

Science Curriculum Map - Autumn Term							
Term	Reception	Year 1	Year 2	Year 3 - Kapow	Year 4	Year 5 - Kapow	Year 6
Autumn	<p><b>Autumn</b> Autumn walk and exploring the changes in seasons Describe what they see, hear and feel whilst outside. Understand the effect of changing seasons on the natural world around them.</p> <p><b>Outdoors</b> <b>Bonfire Night</b> Discussing, exploring and sharing experiences of this. Describe what they see, hear and feel whilst outside.</p> <p><b>Outdoors</b> <b>Winter</b> Exploring ice, what happens when it heats up, how to get items out of it, how to return water to ice again. Describe what they see, hear and feel whilst outside. Understand the effect of changing seasons on the natural world around them.</p> <p>Explore the natural world around them.</p> <p><b>Challenge &amp; Risk Taking</b> <b>Outdoors</b></p>	<p><b>Seasonal changes</b> Autumn Observe changes across the four seasons. Observe and describe weather associated with the seasons and how day length varies</p> <p><b>Outdoors</b> <b>C &amp; RT</b></p> <p><b>Working scientifically/materials</b> 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.</p> <p><b>Outdoors</b> <b>C &amp; RT</b></p>	<p><b>Animals including humans/ Working scientifically</b> Understand that animals, including humans, have offspring which grow into adults. 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>C &amp; RT</b></p> <p><b>Outdoors</b></p> <p><b>Animals including humans/ Working scientifically</b> Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. Describe how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.</p> <p><b>Outdoors</b> <b>C &amp; RT</b></p>	<p><b>Materials: Rocks and soil</b> Observing the appearance and physical properties of rocks, children compare and group different rock samples. They learn about how fossils and soils are formed and record soil drainage rates in a bar chart.</p> <p><b>O, CR, SC</b></p> <p><b>Animals: Movement and nutrition</b> Studying the human skeleton, children identify key bones and explore how muscle changes result in movement. They learn about how the body uses energy, what constitutes a balanced diet in humans and how research contributes to nutritionist expertise.</p> <p><b>O, CR, SC</b></p>	<p><b>States of Matter</b> Compare and group materials together (solids, liquids or gases); investigate how some materials change state when they are heated or cooled, learn the temperature at which this happens in °C; water cycle; Set up simple practical enquiries, comparative and fair tests; Record findings using simple scientific language; draw simple conclusions</p> <p><b>SC, CR</b></p>	<p><b>Materials:</b> <b>Mixtures and Separation</b> Pupils explore different types of mixtures and the different methods that can be used to separate them. They dissolve a range of substances, identify different solutions and investigate how temperature affects the time taken to dissolve. They design and create a water filter, sieve soil and evaporate solutions.</p> <p><b>CR, O</b></p> <p><b>Materials:</b> <b>Properties and changes</b> Broadening their experience of the properties of materials, children investigate hardness, transparency and conductivity and consider how these properties influence the uses of materials. They explore reversible changes, including dissolving and changes of state. Children compare these to irreversible changes, including rusting, burning and mixing vinegar and bicarbonate of soda.</p> <p><b>CR, SC</b></p>	<p><b>Living things and their habitats</b> Use and create classification keys; identifying characteristics of different animal groups; vertebrates and invertebrates, reproduction and life-cycles of plants, (photosynthesis) and micro-organisms;</p> <p><b>CR, O</b></p> <p><b>Materials 1</b> Reversible and irreversible changes, making careful observations;</p> <p><b>CR, O</b></p>
Science Curriculum Map - Spring Term							
Spring	<p><b>Space</b> Exploring space, the planets, stars and the moon. Explore the natural world around them.</p> <p><b>Outdoors</b> <b>Spring</b> Spring walk and exploring the changes in seasons Understand the effect of changing seasons on the natural world around them.</p> <p><b>Outdoors</b> <b>Dinosaurs</b> Discover a dinosaur egg and deciding on the best place for this to hatch/be returned to its mother.</p> <p>Explore the natural world around them.</p> <p><b>Challenge &amp; Risk Taking</b> <b>Understanding the World</b> Learning about Fire Safety, the role of firefighters and exploring a fire engine.</p> <p><b>C, O</b></p>	<p><b>Working scientifically/ animals including humans/ living things and their habitats</b> Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. Group animals according to what they eat. 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).</p> <p><b>Outdoors, C &amp; RT</b></p>	<p><b>Working scientifically/ animals including humans/ living things and their habitats</b> 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. Identify and name a variety of plants and animals in their habitats, including micro-habitats. Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.</p> <p><b>C &amp; RT</b></p>	<p><b>Forces and space: Forces and magnets</b> By investigating motion on different surfaces, children learn about friction and compare its uses and disadvantages. They broaden their experience in working scientifically as they investigate contact and non-contact forces. Pupils explore the properties of different magnets and apply this to understand their uses.</p> <p><b>SC, CR, C</b></p> <p><b>Energy: Light and shadows</b> Identifying examples of light sources, children learn that light is needed to see and how its absence causes darkness. Children investigate reflection and shadow formation and explore how shadows can be used to entertain in the arts, creating shadow puppets to recount how different people work or experiment with light.</p> <p><b>O, CR, SC</b></p>	<p><b>Sound</b> Identifying how sounds are made, investigating pitch and volume; plan and carry out investigations; record findings using simple scientific language; draw simple conclusions</p> <p><b>SC, CR, C</b></p> <p><b>Forces and Magnets</b> Comparing how things move on different surfaces, exploring magnetism; carrying out investigations</p> <p><b>SC, CR, C</b></p>	<p><b>Forces and space: Earth and space</b> Children explore the movement of the celestial bodies in our Solar System, including the Earth and other planets and the Moon. They discover how the rotation of the Earth causes night and day and how sundials work. Pupils find out about the uses of satellites and the problem with space junk.</p> <p><b>O, CR</b></p> <p><b>Living things: Life cycles and reproduction</b> Comparing the life cycles of plants, mammals, birds, amphibians and insects. Investigating asexual reproduction in plants and comparing sexual and asexual reproduction.</p> <p><b>C, SC</b></p>	<p><b>Materials 2</b> Separating substances using dissolving, filtering, sieving and evaporation;</p> <p><b>Cleaning Nile River water; plan and carry out investigations</b></p> <p><b>CR, O</b></p> <p><b>Electricity</b> Associate the brightness of a lamp or volume of a buzzer with the number and voltage of cells in a circuit. Compare components functions using switches.</p> <p><b>Use recognised symbols in a circuit diagram.</b></p> <p><b>CR, C</b></p>
Science Curriculum Map - Summer Term							
Summer	<p><b>Down on the Farm</b> Trip to the farm Recognise some environments that are different to the one in which they live.</p> <p><b>Outdoors</b> Learning about what happens in a year on a farm is determined by the changing seasons. Understand the effect of changing seasons on the natural world around them</p> <p><b>Outdoors &amp; C</b></p> <p><b>Minibeasts</b> Go on minibeast hunts and look at different habitats. Visit Wisley to find out about different bugs.</p> <p>Explore the natural world around them.</p> <p>Describe what they see, hear and feel whilst outside. Recognise some environments that are different to the one in which they live.</p> <p><b>Outdoors</b></p>	<p><b>Working scientifically/ Plants/ Living things and their habitats</b> 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.</p> <p><b>Outdoors</b> <b>C &amp; RT</b></p> <p><b>Animals including humans/ Working scientifically</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><b>C &amp; RT</b></p> <p><b>Outdoors</b></p>	<p><b>Working scientifically/ Plants/ Living things and their habitats</b> Observe and describe how seeds and bulbs grow into mature plants. Describe how plants need water, light and a suitable temperature to grow and stay healthy, and describe the impact of changing these.</p> <p><b>Outdoors</b> <b>C &amp; RT</b></p> <p><b>Animals including humans/ Working scientifically</b> Explore and compare the differences between things that are living, dead, and things that have never been alive</p> <p><b>C &amp; RT</b></p> <p><b>Outdoors</b></p>	<p><b>Plants:</b> <b>Plant reproduction</b> Explaining how plants reproduce in the context of the life cycle of a flowering plant, gathering data on plant growth and investigating the structure and function of the parts of a flowering plant.</p> <p><b>SC, CR, O</b></p> <p><b>Making connections: Does hand span affect grip strength?</b> Exploring the relationship between hand span and grip strength through scientific enquiry. They apply their understanding of friction to make predictions and plan and carry out an enquiry.</p>	<p><b>Plants</b> Investigating different parts of a plant, requirements for life and growth, pollination, seed formation and dispersal</p> <p><b>SC, CR, O</b></p> <p><b>Living things and their habitats</b> Using classification keys to help group living things, recognising that environments can change and pose dangers to living things</p> <p><b>SC, CR, C</b></p>	<p><b>Forces and space: Unbalanced forces</b> Building on their knowledge of contact and non-contact forces, children explore gravity, friction, air resistance and water resistance in more depth and consider the effect of these forces being unbalanced. They plan investigations to further their understanding of the effects of these forces. Pupils test their ideas using models and compete to build the most effective pulley system.</p> <p><b>SC, CR</b></p> <p><b>Animals:</b> <b>Human timeline</b> Studying human development and changes, children identify key stages and consider what data may help determine if a child is growing normally. They describe how puberty affects girls and boys and produce graphs to compare how gestation periods vary across different mammals, including humans.</p> <p><b>Making connections: Does the size of an asteroid affect the diameter of its impact crater?</b> Children explore the relationship between the size of model asteroids and the diameter of the impact crater they create through experiments, data analysis, and drawing conclusions. They apply their understanding of gravity, air resistance and the Earth and space to make predictions and plan and carry out an enquiry.</p>	<p><b>Forces</b> Gravity, friction and air/water resistance; levers and pulleys</p> <p><b>CR, O</b></p> <p><b>Living things and their habitats</b> Describe life-cycles and reproduction in some animal; describe the changes as humans develop to old age (PSHE link puberty)</p> <p><b>C, SC</b></p>

#### Science Intent

Children are excited, inspired and curious about the world around them. They are able to use their knowledge, vocabulary and enquiry skills to investigate and understand the science of today, providing them with a foundation for their future scientific learning.