



### Science Curriculum Map

*At The Minster Nursery and Infants School, we believe that teaching and learning in Science should develop a sense of excitement and curiosity about natural phenomena and an understanding of how the scientific community contributes to our past, present and future. For these purposes, we follow the Kapow Scheme for Science. It provides first-hand experiences and support for children to develop enquiring minds, learning how to question and discuss Science through collaboration.*

*We want pupils to develop a complex knowledge of Biology, Chemistry and Physics but also adopt a broad range of skills in working scientifically and beyond. The scheme of work is inclusive and meaningful, so all pupils may experience the joy of science and make associations between their science learning and their lives outside the classroom. Studying Science allows children to appreciate how new knowledge and skills can be fundamental to solving arising global challenges. The curriculum encourages critical thinking and empowers pupils to question the hows and whys of the world around them.*

	Autumn		Spring		Summer	
<b>Nursery</b>	Children showing respect and care for their environment. Children talking about their home environment and school environment. Children exploring their world and environment through their senses. Children exploring the changing weather and seasons, Children continuing to explore using their senses. Children naming parts of the body. Children showing more of an interest in the world.		Children understanding how and why we respect and care for animals. Children exploring a range of materials and natural objects. To talk about what they see and experience through senses using a wide vocabulary. Children exploring the changing weather and seasons (Spring), Children learning about new life and plants based around Spring time		Children growing plants from seeds and caring for them, Children exploring how these plants grow and change over time. To explore and talk about different forces they can feel. Children exploring the changing weather and seasons (Summer), Children noticing changes such as ice melting in the sun and offering a reason why. To begin to understand the need to respect and care for the world. To be able to talk about some aspects of life cycles.	
<b>Key Vocabulary</b>	Respect care, look after, home, school, nursery, touch, see, feel, smell, hear, taste, weather, sunny, raining, snowing, ice, autumn, winter, summer, spring, body part names, explore.		Respect, care, look after, materials, man-made, natural, nature, weather, sunny, raining, snowing, ice, autumn, winter, summer, spring,		Seeds, soil, water, care, look after, grow, weather, sunny, raining, snowing, ice, autumn, winter, summer, spring, changes, why	
<b>Reception</b>	<p>The children go on an Autumn walk, talking about autumnal objects they find to understand the effect Autumn has on the natural world around them. They use their senses to talk about the differences and changes they note in their outside environment as the weather changes. The children explore the natural world around them, discussing what they touch, smell and hear. They observe and interact with natural processes, asking questions and offering explanations for why things might happen, for instance, how sound causes vibrations.</p> <ul style="list-style-type: none"> <li>● Close observational drawings of harvest vegetables and Autumnal objects.</li> <li>● Describing and exploring different building materials, linked to the story of 'The Three Little Pigs'.</li> <li>● Exploring making instruments to make sound and vibrations.</li> </ul>		<p>The children talk about Winter and Spring and begin to understand the effect it has on the natural world around them. They use their senses to talk about the differences and changes they note in their outside environment as the weather changes. They observe and interact with natural processes, asking questions and offering explanations for why things might happen. For instance, changing states when exploring ice melting and freezing water or magnetism. They explore the natural world around them and discuss how we can care for our world.</p> <ul style="list-style-type: none"> <li>● Close observational drawings of plants and flowers.</li> <li>● Planting bulbs and seeds and then looking after them.</li> <li>● Describing the life-cycle of a plant.</li> <li>● Experimenting with changing states of water.</li> <li>● Using magnets to attract objects and experiment</li> </ul>		<p>The children talk about Summer and begin to understand the effect it has on the natural world around them. They use their senses to talk about the differences and changes they note in their outside environment as the weather changes. They observe and interact with natural processes, asking questions and offering explanations for why things might happen. For instance, light travelling through transparent material, an object casting a shadow or a boat floating on water. The children visit a farm to learn about different farm animals.</p> <ul style="list-style-type: none"> <li>● Planting out flowers and looking after them.</li> <li>● Using light to make their own shadows and exploring how the sunlight creates shadows. .</li> <li>● Using recyclable materials and construction kits to experiment with making a boat that can float on water.</li> <li>● Describing the life-cycle of an animal.</li> </ul>	
<b>Key Vocabulary</b>	autumn windy cold rain harvest vegetable pinecone conker seed nut	leaf brick straw sticks sound loud quiet	winter spring frost icicles snow hail plant seed root	stem life-cycle ice water freeze steam boiling magnet attract	plant seed root stem life-cycle pig piglet other farm animals chicken egg	hen light reflection shadow translucent float sink heavy light air



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<p><b>Year 1</b></p>	<p><u>Seasonal Changes</u> Reflecting on their own experiences, children learn about the four seasons and the weather associated with each. Pupils explore how seasonal changes affect trees, daylight hours and our choices about outfits. They plan and carry out their own weather reports, considering the knowledge required for this job.</p> <p><u>Everyday Materials</u> Identifying the difference between objects and materials, children explore their surroundings to find examples of each. They work scientifically by planning tests, making observations and recording data. Pupils use results to answer questions and sort and group materials based on their properties.</p>		<p><u>Sensitive Bodies</u> Familiarising themselves with the basic parts of the human body, children investigate their senses through stimulating experiences that highlight how we interact with the world around us. They work scientifically, using their senses to make observations, spot patterns and use data to answer questions. They develop an understanding of how science can support those who have lost sensory function and consider how firefighters use their senses at work.</p> <p><u>Comparing Animals</u> Studying both local and global animals, children recognise common characteristics and physical features. They use this information to make comparisons and classify animals. Pupils consider the most effective way to collect data about class pets and record their findings in a block chart. They develop their understanding of classification by comparing the dietary habits of different animals and role play as Jane Goodall carrying out research into chimpanzees in the wild.</p>		<p><u>Introduction to Plants</u> Identifying the key features of a plant, children describe important structures and make comparisons between different plants. Pupils use investigative skills to record the growth of a plant over time and begin to reflect on factors that will affect its development. They begin to explore how plants are used by humans and grow their own herb garden.</p> <p><u>Making Connections</u> Bringing together pupils' learning from multiple Science units, helping them to make connections between the key concepts and skills.</p>	
<p><b>Key Vocabulary</b></p>	<p>Conclusion Data Deciduous tree Evergreen tree Pictogram Predict Record Season Sunrise Sunset Symbol Temperature Thermometer weather</p>	<p>Absorbent Fabric Glass Group Material Metal Object Opaque Plastic Property Rock Tough Transparent Waterproof wood</p>	<p>Action Bitter Blind Body Compare Data Direction Distance Feeling Group Hearing Investigation Loud Obstacle pattern</p>	<p>Quiet Research Salty Sense Senses Sensitive Sight Smell Sour Sweet Taste Touch Volume</p>	<p>blossom branches bud bulb cold compost dark deciduous die evergreen flower fruit garden germination growth</p>	<p>healthy leaf leaves light petals plant root seed shoot soil stem temperature, tree trunk unhealthy vegetable warm warmth water wild</p>
<p><b>Year 2</b></p>	<p><u>Habitats</u> Considering the life processes that all living things have in common, pupils classify objects into alive, was once alive or has never been alive. Pupils explore global habitats, naming plants and animals that can be found there. They learn how a range of different living things depend on each other for food or shelter. Pupils explore this further by creating food chains to show the sequence that living things eat each other for energy to grow and stay healthy.</p> <p><u>Microhabitats</u> Developing their understanding of scientific enquiry, pupils learn that scientists use a range of skills to answer questions. They discover that microhabitats provide what minibeasts need to</p>		<p><u>Uses of everyday materials</u> Building on their knowledge of everyday materials and their properties, pupils recognise that materials are suited to specific purposes and explore how actions such as stretching and bending affect the shape of solid objects. They compare the suitability of materials; gather and record data in tables and block graphs and use their results to answer questions. Children learn about the harmful effects of plastic and explore eco-friendly alternatives.</p> <p><u>Lifecycles and health</u> Studying the life cycles of various animals, children learn what animals need to survive and how they change over time. Pupils collect data that allows them to observe changes in their peers, while also developing their ability to take measurements and</p>		<p><u>Plant growth</u> Using their prior knowledge of important plant structures, children explain what factors are needed for successful growth and compare how those needs vary across different plants. They grow plants from seeds and bulbs to ascertain the needs for initial development and compare this to the survival needs of plants in later growth phases. Pupils take their own measurements and reflect on historical examples to understand how conclusions can be drawn.</p> <p><u>Making Connections</u> Bringing together pupils' learning from multiple Science units, helping them to make connections between the key concepts and skills.</p>	



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	survive and carry out a survey to find out where different minibeasts live in the school grounds. They practice asking scientific questions and follow a method to investigate which conditions woodlice prefer. Pupils explore the job role of a botanist by identifying flowering plants.		record data. They consider the role of expert scientific knowledge in careers that inform people to make healthy choices.			
<b>Key Vocabulary</b>	alive analyse camouflage carnivore classify coastal dead depend diet energy excretion food chain growth habitat herbivore life process mammal movement nutrition ocean omnivore predator	prey producer rainforest reproduction sensitivity shelter woodland botanist camouflage characteristics classification key classify comparative/fair test conclusion criteria data food chain identify invertebrate method microhabitat minibeast research results species survey tally test	bend block graph elastic fabric flexible glass material metal object plastic property pull push record rock squash stretch suitable twist wood		absorb aim anchor animal bud bulb changing coat competition conclusion conditions cycle data diary dispersal equipment explode flower food fruit function gather germinate growth healthy height hooks investigation leaf life	light log mature method minerals nutrients observation petals plants prediction recording reproduction results root scatter seed seedling shoots soil space stem store suitable sunlight survival temperature time transport unhealthy warmth water wind