



Westgate Primary School

Science key knowledge progression

| YEAR 1 | YEAR 2 | YEAR 3 | YEAR 4 | YEAR 5 | YEAR 6 |
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| <p><u>Material Properties</u> <u>(Chemistry)</u>:</p> <ul style="list-style-type: none">Identify and name materials and objects made from theseDescribe simple properties of materials | <p><u>Material Properties</u> <u>(Chemistry)</u>:</p> <ul style="list-style-type: none">Compare materials and their best uses | <p><u>Material Properties</u> <u>(Chemistry)</u>:</p> <ul style="list-style-type: none">Know properties of different rocksKnow how fossils are formedRecognise that soils are made from rocks and organic matter | <p><u>Material Properties</u> <u>(Chemistry)</u>:</p> <ul style="list-style-type: none">Identify different solids, liquids and gases <p><u>Material Changes</u> <u>(Chemistry)</u>:</p> <ul style="list-style-type: none">Know that water boils at 100 degrees celsius and freezes at 0 degrees.Know that some materials change state when they are heated or cooledIdentify the part played by evaporation and condensation in the water cycle | <p><u>Material Changes</u> <u>(Chemistry)</u>:</p> <ul style="list-style-type: none">Know that some materials will dissolve in liquid and how to recover a substance from a solution.Know how mixtures might be separated, including through filtering, sieving and evaporating.Know that dissolving, mixing and changes of state are reversible changes.Recognise everyday situations where dissolving occurs.Explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible <p><u>Material Properties</u> <u>(Chemistry)</u>:</p> <ul style="list-style-type: none">Compare and group materials on the basis of their properties.Give reasons for the particular uses of everyday materials. | |

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| | <p><u>Living Things & Their Habitats (Biology):</u></p> <ul style="list-style-type: none"> • Know if something is living, dead or never been alive. • Know what a habitat is and name a variety of habitats and the animals that live there • Describe and complete simple food chains • Describe seasonal changes in habitats | | <p><u>Living Things & Their Habitats (Biology):</u></p> <ul style="list-style-type: none"> • Group living things in a variety of ways • Use classification keys to help group, identify and name a range of living things • Know 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 | <p><u>Living Things and Their Habitats (Biology):</u></p> <ul style="list-style-type: none"> • Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird. • Describe the life process of reproduction in some plants and animals. | <p><u>Living Things & Their Habitats (Biology):</u></p> <ul style="list-style-type: none"> • Describe how living things are classified into groups according to observable characteristics and based on similarities and differences. • Give reasons for classifying plants and animals. <p><u>Evolution</u></p> <ul style="list-style-type: none"> • Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago. • Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents. • Identify how animals and plants are adapted to suit their environment and that adaptation may lead to evolution. |
| <p><u>Plants (Biology):</u></p> <ul style="list-style-type: none"> • Identify and name common plants and trees • Describe the basic structure of plants and trees | <p><u>Plants (Biology):</u></p> <ul style="list-style-type: none"> • Know seeds and bulbs grow into plants • Know what plants need to grow | <p><u>Plants (Biology):</u></p> <ul style="list-style-type: none"> • Identify, locate and describe the functions of different parts of flowering plants • Know the requirements of plants for life and | | <p><u>Plants (Biology):</u></p> <ul style="list-style-type: none"> • Name, locate and describe the functions of the main parts of reproductive system of plants | |

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| | | <ul style="list-style-type: none"> growth (and how they vary from plant to plant. <p>• know the way in which water is transported within plants.</p> <p>Know the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.</p> | | | |
| | <p><u>Health - How we grow and stay healthy (Biology)</u></p> <ul style="list-style-type: none"> • Know what humans need to survive • Describe how to stay fit and healthy | <p><u>Health (Biology):</u></p> <ul style="list-style-type: none"> • Know that an adequate and varied diet is beneficial to health • Know that regular and varied exercise is beneficial to health | | | <p><u>Health (Biology):</u></p> <p><u>Health (Biology):</u></p> <ul style="list-style-type: none"> • Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function. |
| <p><u>Animals including humans (Biology):</u></p> <ul style="list-style-type: none"> • Identify common fish, amphibians, reptiles, birds, mammals • Identify carnivores, herbivores and omnivores • Describe/compare the structure of animals • Identify basic body parts and senses | <p><u>Animals Including Humans (Biology):</u></p> <ul style="list-style-type: none"> • Know what animals need to survive • Know animals have offspring (lifecycles) | <p><u>Animals Including Humans (Biology):</u></p> <ul style="list-style-type: none"> • Know that humans and some other animals have skeletons and muscles for support, protection and movement. • Identify vertebrates which have a skeleton which supports their body, aids movement & protects vital organs | <p><u>Animals Including Humans (Biology):</u></p> <ul style="list-style-type: none"> • Describe the simple functions of the basic parts of the digestive system in humans. • Identify the different types of teeth in humans and their simple functions. • Interpret a variety of food chains, • Identify producers, predators and prey (on the basis of their teeth) | <p><u>Animals Including Humans (Biology):</u></p> <ul style="list-style-type: none"> • Describe the changes as humans develop to old age. | <p><u>Animals Including Humans Biology):</u></p> <ul style="list-style-type: none"> • Identify the main parts of the human circulatory system, and describe the functions. • Describe the ways nutrients and water are transported within animals, including humans. |

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| <p>Light and Astronomy</p> <p>(Physics):</p> <ul style="list-style-type: none"> • Know the seasons and the seasonal changes | <p>Light and Astronomy</p> <p>(Physics):</p> <ul style="list-style-type: none"> • Notice that light is reflected from surfaces. • Know that shadows are formed when the light from a light source is blocked by a solid object. • Know and explain how to change the size of shadows | <p>Light and Astronomy</p> <p>(Physics):</p> <p>Forces (Physics):</p> <ul style="list-style-type: none"> • Describe the movement of the Earth, and other planets, relative to the Sun and each other in the solar system. • Describe the movement of the Moon relative to the Earth. • Explain day and night using the idea of the Earth's rotation. • Explain the apparent movement of the sun across the sky using Earth's movement in space | <p>Light & Astronomy</p> <p>(Physics):</p> <ul style="list-style-type: none"> • Recognise that light appears to travel in straight lines. • Explain that objects are seen because they give out or reflect light into the eye. • Explain that we see things because the light that travels from light sources to our eyes or via objects. • Explain why shadows have the same shape as the objects that cast them. |
| | <p>Forces and Magnets</p> <p>(Physics):</p> <ul style="list-style-type: none"> • Know that some forces need contact between two objects but magnetic forces can act at a distance. • Know that magnets can attract or repel • Identify and name magnetic and non magnetic materials • Describe magnets as having two poles and know that the same poles repel and different poles attract. | <p>Sound (Physics):</p> <ul style="list-style-type: none"> • Identify how sounds are made • Know how sounds travel • Know how to make loud sounds and quiet sounds • Know that sounds get fainter as the distance from the sound source increases. • Know how high and low pitched sounds are made <p>Electricity (Physics):</p> <ul style="list-style-type: none"> • Construct a simple series electrical circuit • naming basic parts, of a circuit • Recognise whether a simple circuit will work or not. • Recognise that a switch opens and closes a | <p>Forces (Physics):</p> <ul style="list-style-type: none"> • Explain that unsupported objects fall towards the Earth because of the force of gravity. • Identify the effects of air resistance, water resistance and friction that act between moving surfaces. • Know that some mechanisms allow a smaller force to have a greater effect. • Know that there are different types of forces which have different effects on objects • Know that gravity can act without direct contact between the Earth and an object. <p>Electricity (Physics):</p> <ul style="list-style-type: none"> • Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit. • Compare and give reasons for variations in how components function. • Use recognised symbols when representing a simple circuit in a diagram. |

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| | | | <p>circuit</p> <ul style="list-style-type: none">• Recognise some common conductors and insulators | | |
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