



## ST. ANDREW'S SCIENCE CURRICULUM

### SCIENCE CURRICULUM INTENT

At St. Andrew's we teach high-quality science lessons (Biology, Chemistry and Physics) and provide children with the foundations for understanding the world around them. Science has changed our lives and is vital to the world's future prosperity, meaning it is important for children's futures. All pupils should be taught essential aspects of knowledge and opportunities for working scientifically. Each year, children build on key foundational knowledge and concepts where they are encouraged to develop a sense of excitement and curiosity about natural phenomena as well as giving rational explanations. Furthermore, children are encouraged to understand how science can be used to explain occurrences, predict how things will behave, and analyse causes.

The Science Curriculum contributes to the St Andrew's Core Values:

**Compassion:** Children develop compassion in this subject by actively listening to the views of others and working collaboratively with their peers.

**Achieve:** Our curriculum equips our children with the scientific knowledge required to understand the uses and implications of science, today and for the future.

**Respect:** Children are encouraged to have a respect for living organisms, for the physical environment, views of others and the care of equipment used for practical tasks.

**Enjoy:** Through practical and knowledge based activities, our children are able to enjoy all three strands of the Science Curriculum.

# SCIENCE CURRICULUM IMPLEMENTATION

## **CURRICULUM CONTENT & DELIVERY**

At St. Andrew's science is taught for a lesson each week using the '*PlanBee*' scheme of work. This provides full coverage of the National Curriculum, following the programmes of study for each year group carefully. It also links directly to scientific knowledge, skills and understanding to ensure that learning is progressive and continuous. Finally, it provides the right balance between working scientifically and learning new facts. The activities within the curriculum provide a good opportunity to develop their oracy skills through paired and group work.

Memorable knowledge and skills have been identified for each of the units to provide a progressive acquisition of knowledge. This is supported by the use of 'sticky vocabulary and sticky knowledge' which are displayed on science working walls. Teachers regularly refer to this knowledge and key vocabulary with meanings so that it 'sticks'. This enables children to readily apply knowledge and vocabulary to their written, mathematical and verbal communication of skills.

## **EQUALITY FOR ALL**

Our scheme of work lessons plans are differentiated for children according to their needs. Children are grouped in mixed abilities so that reading and writing tasks do not hinder their ability in science. Through questioning and encouraging children to make connections, teachers are able to extend learners who are working at greater depth.

## **CURRICULUM ENRICHMENT**

Once a year, the whole school participates in a 'science day' where we immerse the children in a range of practical activities with the intention to spark their interest in science. Some year groups make a link between their unit of work with an 'experience day'. These are usually hands-on sessions that enrich the coverage of the unit objectives and provide greater depth of knowledge.

# SCIENCE CURRICULUM IMPACT

At St. Andrew's, formative assessment is used as the main tool for assessing the impact of science as it allows for misconceptions and gaps to be addressed more immediately rather than building on insecure scientific foundations. The results of the summative assessment quiz for each programme of study completed in a term are combined and a percentage is given. This percentage is used to assess whether a child is working towards, at or greater depth in comparison to age related expectations.

By the end of KS2, children at St. Andrew's Junior School will:

- demonstrate a love of science work and an interest in further study and work in this field
- retain knowledge that is pertinent to science with a real life context.
- be able to question ideas and reflect on knowledge.
- be able to articulate their understanding of scientific concepts and be able to reason scientifically using rich language linked to science.
- demonstrate a high love of mathematical skills through their work, organising, recording and interpreting results.
- work collaboratively and practically to investigate and experiment.
- achieve age related expectations in science at the end of their cohort year.

This will allow them to succeed in the KS3 science curriculum and their future career choices.