

Science progression for Year 5 at Probus Primary School

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

Living things and their Habitats

- 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.

Animals, including Humans

- Follow the RSE documents to explore the human reproductive cycle and how humans change with age.

Properties and changes of materials

- 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**. **Understand reversible and irreversible changes**
- Know 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.

Earth and Space

- Know the movement of the Earth, and other planets, relative to the Sun in the solar system and how the moon moves in relation to the Earth
- Understand the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.
- Learn that the Sun is a star at the centre of our **solar system** and that it has eight planets: **Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune** (Pluto was reclassified as a 'dwarf planet' in 2006).
- Understand that a moon is a **celestial body that orbits** a planet (Earth has one moon; Jupiter has four large moons and numerous smaller ones).
- Learn about man's investigations into our solar system and life on the space station

Forces

- 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.**



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| <ul style="list-style-type: none">• 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. | |
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