore the requirements of plants for life and growth (air, light, water, nutrients from soil). To plan and carry out a fair test and record results over time.
Functions of a Plant Is a plant a living thing, and if it is, how can we prove this?	**Roots** What do the roots of plants look like close up?	**Stem – Water Transportation** How can we prove that stems transport water?	**Leaves** What happens when we deprive the leaf from light?	**Flower** What do the parts in a flower do?	**Flower Pollination** How are the different flowers pollinated?	**Plant Survival** What do plants need to grow and survive?

Science MTP: Sequence of lessons	Light Light and Shadows	Year 3	Focus Scientist: James Clerk Maxwell

Reference to the Programme of Study 2014

Pupils should be taught to:
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 a solid object
Find patterns in the way that the sizes of shadows change.

Key vocabulary

Simple comparisons: dark, dull, bright, very bright

Comparative vocabulary: brighter, duller, and darker

Superlative vocabulary: brightest, dullest, and darkest

Opaque, translucent, transparent **Shadow** – block, absence of light Reflect – bounce, mirror, reflection

See – light source Sun – sunset, sunrise, position

Dangerous bright damaging UV Light

Lesson 1	Lesson 2	Lesson 3	Lesson 4	Lesson 5
To be able to recognise that they need light in order to see things and that dark is the absence of light. To make observations to answer questions about light and dark.	To be able to recognise that shadows are formed when the light from a light source is blocked by a solid object. To observe and identify how shadows are formed.	To be able to find patterns in the way that the size of shadows change. To be able to set up a simple fair test. To plan and carry out a simple fair test to investigate shadows.	To notice that light is reflected from surfaces. To compare materials and identify which reflect light best.	To recognise that light from the sun can be dangerous and that there are ways to protect our eyes. To observe changes and use evidence to explain how to protect eyes.
Light How can we see objects without light?	**Shadows** Where can shadows be found?	**Observing Changes in Shadows** How can we change the size of a shadow?	**Materials that Reflect Light** Which material is the most reflective?	**Protecting Eyes** Are the sun's UV rays dangerous?