

Science : Year 5

Working Scientifically

Through the year, the children will use the following practical scientific methods, processes and skills:

- planning different types of scientific enquiries to answer questions, including recognising and controlling variables,
- taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate,
- recording data and results of increasing complexity using scientific diagrams and labels,
- using test results to make predictions to set up further tests
- reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations
- identifying scientific evidence that has been used to support or refute ideas or arguments.

Autumn Term – Material world

- compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets
- 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 decide how mixtures might be separated, including through filtering, sieving and evaporating
- give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic
- demonstrate that dissolving, mixing and changes of state are reversible changes

Autumn Term – Let's get moving

explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object
identify the effects of air resistance, water resistance and friction, that act between moving surfaces
recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.

Spring Term - Out of this world

describe the movement of the Earth, and other planets, relative to the Sun in the solar system
describe the movement of the Moon relative to the Earth
describe the Sun, Earth and Moon as approximately spherical bodies
use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.

Spring Term – Circle of life

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.

Summer Term – Amazing reactions

explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda.

Summer Term – Growing up and growing old

describe the changes as humans develop to old age.