A Year 5/6 scientist

Working scientifically (Y5 and Y6)

- I plan different types of scientific enquiry.
- I control variables in an enquiry.
- I measure accurately and precisely using a range of equipment.
- I record data and results using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.
- I use the outcome of test results to make predictions and set up a further comparative, and fair tests.
- I report findings from enquiries in a range of ways.
- I explain a conclusion from an enquiry.
- I explain causal relationships in an enquiry.
- I relate the outcome from an enquiry to scientific knowledge in order to state whether evidence supports or refutes an argument or theory.
- I read, spell and pronounce scientific vocabulary accurately.

Biology

Living things and their habitats
- I classify living things into broad groups according to observable characteristics and based on similarities & differences.
- I describe how living things have been classified.
- I give reasons for classifying plants and animals in a specific way.

Animals, including humans
- I identify and name the main parts of the human circulatory system.
- I describe the function of the heart, blood vessels and blood.
- I discuss the impact of diet, exercise, drugs and life style on health.
- I describe the ways in which nutrients and water are transported in animals, including humans.

Evolution and inheritance
- I describe how the Earth and living things have changed over time.
- I explain how fossils can be used to find out about the past.
- I explain about reproduction and offspring (recognising that offspring normally vary and are not identical to their parents).
- I explain how animals and plants are adapted to suit their environment.
- I link adaptation over time to evolution.
- I explain evolution.

Chemistry

No content

Physics

Light
- I explain how light travels.
- I explain and demonstrate how we see objects.
- I explain why shadows have the same shape as the object that casts them.
- I explain how simple optical instruments work, e.g. periscope, telescope, binoculars, mirror, magnifying glass etc.

Electricity
- I explain how the number & voltage of cells in a circuit links to the brightness of a lamp or the volume of a buzzer.
- I compare and give reasons for why components work and do not work in a circuit.
- I draw circuit diagrams using correct symbols.

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Biology

Living things and their habitats
- I describe the life cycle of different living things, e.g. mammal, amphibian, insect bird.
- I describe the differences between different life cycles.
- I describe the process of reproduction in plants.
- I describe the process of reproduction in animals.

Animals, including humans
- I create a timeline to indicate stages of growth in humans.

Chemistry

Properties and changes of materials
- I compare and group materials based on their properties (e.g. hardness, solubility, transparency, conductivity, [electrical & thermal], and response to magnets).
- I describe how a material dissolves to form a solution; explaining the process of dissolving.
- I describe and show how to recover a substance from a solution.
- I describe how some materials can be separated.
- I demonstrate how materials can be separated (e.g. through filtering, sieving and evaporating).
- I know and can demonstrate that some changes are reversible and some are not.
- I explain how some changes result in the formation of a new material and that this is usually irreversible.
- I discuss reversible and irreversible changes.
- I give evidenced reasons why materials should be used for specific purposes.

Physics

Earth and space
- I describe and explain the movement of the Earth and other planets relative to the Sun.
- I describe and explain the movement of the Moon relative to the Earth.
- I explain and demonstrate how night and day are created.
- I describe the Sun, Earth and Moon (using the term spherical).

Forces
- I explain what gravity is and its impact on our lives.
- I identify and explain the effect of air resistance.
- I identify and explain the effect of water resistance.
- I identify and explain the effect of friction.
- I explain how levers, pulleys and gears allow a smaller force to have a greater effect.