Key Stage 2 – Key 'Sticky' Knowledge: Science

CLAYGATE PRIMARY SCHOOL

Year 3	Year 4
• Know the functions of different parts of flowering plants and trees. • Know how water is transported within plants. • Know the plant life cycle, especially the importance of flowers. • Know about the importance of a nutritious, balanced diet. • Know how nutrients, water and oxygen are transported within animals and humans. • Know about the skeletal and muscular system of a human. • Compare and group rocks based on their appearance and physical properties, giving a reason. • Know how soil is made and fossils formed. • Know about and explain the difference between sedimentary, metamorphic and igneous rock. • Know that dark is the absence of light. • Know that light is needed in order to see and is reflected from a surface. • Know and demonstrate how a shadow is formed and explain how a shadow changes shape. • Know about the danger of direct sunlight and describe how to keep protected. • Know about and describe how objects move on different surfaces. • Know how a simple pulley works and use making lifting an object simpler. • Know how some forces require contact and some do not, giving examples. • Know about and explain how objects attract and repel in relation to objects and other magnets. • Predict whether magnets will attract or repel and give a reason.	• Use classification keys to group, identify and name living things. • Know how changes to an environment could endanger living things. • Identify and name the parts of the human digestive system. • Know the functions of the organs in the human digestive system. • Identify and know the different types of teeth that humans have. • Know the functions of different human teeth. • Use and construct food chains to identify producers, predators and prey. • Group materials based on their state of matter (solid, liquid, gas). • Know about and explore how some materials change state. • Know the temperature at which materials change state. • Know the part played by evaporations and condensation in the water cycle. • Know how sound is made associating with vibrating. • Know how sound travels from a source to our ears. • Know the correlation between pitch and the object producing a sound. • Know the correlation between the volume of a sound and the strength of the vibrations. • Know what happens when sound travels away from its source. • Identify and name appliances that require electricity to function. • Construct a series circuit. • Identify and name the components in a series circuit (including cells, wires, bulbs, switches and buzzers). • Predict and test whether a lamp will light in a circuit. • Know the function of a switch in a circuit. • Know the difference between a conductor and an insulator, giving examples of each.

Year 5	Year 6
• Know the life cycle of different living things. • Know the differences between different life cycles. • Know the process of reproduction in plants. • Know the process of reproduction in animals. • Create a timeline to indicate stages of growth in humans. • Compare and group materials based on their properties. • Know how a material dissolves to form a solution; explaining the process of dissolving. • Know and show how to recover a substance from a solution. • Know and demonstrate how some materials can be separated. • Know and demonstrate that some changes are reversible and some are not. • Know how some changes result in the formation of a new material and that this is usually irreversible. • Know about and explain the movement of the Earth and other planets relative to the Sun. • Know about and explain the movement of the Moon relative to the Earth. • Know and demonstrate how night and day are created. • Describe the Sun, Earth, and Moon (using the term spherical). • Know what gravity is and its impact on our lives. • Identify and know the effect of air and water resistance. • Identify and know the effect of friction. • Explain how levers, pulleys and gears allow a smaller force to have a greater effect.	• Classify living things into broad groups according to observable characteristics and based on similarities and differences. • Know how living things have been classified. • Give reasons for classifying plants and animals in a specific way. • Identify and name the main parts of the human circulatory system. • Know the function of the heart, blood vessels and blood. • Know the impact of diet, exercise, drugs and life style on health. • Know the ways in which nutrients and water are transported in animals, including humans. • Know how the Earth and living things have changed over time. • Know how fossils can be used to find out about the past. • Know about reproductions and offspring (recognising that offspring normally vary and are not identical to their parents). • Know how animals and plants are adapted to suit their environment. • Link adaptation over time to evolution. • Know about evolution and can explain what is it. • Know how light travels. • Know and demonstrate how we see objects. • Know why shadows have the same shape as the objects that cast them. • Know how simple optical instruments work. • Compare and give reasons for why components work and do not work in a circuit. • Draw circuit diagrams using correct symbols. • Know how the number and voltage of cells in a circuit links to the brightness of a lamp or the volume of a buzzer.