**KS3 SCIENCE CURRICULUM PLAN**

**Group 1, 2, 3 and 4**

|  |  |  |  |
| --- | --- | --- | --- |
| **Topic** | **Term 1** | **Term 2** | **Term 3** |
| **Working scientifically** | * Ask relevant questions. * Plan & set up simple experiments that are fair tests that involve equipment such as thermometers and stop watches. * Draw simple conclusions using correct scientific language. * Produce & interpret data. Make simple conclusions. Know repeating an experiments leads to reliable results. | * Make predictions. Use *standard units* correctly. * Draw labelled diagrams. * Store results in tables & draw simple conclusions from them. * Look for trends, similarities and differences. | * Use secondary evidence. * Produce bar charts. * Use evidence to suggest improvements for investigations and raise further questions. |
| **Chemicals** | * Know that atoms make substances and objects. * Know what atoms are made from. * Use the periodic table to find out information about atoms and elements. * Draw the atoms in elements, compounds and mixtures. * Investigate how chemicals change during a reaction. * Write word equations for reactions. | * Learn the hazard symbols found on chemicals. * Name common acids and alkalis. * Identify the pH of different acids and alkalis. * React acids and alkalis together to create a neutral solution. | * Investigate the reactivity of metals. * Investigate the products of reactions with metals. * Test for oxygen, carbon dioxide and hydrogen. * Write simple symbol equations. |
| **Plants** |  | * Structure of a tree and a flowering plant limited to stem, root, leaves, flower. * Label a plant and know the function of each part, including stem to carry water from roots to leaves.   Know that plants make their own food by photosynthesis. | * Be able to label a flower and know it is the reproductive part of the plant. * Describe how pollination occurs by insects or wind.   What are the requirements of plants to grow? |
| **Animals including humans** | * Calcium is needed to make strong bones. Animals cannot make their own food but eat other animals and plants. * Be able to name and locate, skull, pelvis and rib cage. * Name important bones of the skeleton and know the function of bones and what would happen if humans did not have bones * Name common birds and mammals and know if they are herbivores or carnivores and be able to make simple comparisons. | * Humans need meat (protein to grow), diary, starchy foods for energy, and vegetables/fruit (for health) in their diet. * Know the sense organs for sight and sound * Recognise diagrams of the human circulatory system and know the function of the heart. State the job of the heart and lungs. * Know blood vessels carry food oxygen and water around the body. * Know the difference in the function of arteries (away from heart) and veins (towards heart). | * Compare and contrast the diets of different animals. * Know the function of muscles. * Reinforce features of the 5 vertebrates and differences between insects and spiders, which are invertebrates. |
| **Rocks** |  |  | * Describe the appearance and features of different types of rock. * Describe what a fossil is. * Know how different rocks are made in the rock cycle. |
| **Light** |  | * Light can be reflected from surfaces and know how shadows are made. * Light is needed to see and that white light is made from different colours. * Know rainbows are formed. |  |
| **Forces and Magnets** | * Know the different types of forces. * Know how forces can affect the movement of objects. * Investigate the effect of forces on falling objects. * Investigate the effect of forces on objects in water. | * Know that magnets will stick to magnetic materials. * Magnetic forces act at a distance * Know that magnets have 2 poles - a north and a south. * Suggest uses for magnets   Be able to predict whether magnets will attract or repel based on the poles that are brought together. Show this by dangling a magnet on a sting and bring another magnet towards it. |  |
| **Evolution and Inheritance** |  | * Know that without fossils we may never have known that animals have adapted slowly over time. * Describe how offspring are not identical to either parent but inherit features from both. * Describe how animals are adapted - both those who are predators and prey. * Recognise which features an offspring has inherited from which parent. | * Know how plants are adapted to live in the desert. * Know that Charles Darwin suggested the theory of evolution that states that organisms change slowly over time to adapt to their surroundings in order to survive. |
| **Electricity** |  |  | * Recognise and draw symbols for wires, cells, bulbs, buzzers and switches. * Investigate what happens to the brightness of bulbs when the number of cells are increased. Build circuits from circuit diagrams and vice versa. * Investigate role of switches and conductors. |