OUR MISSIONS: Love of learning – Grow Spiritually – Foster Respect – Serve our Community – Opportunity to Flourish – Prepare and Equip

YEAR THREE **Science**

Autumn 1 – **Animals including humans** (skeletal system)

Key Questions: Why do we need a skeleton? How do we move about?

Key Skills: Plan Do Record Review

- ask relevant questions and using different types of scientific enquiries to answer them
- set up simple practical enquiries and comparative tests (fair tests being modelled and discussed)
- make systematic and careful observations
- gather, sort, classify data in a variety of ways to help in answering questions
- record findings using simple scientific language, drawings, labelled diagrams, keys, pre-created tables to be filled in.
- give oral explanations and simple written presentations of results and conclusions
- use results to draw simple conclusions

Learning	Activities
• identify that humans and some animals have skeletons and muscles for support, protection and movement	Mind map what they know already. Ask questions. Build large paper skeletons with 'working joints', position and label them. Look at x rays and a variety of animal skeletons. Guess the animal quiz. Classify and sort animal skeleton pictures. Label muscles, joints and bones on a diagram. Make a working arm model with 'joint' and 'muscle' (using card, split pin and elastic bands) Discuss how we can investigate the effects of exercise on our heart muscle, predict the effect and try to think why out heart does this. Investigate the heart muscle by making 'stethoscopes' and testing heart rates after exercise. Record results of test in a pre-created table. Discuss results and observations. Discuss conclusion about muscles and, in particular, heart muscle. Mind map what they have learned. Answer questions from the first session.

Autumn 2 – **Magnets**

Key Questions: What is magnetism?

Key Skills: Plan Do Record Review

- ask relevant questions and using different types of scientific enquiries to answer them
- set up simple practical enquiries and comparative tests (fair tests being modelled and discussed)
- make systematic and careful observations
- gather, sort, classify data in a variety of ways to help in answering questions
- record findings using simple scientific language, drawings, labelled diagrams, keys, pre-created tables to be filled in.
- give oral explanations and simple written presentations of results and conclusions
- use results to draw simple conclusions

Learning	Activities
• notice that some forces need contact between two objects and magnetic forces 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	Discuss forces and magnetism. Ask questions. Decide how we can prove that magnetism works 'at a distance'. Paperclip moving challenge. Intro to 'fair' test to compare the strength of 3 magnets and find out which is strongest. Record results of fair test in pre-defined table. Discuss and review results. Make a home made 'compass' to investigate poles. Discuss other ways to test attraction or repulsion of magnets. Predict whether 2 magnets will attract or repel each other depending on pole presented. Investigate magnetic materials. Group / sort materials into magnetic / non-magnetic. Set up their own investigations / demonstrations to show that opposite poles attract, or that magnetism works at a distance, etc. Create and make a game that uses magnets.

Key Vocab Skeleton, skeletal system, muscles, joints, muscular system, vertebrate, invertebrate, endoskeleton, exoskeleton, cardiac muscle. Observe, investigate, predict, fair test, conclude	**Key Vocab** Magnets, magnetic force, magnetism, poles, north and south, attract, repel, compass, fair test.
Extension and Enrichment Opportunities	

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YEAR THREE **Science**

Spring 1 – **Rocks**

Key Questions: Where do rocks come from?

Key Skills: Plan Do Record Review

- ask relevant questions and using different types of scientific enquiries to answer them
- set up simple practical enquiries and comparative tests (fair tests being modelled and discussed)
- make systematic and careful observations
- gather, sort, classify data in a variety of ways to help in answering questions
- record findings using simple scientific language, drawings, labelled diagrams, keys, pre-created tables to be filled in.
- give oral explanations and simple written presentations of results and conclusions
- use results to draw simple conclusions

Learning	Activities
• 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	Investigate rocks in a variety of ways Plan, discuss and predict results Observe closely, test with water and sandpaper, compare to each other using physical properties and appearance. Group and sort into natural or man made, then into sedimentary, igneous or metamorphic. Look at some fossils, watch time-lapse video recreations of fossil creation. Cut and stick sequence of fossilisation. Investigate soil and rock samples (possibly from around school) Make a large, 3D diagram / collage of the rock cycle to be labelled in groups. Review what they know – they create their own information pages / mind maps / 'museum exhibitions'.

Spring 2 – Animals including **humans (nutrition)**

Key Questions: How can we keep our bodies healthy?

Key Skills: Plan Do Record Review

- ask relevant questions and using different types of scientific enquiries to answer them
- set up simple practical enquiries and comparative tests (fair tests being modelled and discussed)
- make systematic and careful observations
- gather, sort, classify data in a variety of ways to help in answering questions
- record findings using simple scientific language, drawings, labelled diagrams, keys, pre-created tables to be filled in.
- give oral explanations and simple written presentations of results and conclusions
- use results to draw simple conclusions

Learning	Activities
• 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	Reminder of eatwell plate – they create their own plate with further knowledge of nutritional groups (carbs, protein, etc.) Discuss the function of each food group. Design a balanced meal (for a particular purpose, e.g. for an athlete or an elderly person) Investigate lunch boxes and restaurant menus. Design their own menu for their own healthy eating restaurant. Make a collage / 3D diagram of the human digestive system. Set up an investigation into sugar in our foods. Compare sugar levels in popular drinks from our lunches. Review results and discuss our conclusions. Answer our original question.

Key Vocab	**Key Vocab**
Rock cycle, sedimentary, deposits, igneous, volcanic, metamorphic, pressure, man-made, natural, fossil, soil, properties, permeable, non-permeable. Samples, compare, observe	Nutrition, healthy, unhealthy, carbohydrates, proteins, vitamins, minerals, sugar content, energy. Observe, investigate, compare, conclude
Extension and Enrichment Opportunities	

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YEAR THREE **Science**

Summer 1 - **Light**

Key Questions: What are shadows?

Key Skills: Plan Do Record Review

- ask relevant questions and using different types of scientific enquiries to answer them
- set up simple practical enquiries and comparative tests (fair tests being modelled and discussed)
- make systematic and careful observations
- gather, sort, classify data in a variety of ways to help in answering questions
- record findings using simple scientific language, drawings, labelled diagrams, keys, pre-created tables to be filled in.
- give oral explanations and simple written presentations of results and conclusions
- use results to draw simple conclusions

Learning	**Activities**
• 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 size of shadows change	Mind map what they know already and ask questions about what they would like to know. Investigate and sort light sources into natural and artificial. Observe how eyes only work if there is a light source. Observe how light moves in straight lines (using cardboard tubes and torches and /or card with pin hole cut out) Observe and investigate reflections using mirrors and playing mirror games. Observe how shadows are caused by an object blocking light (chalked shadows in playground or using torches in classroom) Plan their own investigation/ fair test into shadows. Ask their own question (e.g. what happens to the shadow if I move the object closer to the light source? Or I have more than 1 light source?) Carry out investigation.

Summer 2 – **Plants**

Key Questions: Does a plant eat?

Key Skills: Plan Do Record Review

- ask relevant questions and using different types of scientific enquiries to answer them
- set up simple practical enquiries and comparative tests (fair tests being modelled and discussed)
- make systematic and careful observations
- gather, sort, classify data in a variety of ways to help in answering questions
- record findings using simple scientific language, drawings, labelled diagrams, keys, pre-created tables to be filled in.
- give oral explanations and simple written presentations of results and conclusions
- use results to draw simple conclusions

Learning	**Activities**
• 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 of flowers in the life cycle of flowering plants, including pollination, seed formation and seed dispersal	Mind map what they know and ask questions. Make a 'lift the flap' diagram of plant parts with their functions described. Dissect a real plant and label it. Plan then set up a class experiment which investigates the effect on plants if certain conditions are changed (e.g. put in dark cupboard, leaves cut off, put in fridge, plastic bag over it to block air, no water, etc.) Conclude Plan. Observe how a pot plant and a cactus grow/die when not watered and left somewhere hot. Review weekly and record results. Investigate water transportation in stems using flowers and food dye. Create seed dispersal information sheets. Investigate some of the seed dispersal we can observe in our own grounds (e.g. clock dandelions) Create a collage in groups to show the complete life cycle of a plant.

	Record results. Discuss and record conclusion. Create own poster about the dangers of sunlight. Mind map what they have learned and if they have answered their original questions.		Mind map what they have learned and if they have answered their original questions.
Key Vocab Light source, natural, artificial, reflections, surfaces, light rays, straight lines. Observe, predict, investigate, 'fair test', conclusion.		**Key Vocab** Life cycle, roots, stem, leaves, petals, flowers, transportation, pollination, seed formation, dispersal, nutrients, transpiration, growth.	
Extension and Enrichment Opportunities			