PLANTS Progression

EYFS	YR 1	YR 2	YR 3	YR 4	YR 5	YR 6
(FS1) Make close observations of conkers, leaves, pinecones Talk about why leaves change colour Observe Spring flowers growing Plant sunflower (FS2) Where is the best place for a plant to grow? Label parts of a plant (with support) Observe seeds using magnifying glasses Plant cress Plant beans	To explore a variety of plants in the outdoor space To examine, sort and taste a range of fruits and vegetables that could be grown in a garden To plant and grow carrots To label a flower To closely observe the growth of a seed to a sunflower. To identify and classifying deciduous and evergreen trees To identify and name a variety of wild plants (including trees) To make close observations of leaves and plants To identify and name a variety of garden plants **Beatrix Potter**	To make close observations and sort seeds To plant and grow potatoes To describe a life cycle of a sunflower To grow a range of seeds into mature plants To compare the effects of 5 different factors on plant growth To compare bulbs and seeds To research the requirements for British vegetables to grow To understand what parts of plants we eat To explore the requirements for fruits around the world to grow **Captain cook or Agnes Arber**	To identify and describe the functions of the plant To investigate how leaves, help convert sunlight into food To sort different parts of plants we eat To research different conditions different plants, need for life and growth To investigate whether soil type affects plant growth To investigate the rate of transportation of water To classify seeds into how they are dispersed To know the steps in the pollination cycle **Joseph Banks- or Ahmed Mumin Warfa -**	***In Living things and their habitats:*** ***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.***	***In Living things and their habitats:*** *To describe the life process of reproduction in flowering plants* *To describe the life process of asexual reproduction in plants* *To grow a new plant from a parent plant.*	***In Living things and their habitats:*** *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.*

– OBSERVING OVER TIME

COMPARTIVE TESTS & FAIR TEST

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ANIMALS Progression

EYFS	YR 1	YR 2	YR 3	YR 4	YR 5	YR 6
(FS1) Mirrors drawing of ourselves and families Name squirrels and hedgehogs and other woodland animals Farm trip Life cycles of a chicken, observing life cycle of caterpillar (FS2) Facts about squirrels and hedgehogs 5 activities to explore senses Keeping happy and healthy Healthy eating Life cycle of a frog	**(Humans)** To identify parts of our body To identify and label parts of the human body To investigate different heights of pupils in class to feet size(Maths) To identify the five senses To use the sense of sound To use the sense of smell **(Animals)** To name and identify animals To identify UK mammals To identify birds and mammals To identify fish and amphibians To classify animals To sort/classify animals by what they eat To know animals bodies are covered in different ways To know how to look after animals To visit a pet shop **Chris Packham**	**(Humans)** To investigate how germs spread in a form of a sneeze To observe how germs are spread through contact To sort and group the basic needs of a human (baby) for survival To sort food using a carroll diagram To analyse a school dinner To make a pizza using all food groups (DT) To collect data about the impact of exercise on the body To know how health and keeping healthy To observe photos of themselves as babies and compare them to current photos **(Animals)** To observe the life cycle of a caterpillar as it grows To visit a farm To research the basic needs of wild animals To match animals to their young To make an exotic pet guide for owners **Steve Irwin**	To research nutrients To identify the right type of nutrition by examining food groups To apply knowledge of nutrients to make a sandwich (DT) To identify and names bones To explain the skeleton and some of its functions. To classify bones that protect organs and move To explore how muscles work To investigate whether children with taller legs run faster To classify animals based on their skeletons To compare animals **Wihelm Rontghen -X Rays**	To locate and order parts of digestive system To research the simple functions of the basic parts of the digestive system To identify the different types of teeth in humans and their simple function To investigate and explain how to keep teeth and gums healthy To know and understand simple food chains To make a video to describe the order and basic functions of the digestive system To consolidate learning about the digestive system **Ivan Pavlov- Digestive System Mechanisms**	To draw timeline to indicate stages in growth and development of humans To present data to describe the development of babies in their first year To describe and explain the main changes that occur during puberty To identify the changes that take place in old age **Eva Crane - Reproduction in Bees**	To investigate and record data about resting pulse rates To investigate how exercise impacts a pulse To research the parts of the circulatory system To understand what happened to the oxygen we breathe in To describe the function of blood and blood vessels To describe the ways nutrients and water are transported through the body (English) To understand what a 'balanced diet' is and analyse healthy snacks To recognise the impact and dangers of alcohol and drugs To research and present information about a scientist

– OBSERVING OVER TIME

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LIVING THINGS and their HABITATS Progression

EYFS	YR 1	YR 2	YR 3	YR 4	YR 5	YR 6
(FS1) To learn about woodland animals and their habitats To learn the names of spring flowers To explore outdoor spaces for minibeasts (FS2) To learn about pumpkins and where they grow To explore arctic sceneries and arctic animals To go on a trip to the zoo or park	*In plants:* *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* *In animals:* *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*	To explore and compare the differences between things that are living, dead or never been alive. To map a habitat and identify what is in it To match animals to their habitats To explore animals and plants from a seaside habitat To compare two areas for minibeast and carry out a simple investigation To research a habitat and the animals and plants that live in it. To identify that most living things live in habitats to which they are suited To explain how living things in a habitat depend on each other To describe how animals get their food **(Marine biologist); Rachel Carson**	***In Plants:*** *Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.*	To understand the characteristics of a living things To ask questions, observe and record the living things in a local area To classify living things in different of ways To create a classification key to name living things To classify living things found in different habitats To use fieldwork to explore impact on the local environment To research the effects of cutting down trees in rainforests To research how a natural disaster could affect an environment **Cindy Looy- Environmental Change and Extinction**	To describe the life process of reproduction in flowering plants To observe how plants can reproduce asexually To compare and describe the life cycles and reproduction (metamorphosis) of insects and amphibians To compare and describe the life cycle and reproduction of mammals and birds To research the life cycle and dangers of the green turtle To look for patterns about the gestation period of different mammals **Jane Goodall: naturalist**	To recap ways of grouping organisms according to their characteristics **To research scientist: Carolus Linnaeus** To understand the Linnaean System of classification To be able to identify characteristics of different types of animals To develop classification keys: non- flowering plants and flowering plants To research main characteristics of a vertebrate group To create an imaginary animal that has features from one or more groups To research micro-organisms and how they can be grouped To investigate what conditions make yeast grow

– OBSERVING OVER TIME

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LIGHT Progression

EYFS	YR 1	YR 3	YR 6
In the provision: Investigation station: different coloured lenses for glasses that can be mixed together, torches and mirrors	*In animals (including humans):* *Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. (Y1 - Animals, including humans)*	To explore how different objects are more or less visible in different levels of lighting To explain that we need light to see things, and dark is the absence of light To Investigate the reflective nature of different materials To identify and classify materials that are opaque, transparent and translucent To investigate what material is best suited for a pair of sunglasses To investigate the difference in shadows when using different materials To investigate how moving the light source affects the shadow To choose suitable materials to make shadow puppets To research scientist: James Clerk Maxwell	To recognise that light travels in straight lines To use mirrors to show that light travels in a straight line To investigate how refraction changes the direction in which light travels To label the main parts of the human eye and explain their functions To investigate how light enables us to see colours To investigate how shadows can be changed To research scientist: Patricia Bath, Thomas Young, Percy Shaw or Ibn al-Haytham

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FORCES Progression

EYFS	YR 2	YR 3	YR 5
In the provision: Magnet investigation station for exploring, sorting objects that are magnetic and non magnetic, Stomp rocket experiment, explore the idea of gravity/no gravity in space. Mini pull and go car investigation station	*In Uses of everyday materials:* *Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching*	To identify push and pulls To investigate how objects move on different surfaces To classify materials according to whether they are magnetic To explore the way that magnets behave in relation to each other To explore how different objects move To classify coins To devise an investigation to test the strength of magnetics To investigate how magnets work at a distance through materials To research scientist: The Wright Brothers (Airplanes)	To demonstrate the effect of gravity acting on an unsupported object To Investigate the effect of friction in a range of contexts To investigate the effects of air resistance in a range of contexts To Investigate resistance in different liquids To explore how levers, pulleys and gears work To know that some levers and pulleys allow a smaller force to have a greater effect To make a product that involves a lever, pulley or gear (DT) To research how the work of scientists such as Galileo Galilei and Isaac Newton helped to develop the theory of gravitation

– OBSERVING OVER TIME

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ROCKS Progression

YR 1	YR 2	YR 3	YR 6
In everyday materials: *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*	*In uses of everyday materials:* *Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses*	To observe closely and classify rocks in a range of ways, based on their appearance To devise a test to investigate the hardness of a range of rocks To investigate the properties of a rock To observe how rocks have changed over time To research and explain how fossils are formed To model fossil formation To observe and classify soils To observe how soil can be separated through sedimentation To research scientist: Mary Anning	*In 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*

– OBSERVING OVER TIME

COMPARTIVE TESTS & FAIR TEST

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SOUND Progression

EYFS	YR 1	YR 4
In the provision: A range of listening games	*In animals (including humans):* *Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.*	To explore making sounds in a range of ways To classify sound sources To explore how vibrations from sounds travel through solids and liquids to the ear To investigate how sounds change with distance from the source To investigate muffling sounds by using materials To explore changing the volume of sounds To explore changing the pitch of sounds To research scientist: Aristotle - Sound Waves

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ELECTRICITY Progression

YR 4	**YR 6**
To sort and classify objects on how they are powered To explore how to make a lightbulb work To classify the materials that were suitable/not suitable for wires To investigate which metal is the is the best conductor of electricity To explore how to connect a range of different switches and investigate how they function in different ways To apply knowledge of conductors and insulators to design and make different types of switch To make a circuit that can be controlled (Linked to DT) To research scientist: Thomas Edison	To recap knowledge of electrical circuits To make circuits and draw circuit diagrams To investigate the relationship between cells/voltage and lamp brightness To Investigate the relationship between cells/voltage and buzzer volume To research and design an intruder alarm circuit To test circuits and make improvements to the design To prepare a presentation about an investigation to explain how circuits work To investigate what type of fruit makes the best battery To research scientist: Nikola Telsa, Alessandro Volta or Edith Clarke

– OBSERVING OVER TIME

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MATERIALS Progression

EYFS	YR 1	YR 2	YR 3	YR 4	YR 5
(FS1) To explore materials in the sand and water To compare conkers Melt chocolate To observe ice melting To explore floating and sinking (FS2) To explore how animals keep warm in cold places To investigate using cooking fat To investigate floating and sinking To make pancakes and observe changing state	To identify different materials around us To explore the difference between a material and an object To classify objects made of one material To describe materials according to their property To identify natural and man made materials To investigate which material is waterproof To learn about scientist: William Addis Toothbrush Inventor	To classify objects in different ways To explore a range of materials and their suitability in the environment To identify the unsuitability of everyday materials for objects To investigate the absorbency of different paper (kitchen roll) To investigate the most suitable materials for a coat To explore how to make an absorbent material can be made waterproof To research scientist: Charles Macintosh To investigate how materials can be shaped To invent a new use for a material/object	*In rocks: 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.* *In rocks: Notice that some forces need contact between two objects, but magnetic forces can act at a distance*	To classify objects based on given criteria and describe their properties To investigate chocolate melting and how it can be reversed To compare the melting points of different materials To explore freezing different liquids To set up investigations to explore changing the rate of evaporation To observe and explain the process of condensation To research and present learning about the water cycle in a range of ways To research scientist: Joseph Priestly – Discovered oxygen	To investigate the properties of different materials in order to recommend materials for particular functions depending on these properties To explore adding a range of solids to water and other liquids To investigate rates of dissolving To explore separating mixtures by sieving, filtering and evaporation, choosing the most suitable method and equipment for each mixture To explore a range of irreversible and irreversible changes To plan a procedure to separate a mixture To investigate thermal insulation To create a classification key to separate materials To research new materials produced by chemists

COMPARTIVE TESTS & FAIR TEST

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EARTH Progression

EYFS	YR 1	YR 5
(FS2) To learn planet names To learn simple facts about	*In seasonal changes:* *Observe changes across the four seasons Observe and describe weather associated with the seasons and how day length varies*.	To understand the movement of the Earth and the moon and use secondary sources to help create a model To use secondary sources to help make a model and explain why day and night occur To use data to draw conclusions about the sun at different times of the year To observe how shadows caused by the sun change throughout the day To describe the movement of the Earth, and other planets, relative to the Sun in the Solar System To describe the movement of the Earth relative to the moon To research a scientist of my choice linked to Space To summarise my learning

– OBSERVING OVER TIME

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EVOLUTION progression

YR2	YR 3	YR4	YR 6
In Living Things and their Habitats: *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*	***In Rocks:*** *Describe in simple terms how fossils are formed when things that have lived are trapped within rock:*	***In Living Things and their Habitats:*** Recognise that environments can change and that this can sometimes pose dangers to living things.	To researching the characteristics that make a plant suited to its environment To Identify characteristics that make an animal suited to its environment To create an animal suited to an unusual environment To research the evolution of the peppered moth To investigate if there is a pattern between the size and shape of a bird's beak and what they eat To make close observations of parents and offspring (The Beckhams) To create a model for inherited characteristics To make observations of fossils to identify living things that lived on Earth millions of years ago and compare to modern day animals To compare the ideas of Charles Darwin and Alfred Wallace on evolution To research scientist: Mary Anning and how this provided evidence to evolution

– OBSERVING OVER TIME

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SEASONAL CHANGES Progression

EYFS	YR 1	YR3	YR 5
(FS1) Autumn walk -– observe leaves falling off trees, talk tray to explore crunching Appropriate clothing for winter Need for sunscreen and hat in the sun (FS2) Why do leaves fall? Signs of spring. Suitable clothes for a trip	HOME SCHOOL TEDDY BEAR LINK To place the months and seasons in order To observe changes across the four seasons (x4) To observe and record weather across 4 seasons (x4) To observe how day light varies To observe and describe weather over the 4 seasons	***In Light:*** *Recognise that light from the sun can be dangerous and that there are ways to protect their eyes.*	***In Earth and Space:*** *Use the idea of the Earth's rotation to explain day and night and the apparent movement of the Sun across the sky.*

– OBSERVING OVER TIME

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