



Trimley St Mary - Science Curriculum Overview



As Scientists we will demonstrate:-

- 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.

Breadth of Study - KS1

Breadth of Study - KS2

Working Scientifically

Across all year groups, scientific knowledge and skills are learnt by working scientifically.

Biology

Plants

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

Habitats

- Look at the suitability of environments 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.

Biology

Plants

- Look at the function of parts of flowering plants, requirements of growth, water, transportation in plants, life cycles and seed dispersal.
- Evaluation and inheritance
- Look at resemblance in offspring.
- Look at changes in animals over time.
- Look at adaptation 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.

	<ul style="list-style-type: none"> • Look at reproduction in plants and animals, and human growth and changes. • Look at the effect of diet, exercise and drugs.
<p>Chemistry</p> <p><u>Materials</u></p> <ul style="list-style-type: none"> • Identify, name, describe, classify, compare properties and changes. • Look at the practical uses of everyday materials. 	<p>Chemistry</p> <p><u>Rocks and Fossils</u></p> <ul style="list-style-type: none"> • Compare and group rocks and describe the formation of fossils. <p><u>States of Matter</u></p> <ul style="list-style-type: none"> • Look at solids, liquids and gases, changes of state, evaporation, condensation and the water cycle. <p><u>Materials</u></p> <ul style="list-style-type: none"> • Examine the properties of materials using various tests • Look at solubility and recovering dissolve substances. • Separate mixtures. • Examine changes to materials that create new materials that are usually not reversible.
<p>Physics</p> <p><u>Light</u></p> <ul style="list-style-type: none"> • Look at sources and reflectors. <p><u>Sound</u></p> <ul style="list-style-type: none"> • Look at sources <p><u>Forces</u></p> <ul style="list-style-type: none"> • Describe basic movements. <p><u>Earth and Space</u></p> <ul style="list-style-type: none"> • Observe seasonal changes. 	<p>Physics</p> <p><u>Light</u></p> <ul style="list-style-type: none"> • Look at sources, seeing, reflections and shadows. • Explain how light appears to travel in straight lines and how this affects seeing and shadows. <p><u>Sound</u></p> <ul style="list-style-type: none"> • Look at sources, vibration, volume and pitch. <p><u>Electricity</u></p> <ul style="list-style-type: none"> • 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. <p><u>Forces and magnets</u></p> <ul style="list-style-type: none"> • 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, levers and springs. <p><u>Earth and space</u></p> <ul style="list-style-type: none"> • Look at the movement of the Earth and the Moon • Explain day and night

Threshold Concepts:-

Working Scientifically

To learn the methodologies of the discipline of science.

Biology

Understand plants

To become familiar with different types of plants, their structure and reproduction.

Understand animals and humans.

To become familiar with different types of animals, humans and the life processes they share.

Investigate living things

To become familiar with a wider range of living things, including insects and understanding life processes.

Understand evolution and inheritance

To understand that organisms come into existence, adapt, change and evolve and become extinct.

Chemistry

Investigate materials

To become familiar with a range of materials, their properties, uses and how they may be altered or changed.

Physics

Understand movement, forces and magnets

To understand what causes motion.

Understand the Earth's movement in space

To understand what causes seasonal changes, day and night.

Investigate light and seeing

To understand how light and reflection affect sight.

Investigate sound and hearing

To understand how sound is produced, how it travels and how it is heard.

Understand electrical circuits

To understand circuits and their role in electrical applications.