**KS3 SCIENCE CURRICULUM PLAN**

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

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| **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.
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| **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.
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| **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.
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| **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.
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| **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.
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| **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.
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| **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.
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