



# SCIENCE

## Intent

### Our School Values

**Working Together**  
**happiness**  
**achieving our potential**  
**fairness and equality**  
**kindness**  
**safety and security**

### Our Behaviour Charter

**Be Safe**                   **Good presentation-|Work and self**  
**Be Kind**               **Respectful- people and property**  
**Be Great**               **Embrace challenge- Have a go; take a risk**  
**Aim high- aspire and achieve**  
**Try your best- use your 'learning powers'**

## Subject Intent

We want children to develop towards the Essential Characteristics © of being a scientist.

### What structure is this based upon?

During Reception, Knowledge and Understanding of the World is developed through the interests of the children. This begins the journey of experiencing and observing simple scientific concepts. In Years 1-6, the statutory National Curriculum provides the basis of our planning. Some aspects of physics are introduced in KS1 in addition.

### How is it organised?

Science is taught as a discrete subject and is planned as a half term unit with six units per year, dependent on the year group. The units are based on the knowledge content of the National Curriculum and include aspects of investigations in Working Scientifically.

### Why is it important?

At Thorns, we consider that is essential for the children to make sense of the natural and physical world around them. Beyond the knowledge acquisition, we believe it is important to develop the ability to ask questions, collect information, organise ad test out our ideas and apply what we learn.

### What knowledge will they learn?

Children will learn about key aspects of knowledge and understanding of Biology, Chemistry and Physics across KS1 and KS2. This will include key people and subject -specific vocabulary. Further information can be found in the knowledge organiser for each Science Unit or contacting the school.

### What skills and concepts will they develop?

Throughout KS1 and KS2, four Thematic Concepts © are present:

#### Working Scientifically

This concept involves learning the methodologies of the discipline of science.

#### Biology

##### Understand plants

This concept involves becoming familiar with different types of plants, their structure and reproduction.

##### Understand animals and humans

This concept involves becoming familiar with different types of animals, humans and the life processes they share.

##### Investigate living things

This concept involves becoming familiar with a wider range of living things, including insects and understanding life processes.

##### Understand evolution and inheritance

This concept involves understanding that organisms come into existence, adapt, change and evolve and become extinct.

#### Chemistry

##### Investigate materials

This concept involves becoming familiar with a range of materials, their properties, uses and how they may be altered or changed.

#### Physics

##### Understand movement, forces and magnets

This concept involves understanding what causes motion.

##### Understand the Earth's movement in space

This concept involves understanding what causes seasonal changes, day and night.

##### Investigate light and seeing

This concept involves understanding how light and reflection affect sight.

##### Investigate sound and hearing

This concept involves understanding how sound is produced, how it travels and how it is heard.

##### Understand electrical circuits

This concept involves understanding circuits and their role in electrical applications.

### What opportunities are there to develop Learning Powers in this subject?

**Curiosity** e.g Having questions about scientific phenomena or the natural world.  
**Concentration** e.g making connection and links to other learning.  
**Resilience** e.g able to solve problems or challenges  
**Co-operation** e.g able to discuss evidence from scientific findings with others.  
**Self-improvement** e.g having opportunity to revisit a Thematic Concept and improve on this.