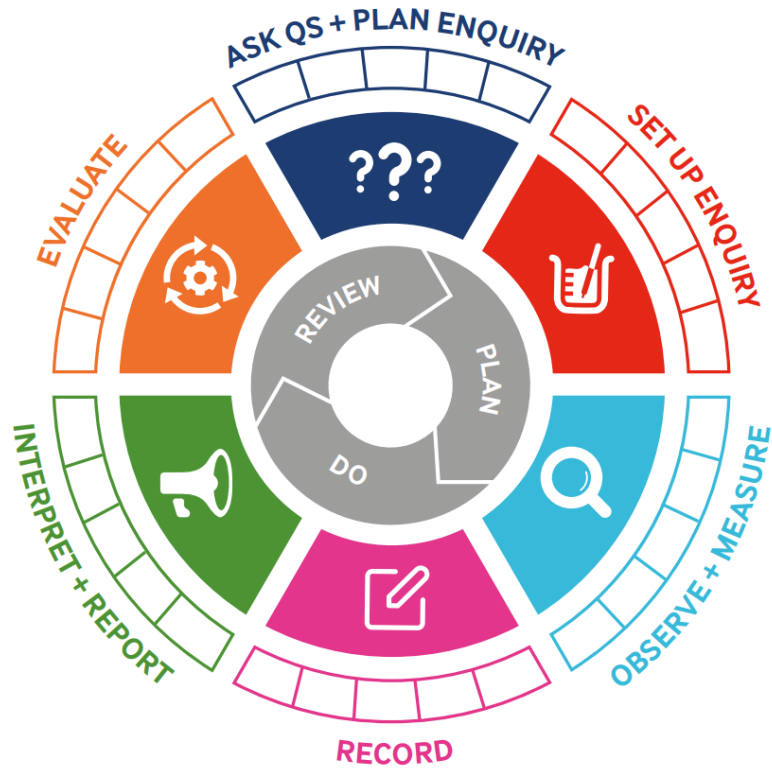


Working Scientifically:



- Independently change a variable and restrict the exploration to test particularly elements
- Independently take measurements, using a range of scientific equipment, (thermometers, pedometers, data loggers, stop watches, force meters) with increasing accuracy and precision and take repeat readings when appropriate
- Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, graphs, bar and line graphs. Think sensibly about the scales to use.
- Make predictions that relate to past learning and give reasons for their predictions
- Discuss if they feel they have achieved a valid result
- Identifying scientific evidence that has been used to support or refute ideas or arguments in relation to the origin of man
- Explore systematically and logically to reach a conclusion
- Recognise that scientific ideas change and develop over time for example the knowledge of our solar system
- Draw conclusions based on their data and observations, use evidence to justify their ideas, and use their scientific knowledge and understanding to explain their findings.
- Pupils should read, use, spell and pronounce scientific
- Vocabulary correctly, unless a specific education need has been identified.

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
- Find out about significance of the work of scientists such as Carl Linnaeus, a pioneer of classification.

Animals, including Humans

- Identify and name the main parts of the **human circulatory system such as arteries and veins**, and describe the **functions of the heart, blood vessels and blood**.
- Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function linked to PSHE
- Understand the ways in which nutrients and water are transported within animals, including humans.

Light

- Know that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye
- Use mirrors to reflect and alter the direction of light. **Concave and convex**.
- Split light to see the visual spectrum
- Understand the moon is reflecting light from the sun

Electricity

- 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, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches
- Design and draw circuits using correct symbols when representing a simple circuit in a diagram.

Evolution and Inheritance

- Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago and understand 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 in different ways and that **adaptation** may lead to evolution. Explore the work of Charles Darwin and Mary Anning. Know the terms **extinction, genes, and variation**.

