



Characteristics of a Scientist

At Royston St John Baptist CE Primary School, we value Science. A high-quality science education provides the foundations for understanding the world through the specific disciplines of biology, chemistry and physics. Science has changed our lives and is vital to the world's future prosperity, and all pupils should be taught essential aspects of the knowledge, methods, processes and uses of science. Through building up a body of key foundational knowledge and concepts, pupils should be encouraged to recognise the power of rational explanation and develop a sense of excitement and curiosity about natural phenomena. They should be encouraged to understand how science can be used to explain what is occurring, predict how things will behave, and analyse causes.

At Royston St John Baptist we are Scientists. We have...

- The ability to think independently and raise questions about working scientifically and the knowledge and skills that it brings.
- Confidence and competence in the full range of practical skills, taking the initiative in, for example, planning and carrying out scientific investigations.
- Excellent scientific knowledge and understanding which is demonstrated in written and verbal explanations, solving challenging problems and reporting scientific findings.
- High levels of originality, imagination or innovation in the application of skills.
- The ability to undertake practical work in a variety of contexts, including fieldwork.
- A passion for science and its application in past, present and future technologies.

Learning Opportunities in Key Stage 1

Plants

- Identify, classify and describe their basic structure
- Observe and describe growth and conditions for growth

Habitats

- Look at the suitability of environment and at food chains

Animals and humans

- Identify, classify and observe
- Look at growth, basic needs, exercise, food and hygiene

All living things

- Investigate differences

Materials

- Identify, name, describe, classify, compare properties and changes
- Look at the practical uses of everyday materials

Light

- Look at sources and reflections

Sound

- Look at sources

Electricity

- Look at appliances and circuits

Forces

- Describe basic movements

Earth and Space

- Observe seasonal changes

Learning Opportunities in Key Stage 2

Plants

- Look at the function of parts of flowering plants, requirements of growth, water transportation in plants, life cycles and seed dispersal

Evolution and inheritance

- Look at the resemblance in offspring
- Look at changes in animals over times
- Look at adaption to environments
- Look at differences in offspring
- Look at adaption and evolution
- Look at changes to the human skeleton over time

Animals and humans

- Look at nutrition, transportation of water and nutrients in the body, and the muscle and skeleton system of humans and animals
- Look at the digestive system in humans
- Look at teeth
- Look at the human circulatory system

All living things

- Identify and name plants and animals
- Look at classification keys
- Look at the life cycle of animals and plants
- Look at classification of plants, animals and micro-organisms
- Look at reproduction in plants and animals, and human growth and changes
- Look at the effect of diet, exercise and drugs

Rocks and fossils

- Compare and group rocks and describe the formation of fossils

States of matter

- Look at solids, liquids and gases, changes of state, evaporation, condensation and the water cycle

Materials

- Examine the properties of materials using various tests
- Look at the solubility recovering dissolved substances
- Separate mixtures
- Examine changes to materials that create new materials that are usually not reversible

Light

- Look at sources, seeing, reflections and shadows

Sound

- Look at sources, vibration, volume and pitch

Electricity

- Look at appliances, circuits, lamps, switches, insulators and conductors
- Look at circuits, the effect of the voltage in cells and the resistance and conductivity of materials

Forces and magnets

- Look at contact and distant forces, attraction and repulsion, comparing and grouping materials
- Look at poles, attraction and repulsion
- Look at the effect of gravity and drag forces
- Look at transference of forces in gears, pulleys, level and springs

Earth and Space

- Look at the movement of the Earth and the Moon
- Explain day and night