



Mellers Primary School Science Progression

Chemistry

Physics

Biology

The Big ideas of Science

- All matter in the universe is made from very small particles
- The composition of the Earth and its atmosphere, and the processes occurring within them, shape the earth's surface and its climate

- Objects can affect other objects at a distance
- Changing the movement of an object requires a net force to be acting upon it
- The total amount of energy in the universe is always the same but can be transferred from one energy store to another during an event
- Our solar system is a very small part of one of billions of galaxies in the universe

- Organisms are organised on a cellular basis and have a finite life span
- Organisms require a supply of energy and materials for which they depend on, or compete with, other organisms
- Genetic information is passed down from one generation of organisms to another
- The diversity of organisms, living and extinct, is the result of evolution.

Year 6

- Investigate and explain how light travels, including how we see objects with our eye
- Investigate how we can alter the number of cells in a circuit and what effect this has.
- Use recognised symbols when representing circuits in a diagram.

- Describe how living things are classified (including micro-organisms)
- Identify and name the parts of the circulatory system, including how nutrients and water are transported
- Understand the impact of diet, exercise, drugs and lifestyle on the way humans function
- Understand that humans and animals evolve and adapt to their environment

Year 5

- Classify materials on the basis of their properties (hardness, solubility, transparency, conductivity)
- Understand mixtures and solutions, and how these might be separated
- Give reasons for the uses of everyday materials through fair testing
- Explore reversible and irreversible changes

- Describe the movement of the Earth and the moon in relation to each other and the sun, and understand these are spherical bodies
- Explain and understand the process of day and night, the seasons and moon phases
- Explore the forces: gravity, friction, water resistance and air resistance.
- Recognise the force needed between simple mechanisms (levers, pulleys and gears).

- Compare life cycles of plants and animals, including mammals, amphibians, insects and birds
- Describe how some plants and animals reproduce
- Describe changes as humans develop and mature

Year 4

- Compare and group materials based on their state of matter
- Investigate that some materials change state when heated or cooled
- Understand how evaporation and condensation happen in the water cycle

- Identify how sounds are made through vibrations, and understand how they travel
- Find patterns between volume and the pitch of a sound
- Identify common appliances which use electricity
- Construct simple electrical circuits and investigate conductors of electricity

- Classifying living things in a variety of ways, using classification keys
- Understand how changes in environment can affect certain habitats
- Investigate the function of the digestive system and teeth in humans



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Year 3

- Classify different rock types
- Describe how fossils are formed
- Understand what soil is made from

- Investigate sources of light, shadows and reflections
- Understand the importance of protecting your eyes from the light of the sun
- Investigate simple forces, including magnetic forces and how things move on different surfaces

- Identify and describe the functions of flowering plants
- Explore the needs of plants for life and growth (including soil, room to grow)
- Explore the life cycle of plants
- Investigate the skeleton and nutrition of humans and some animals

Year 2

- Identify and compare the suitability of different materials
- Explore how some solids can have their shape altered through bending twisting and stretching

- Differentiate between living, non-living and dead
- Identify and name a variety of plants and animals in their habitats and describe why these are suitable
- Describe simple food chains
- Observe a variety of plants and identify their needs (water, light and warmth)
- Describe the basic needs of animals and their offspring (water, food, air and exercise)

Year 1

- Distinguish between objects and materials
- Identify and name common materials and their properties
- Compare and classify materials
- Observe changes across the seasons
- Observe and describe weather associated with each season

- Identify basic plant parts
- Identify a variety of common plants
- Identify and compare common animals
- Identify whether animals are carnivores, herbivores or omnivores
- Identify and name parts of the body and which sense they link to.

EYFS

- Know about similarities and differences in relation to objects, materials and living things
- Use and explore a variety of materials, tools and techniques.

- Talk about features of their immediate environment and how different environments vary
- Make observations of animals and plants, discussing their needs.
- Show awareness of good practices in regard to health, hygiene and sleeping