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

YEAR 4 **Science**

Autumn 1 – Animals including humans

Key Questions:

What different types of teeth do animals and humans have?

Why do they need different types?

Key Skills: Plan Do Record Review

- ask relevant questions and using different types of scientific enquiries to answer them
- set up simple practical enquiries, comparative and fair tests.
- make systematic and careful observations and , where appropriate, taking accurate measurements using standard units, using equipment such as rulers and thermometers.
- gather, record, classify and present data in a variety of ways to help in answering questions.
- record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.
- report on findings from enquiries, include oral and written explanations, displays or presentations of results and conclusions
- use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions
- identify differences, similarities or changes related to simple scientific ideas and processes.
- use straightforward scientific evidence to answer questions or to support their findings.

Learning	Activities
Describe the simple functions of the basic parts of the digestive system in humans	Review and AFL healthy eating concept map. Ask questions – what they would like to know. Peristalsis demo using tights, bread and coca cola. Children to create a poster or information sheet in pairs showing how our digestive

Autumn 2 – Electricity

Key Questions:

What would life be like without electricity?

What is an electrical circuit? What are these parts of a circuit called?

Which materials are good conductors? Which materials are insulators?

Key Skills: Plan Do Record Review

- ask relevant questions and using different types of scientific enquiries to answer them
- set up simple practical enquiries, comparative and fair tests.
- make systematic and careful observations and , where appropriate, taking accurate measurements using standard units, using equipment such as rulers and thermometers.
- gather, record, classify and present data in a variety of ways to help in answering questions.
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Learning	Activities
Identify common appliances that run on electricity and identify the dangers associated with electricity. Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers	Identify common hazards related to the dangers of electricity. Create own electrical circuits to make a bulb light up. Then create a circuit introducing a switch. Experiment with different types of switch and the materials required.

Identify the different types of teeth in humans and their simple function	system works using the key words on the PP Use mirrors for children to look in their own mouths. Give everyone a small piece of bread and think about how they are using their teeth. Children to do experiment using eggs and the effect of different liquids on egg shells. (to simulate the effect on enamel) Children to generate questions to test tooth decay. They decide on type of experiment and plan. ! Report their findings, answer their questions.	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. 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.	Record in drawings and diagrams then introduce scientific symbols relevant to electricity. Comparative test on different materials in a circuit to see which are best conductors and which are the best insulators. Record findings using sorting activity. Review findings. DT/Science- To investigate the components of torches and design our own with respect to it needing to be a detachable circuit (cannot take it home)
Key Vocab		**Key Vocab**	
Extension and Enrichment Opportunities			
		Link to DT-investigation of torches; designing a torch with a detachable circuit.	

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YEAR 4 **Science**			
Spring 1 – States of Matter		Spring 2 – States of Matter	
Key Questions: What makes materials change state?		**Key Questions:** What is the water cycle? How does it work?	
Key Skills: Plan Do Record Review • ask relevant questions and using different types of scientific enquiries to answer them • set up simple practical enquiries, comparative and fair tests. • make systematic and careful observations and , where appropriate, taking accurate measurements using standard units, using equipment such as rulers and thermometers. • gather, record, classify and present data in a variety of ways to help in answering questions. • record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables. • report on findings from enquiries, include oral and written explanations, displays or presentations of results and conclusions • use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions • identify differences, similarities or changes related to simple scientific ideas and processes. • Use straightforward scientific evidence to answer questions or to support their findings.			
Learning	**Activities**	**Learning**	**Activities**
Compare and group materials together according to whether they are solids, liquids or gases	Sorting pictures into solids, liquids and gases. Drama / role play each state of matter. Investigation	Identify the part played by evaporation and condensation in the water cycle and associate the rate of	Children to work in pairs to make mini water worlds using the mini Water Worlds Activity sheet Water cycle collages

Observe that some materials change state when they are heated and cooled, and measure or research the temperature at which this happens in degrees Celsius.	Comparing the Weight of gases. Melting chocolate investigation Ice cube investigation	evaporation with temperature.	'Make it rain' - experiment
Key Vocab .		**Key Vocab**	
Extension and Enrichment Opportunities			

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YEAR 4 **Science**

Summer 1 - Sound	Summer 2 – Living things and their habitats
Key Questions: **How Does Sound Travel?** **How do we hear sounds?**	**Key Questions:** **How is global warming affecting the habitats of living things?** **Where do mini beasts like to live?** **Which animals are the ultimate predators?**
Key Skills: Plan Do Record Review • ask relevant questions and using different types of scientific enquiries to answer them • set up simple practical enquiries, comparative and fair tests. • make systematic and careful observations and , where appropriate, taking accurate measurements using standard units, using equipment such as rulers and thermometers. • gather, record, classify and present data in a variety of ways to help in answering questions. • record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.	Key Skills: Plan Do Record Review • ask relevant questions and using different types of scientific enquiries to answer them • set up simple practical enquiries, comparative and fair tests. • make systematic and careful observations and , where appropriate, taking accurate measurements using standard units, using equipment such as rulers and thermometers. • gather, record, classify and present data in a variety of ways to help in answering questions. • record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.

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Learning	**Activities**	**Learning**	**Activities**
To identify how sounds are made, associating some of them with something vibrating To find patterns between the volume of a sound and the strength of the vibrations that produced it. To recognise that vibrations from sounds travel through a medium to the ear. Recognise that sounds get fainter as the distance from the sound source increases	Children work in groups to create and perform a factual programme to explain how different sounds travel. Clapping investigation Tapping spoons investigation Twanging rulers investigation Rice Drum investigation Tuning forks investigation Bottle organ investigation Balloon voices investigation Hang in there investigation Sound proofing investigation – find out which materials are best suited to prevent or muffle sound	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 Construct and interpret a variety of food chains, identifying producers, predators and prey.	Mini-beast hunt Children to explore the habitats of various mini beasts and explore ways of classifying. Make booklets of chosen mini beast.
Key Vocab .		**Key Vocab**	
Extension and Enrichment Opportunities			
