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| **Scientific knowledge** | **Forces-**  Understand and explain the effect of gravity on unsupported objects.  Identify the effects of air resistance, water resistance, and friction.  Recognise that some mechanisms allow a smaller force to have a greater effect. | **Earth and space-**  Describe the movement of the planets in the solar system relative to the Sun.  Describe the movement of the Moon relative to the Earth.  Use the correct terminology to describe the shape of the Earth, Sun and Moon.  Explain why we have day and night and why the sun appears to move across the sky. | **Properties of materials-**  Compare and group together everyday materials on the basis of their properties.  Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution.  Use knowledge of solids, liquids and gases to demonstrate that dissolving, mixing and changes of state are reversible changes but chemical changes are not reversable. Identify how mixtures might be separated.  Give reasons, based on evidence, for the particular uses of everyday materials. | **Living things and their habitats + Animals including humans-**  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.  Describe the changes as humans develop to old age. | **Light-**  Identify objects as luminous or non- luminous and recognise that light appears to travel in straight lines; use these ideas to explain how we see objects and why shadows have the same shape as the object that casts them. | **Evolution-**  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 that they usually vary and are not identical to their parents.  Describe how animals and plants are adapted to suit the environments they live in and that adaptation may lead to evolution. | **Animals including humans-**  Identify and name the main parts of the human circulatory system, and describe the functions of these parts.  Recognise the impact of diet, exercise, drugs and lifestyle on the way bodies function.  Describe the ways in which nutrients and water are transported within the body. | **Electricity**-  Describe how the brightness of a lamp or the volume of a buzzer changes 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. | **Living things and their habitats-**  Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals  Give reasons for classifying plants and animals based on specific characteristics. | **Safe working practices in the school laboratory-**  Identification of hazard symbols and description of what they mean.  Write a risk assessment correctly and describe why this needs to be done.  Able to successfully light a Bunsen burner. |
| **During KS2, pupils should be taught to use the following practical scientific methods, processes and skills.** | * Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. * Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate. * Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs * Use test results to make predictions to set up further comparative and fair tests. * Report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms. * Identify scientific evidence that has been used to support or refute ideas or arguments. | | | | | | | | | |