



SUBJECT OVERVIEW FOR SCIENCE – (2hours time allocation per week)

Term	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Autumn 1	<p><b>Animals including Humans</b> 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 (fish, amphibians, reptiles, birds and mammals including pets) Writing Opportunities: Lists of animals in habitats Descriptive writing – Sentences to describe an animal type. Eg. I am cold blooded and I like to bask in the sun. I lay eggs and do not have any fur. What am I? Reptile</p> <p><b>Maths Opportunities:</b> Counting opportunities e.g. count the number in</p>	<p><b>Animals including Humans</b> Notice that animals, including humans, have offspring which grow into adults. Find out about and describe the basic needs of animals, including humans, for survival (water, food and air). Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.</p> <p><b>Writing Opportunities:</b> Persuade a friend to eat healthily.</p> <p><b>Maths Opportunities:</b> N/A</p>	<p><b>Rocks</b> (Compare and contrast different rocks based on appearance. Use a hand lens or microscope to identify and classify rocks according to whether they have crystal or grains or fossils in them). (Describe in simple terms how a fossil is formed).</p> <p><b>Writing Opportunities:</b> Information leaflet on 3 different types of rock</p> <p><b>Maths Opportunities:</b> N/A</p>	<p><b>Sound</b> (Identify sounds made from different objects of different sizes. Investigate the thickness of earmuffs to provide best insulation against sound. Create own instruments and describe results relating to pitch and volume).</p> <p><b>Writing Opportunities:</b> Persuasion – advertise ear protection gear.</p> <p><b>Maths Opportunities:</b> Statistics: table to show the results Year 3 Power Maths Unit 7 (Spring).</p>	<p><b>Properties and Changes of Materials</b> (Compare and group everyday materials on the basis of their properties (inc hardness, solubility, conductivity and response to magnets). Describe how to recover a substance from a solution).</p> <p><b>Writing Opportunities:</b> Formal written account of a science investigation.</p> <p><b>Maths Opportunities:</b> Statistics: present the data from the investigations in a variety of charts and tables YEAR 4 Power Maths Unit 14</p>	<p><b>Electricity</b> (Associate brightness of a bulb or volume of a buzzer with the number and voltage of cells used in the circuit. Draw and label circuits using recognised symbols. Investigate variations in how components function and give reasons for variation of: brightness in bulbs, volume of buzzers and the on/off position of switches).</p> <p><b>Writing Opportunities:</b> Instructions for completing a workable circuit, detailing how it could be changed.</p> <p><b>Maths Opportunities:</b> N/A</p>



	<p>each group, count the number of legs. Explore 1 more/1 less. Power Maths Unit 1 (Autumn)</p>					
Autumn 2	<p><b>Animals including Humans</b> Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.</p> <p>Writing Opportunities: Information text about a group of animals, e.g. mammals.</p> <p>Maths Opportunities: N/A</p>	<p><b>Uses of Everyday Materials</b> (Identify everyday materials and become familiar with uses (more than one use). Link to famous inventors/discoverers).</p> <p>Writing Opportunities: Class Biography – link to inventor</p> <p>Maths Opportunities: N/A</p>	<p><b>Forces and Magnets</b> (Observe magnetic forces and how they act without direct contact. Compare and group a variety of everyday materials on the basis of them being magnetic. Describe the magnet as having two poles and predict whether they attract or repel each other).</p> <p>Writing Opportunities: Instructions for an investigation</p> <p>Maths Opportunities: Statistics: make simple tables e.g. magnetic not magnetic. YEAR 2 Power Maths Unit 7 (Spring)</p>	<p><b>States of Matter</b> (Describe states of matter and observe and record changes to water as a solid, liquid and gas. Explore the effect of temperature on a variety of different materials (chocolate, butter, cream etc). Research temperatures for changing states (eg iron melting point, oxygen condenses)</p> <p><b>The Water Cycle</b> (Observe and record evaporation over time).</p> <p>Explanation text – The Water Cycle</p> <p>Maths Opportunities: Number: children can count forwards and backwards with negative numbers. Reading a scale (e.g. a thermometer). Power Maths Unit 2 (Autumn) Subtraction: changes in water evaporation level (previous</p>	<p><b>Properties and Changes of Materials</b> (Use knowledge of solid, liquids and gases to decide how mixtures might be separated - filtering, sieving and evaporating. Explain, based on evidence from fair and comparative tests the particular uses of materials such as plastic, wood and metal).</p> <p>Writing Opportunities: Survival Information leaflet - how to filter water to be able to survive in the wilderness.</p> <p>Maths Opportunities: Measures: reading and converting scales when measuring the amount of water evaporated etc. YEAR 4 Power Maths Unit 13</p>	<p><b>Light</b> (Explore the fact that light travels in straight lines. Investigate the relationship between light sources, objects and shadows using puppets. Demonstrate refraction of light - rainbows).</p> <p>Writing Opportunities: Explanation of refraction</p> <p>Maths Opportunities: Geometry: angles: calculate the best position for a rear-view mirror. YEAR 5 Power Maths Unit 13</p> <p>Geometry: reflection: place mirrors to make light follow a path. Power Maths Unit 6</p> <p>Measures: investigating shadows (compare and measure the lengths). YEAR 5 Power Maths Unit 16 Statistics: present data in a variety of charts and tables. YEAR 5 Power</p>



				number learning from year 3).		Maths Unit 4. YEAR 4 Power Maths 14.
Spring 1	<p><b>Everyday Materials</b> (Learn names of different materials and properties, performing simple tests).</p> <p>Writing Opportunities: Labels and captions of items and their materials.</p> <p>Maths Opportunities: N/A</p>	<p><b>Uses of Everyday Materials</b> (Observe, identify and classify uses of materials in school and at home. Record observations).</p> <p>Writing Opportunities: Fact file showing different uses of the same material, e.g. plastic (rigid, solid, reusable etc).</p> <p>Maths Opportunities: Statistics: Tally charts of how many windows they can find at school or at home. Pictograms: How many windows, doors etc. are around the school. Power Maths Unit 7 (Spring).</p>	<p><b>Light</b> (Explore what happens when light reflects off a mirror. Understand the need to protect eyes from bright light (esp sun). <b>Measure and record</b> shadows and investigate how to change them).</p> <p>Writing Opportunities: Poetry – natural/human light sources</p> <p>Maths Opportunities: Measures: measure, compare and add/subtract lengths (Power Maths Unit 8).</p>	<p><b>Electricity</b> (Construct simple circuits adding in different components. Draw and label circuits (not using symbols as these come in Yr 6). Investigate which metals are conductors of electricity and which materials can be used to connect a gap in a circuit).</p> <p>Writing Opportunities: Instructions – how to create an effective circuit</p> <p>Maths Opportunities: N/A</p>	<p><b>Earth and Space</b> (Children to discover our solar system and which scientists had an impact on what we know. Compare night and day and different time zones around the world. Construct sundials).</p> <p>Writing Opportunities: Biography of Sir Isaac Newton</p> <p>Maths Opportunities: Measures and number: calculate the distance each planet is from the sun. YEAR 4 Power Maths Unit 13 Number: calculate and compare different time zones. Power Maths Unit 1 and 3.</p>	<p><b>Animals including Humans</b> <b>The Circulatory System</b> (Identify the main parts of the human circulatory system and describe the functions of the heart, blood vessels and blood. Use prior knowledge of skeletal and digestive system to understand how the circulatory system enables the body to function. Describe the way in which nutrients are transported within animals (inc humans). Investigate the relationship between diet, exercise, lifestyle and health).</p> <p>Writing Opportunities: Explanation text – what happens if part of this system fails.</p> <p>Maths Opportunities: Statistics: Pie charts: organise the components of blood into a pie chart. <b>THIS WOULD BE NEW LEARNING.</b> The percentage part of</p>



						<p>this task would have been covered in Power Maths Unit 8.</p> <p>Statistics: Investigate the effect of exercise on heart rate and present the information using charts and tables. Year 5 and 4 Power Maths Units will cover this.</p> <p>Number: calculate the amount of alcohol in various drinks. Power Maths Unit 8</p>
Spring 2	<p><b>Plants</b> (Identify buds on trees and observe growth of flowers. Record changes over seasons).</p> <p>Writing Opportunities: Chronological report – how flowers grow</p> <p>Maths Opportunities: Measure whatever they have planted. Use associated language- how much taller (using non-standard measures e.g. cubes) Add and subtract by comparing the sizes of the plants e.g. this</p>	<p><b>Living things and their Habitats</b> (Find out basic needs of animals (inc humans) for survival. Describe the importance of exercise, balanced diet and hygiene. Observe a range of life cycles and ask questions to develop understanding of what is necessary for survival).</p> <p>Writing Opportunities: Poster – life cycle of a butterfly.</p> <p>Maths Opportunities: N/A</p>	<p><b>Animals including Humans</b> Animals – skeletons, adaptation, diets</p> <p>(Identify the right types and amounts of nutrition needed by animals (inc humans) as they cannot make their own food. Observe and identify animals with and without skeletons to see how they move. Compare and contrast animal's diets and group them by what they eat).</p> <p>Writing Opportunities:</p>	<p><b>Animals including Humans</b> <b>The Digestive System</b> (Explore questions to understand the function of the digestive system and associated body parts).</p> <p>Writing Opportunities: Explanation of how the digestive system works</p> <p>Maths Opportunities: N/A</p>	<p><b>Forces</b> (Explore falling objects and raise questions about air resistance. Explore the effect of friction on movement and the effects of levers and pulleys in simple machines. Design and create investigations, carrying out fair tests to determine the most effective designs).</p> <p>Writing Opportunities: Persuasion – advert for your design of a machine for use in space</p> <p>Maths Opportunities:</p>	<p><b>Living Things and their Habitats</b> (Use classification systems and keys to identify some animals and plants in the immediate environment. Research Aristotle and Carl Linneaus who were pioneers in classification).</p> <p>Writing Opportunities: Biography of Carl Linneaus or Aristotle</p> <p>Maths Opportunities: N/A</p>



	<p>plant was 3 cubes long last week and now it's 5. How much longer is it this week? Compare the heights of different plants. Power Maths Units 3, 4, (Autumn) 8, 10, 11 (Spring)</p>		<p>Explanation leaflet about how the body moves</p> <p>Maths Opportunities: Statistics: Interpret and present data. Children analyse data. Power Maths Unit 7 (Spring)</p>		<p>Measuring within investigations e.g. how far does a car travel on different surfaces? YEAR 4 Power Maths unit 13 Statistics: Presenting data from the investigations in a variety of charts and tables Power Maths Unit 4 and YEAR 4 Unit 14</p>	
Summer 1	<p><b>Everyday Materials</b> Further exploration of materials and their uses.</p> <p>Writing Opportunities: Explain why a product is made of a certain material</p> <p>Maths Opportunities: N/A</p>	<p><b>Living things and their Habitats</b> (Children to learn characteristics that are essential to life. Sort and classify things that are alive, dead or never alive. Explore questions to abstract concepts eg. Is a flame alive? Is a deciduous tree dead in winter?)</p> <p>Writing Opportunities: Instructions – for keeping a plant alive</p> <p>Maths Opportunities: Statistics: tally charts, live charts recording frequency of living and dead things in the school environment. Power Maths Unit 7 (Spring)</p>	<p><b>Animals including Humans</b> Humans –skeletons, muscles, diet</p> <p>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 other animals have skeletons and muscles for support, protection and movement.</p> <p>Writing Opportunities: Persuasion – promoting correct nutrition</p>	<p><b>Animals including Humans</b> (Compare teeth in carnivores and herbivores suggesting reasons for damage and how to look after them).</p> <p>Writing Opportunities: Non-chronological report – the function of teeth</p> <p>Maths Opportunities: N/A</p>	<p><b>Living Things and their Habitats</b> (Observe and compare the life-cycles of plants and animals in their local environment with others from around the world. Suggest similarities and differences for comparison. Describe the differences in the life-cycle of a mammal, an amphibian, an insect and a bird. Describe the life process of reproduction in some plants and animals).</p> <p>Writing Opportunities: Chronological Report – Life cycles</p> <p>Maths Opportunities: N/A</p>	<p><b>Evolution and Inheritance</b> (Recognise that living things change over time and that fossils provide information about previous inhabitants on Earth. Research Mary Anning and Charles Darwin to inform the development of the idea of evolution. Understand that living things produce offspring of the same kind but not usually identical. Raise questions and observe how animals are adapted to specific environments. Analyse advantages and disadvantage of adaptations).</p> <p>Writing Opportunities:</p>



			Maths Opportunities: N/A			Series of diary entries in role of Charles Darwin  Maths Opportunities: Number: explore the dates/time periods and calculate how old the fossils are. Power Maths Unit 1 and 3 (Autumn)
Summer 2	<p><b>Seasonal changes</b> (Observe seasonal changes, making charts/tables about the weather).</p> <p>Writing Opportunities: Poetry - seasons</p> <p>Maths Opportunities: N/A- the children would be given premade charts and tables, the teach would measure the temperature so modelling would take place but the children would not explore the concept.</p>	<p><b>Plants</b> (Introduce terminology like germination and reproduction in relation to growth in plants. Observe and record growth in a variety of plants over time. Set up a comparative test to show what plants need to stay healthy (water/light only not soil or air as this is Year 3).</p> <p>Writing Opportunities: Paragraph to explain results</p> <p>Maths Opportunities: Estimate and measure using standard units (Power Maths Unit 14 (Summer).</p>	<p><b>Plants</b> (Identify and describe the functions of different parts of flowering plants. Explore the requirements for life and growth (inc air, light, water, nutrients from soil and space). Investigate how water is transported within plants. Explore pollination, seed formation and seed dispersal).</p> <p>Writing Opportunities: Chronological report – Life cycle of a plant</p> <p>Maths Opportunities: Measures: investigate the effect on plant growth e.g. can it live without leaves? Can it live without roots etc.? Power Maths Unit 8, 13, 14 Statistics: create a table to show the</p>	<p><b>Living Things and their Habitats</b> 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 a danger to living things. Construct and interpret a variety of food chains, identifying producers, predators and prey.</p> <p>Writing Opportunities: Information text – how habitats suit inhabitants</p>	<p><b>Animals including Humans – age</b> (Create a timeline of growth from baby to old-age. Compare gestation time with that of other animals).</p> <p><b>SRE</b> (Explore the changes that take place during puberty).</p> <p>Writing Opportunities: Explanation text on development of a foetus over 40 weeks.</p> <p>Maths Opportunities: Statistics: to compare the gestation periods of different animals. Power Maths Unit 4 and YEAR 4 Unit 14</p>	<p><b>SRE</b> (Further discuss puberty and the physical and emotional effect on boys and girls. Discuss healthy relationships and how a baby is conceived (link to prior learning). Describe how to keep their body healthy and understand the impact of drugs and harmful substances on the body).</p> <p>Writing Opportunities: Persuasion – dangers of harmful substances/making healthy choices</p> <p>Maths Opportunities: N/A</p>



			results from the investigation. Power Maths Unit 7.	Maths Opportunities: Statistics: the classified animals can be sorted into charts and tables as another way to present the data. Power Maths Unit 14		
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