Science Policy
Wrenthorpe Academy

At Wrenthorpe Academy, we aim to provide a high quality Science education to provide the foundations for understanding the world. Science has changed all 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 key 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 is used to explain what is occurring, predict how things will behave and analyse causes.

Aims:

- We aim to ensure that all pupils:

- Develop scientific skills, knowledge and understanding through the disciplines of biology, chemistry and physics.

- Develop understanding of the nature, processes and methods of Science through different types of Science enquiries that help them to answer scientific questions about the world around them.

- Equip them with the scientific knowledge required to understand the uses and implications of Science, today and for the future.

Approaches to Learning:
Science teaching at Wrenthorpe Academy is about practical learning and enjoyment. We adapt and extend the National Curriculum requirements to match the unique circumstances of our school and children's needs.

- We actively teach Science skills with first hand experiences and reinforce learning with secondary resources.
- We use continuous informal and formal assessment strategies and encourage children to ask and answer their own questions.
- We use cross-curricular approach to teach Science wherever possible.
- We develop Science informally through school visits, visitors in school, lessons in the school wild life and school clubs.
- We use outdoor learning when possible to enhance teaching and learning of Science.

Planning:
Planning for Science is a process in which all teachers are involved in to ensure children receive full coverage of the National Curriculum.
Teachers follow a two-year rolling program for Science and where a half term has no given topic, extra investigations should teach new skills and build upon previously taught skills.
Each teacher has the flexibility to move Science topics within the year to fit with cross-curricular topic opportunities.

Key Stage One:

Year A

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 1 & 2	Animals including humans	Seasonal changes	Everyday materials	Outdoor Learning sessions & Investigations	Plants	Scientist – Jane Goodall

Year B

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 1 & 2	Animals including humans	Outdoor Learning sessions & Investigations	Use of everyday materials	Scientist – Henry Ford	Plants	All living things and their habitats

Lower key Stage Two:

Year A

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 3 & 4	Plants	Animals including humans	Rocks	Light	Forces and Magnets	Scientist – Tim Peake Outdoor Learning & Investigations

Year B

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 3 & 4	Living things and their habitats	Animals including humans	States of matter	Sound	Electricity	Scientist- Thomas Edison Outdoor Learning & Investigations

Upper Key Stage Two:

Year A

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 5 & 6	Living things and their habitats	Animals including humans	Properties and changes in materials	Earth and space	Forces	Scientist- Marie Curie Outdoor Learning & Investigations

Year B

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 5 & 6	Living things and their habitats	Animals including humans	Evolution and Inheritance	Light	Electricity	Alexander Fleming Outdoor Learning & Investigations

Assessment:
Formative assessment is used to guide the progress of individual pupils in Science. It involves identifying each child's progress in each area of the Science curriculum, determining what each child has learnt and what therefore should be the next stage in his/her learning. Teachers in the course of their teaching usually carry out formative assessment informally.
Some of these tasks will include:

- Small group discussions, usually in the context of a practical task and investigation.
- Quiz
- Small group, pair or independent questioning and research of a key fact/question.
- Individual discussions in which children are encouraged to approve their own work, progress and next steps.
- Summative assessment takes place at the end of each half term and is recorded on Otrack. From this teachers can track progress made, identify any anomalies and plan for next steps to provide further challenge or support.

Resources:
All Science resources are stored centrally in the schools resource cupboard and are organised in labelled boxes.
Staff are responsible for informing the Science leader, when extra resources are needed, when there are breakages and when consumables are running low. The Science leader will update and replenish resources when needed.

Equal Opportunities and Inclusion:
All children are entitled to access to the Science curriculum in line with the schools policy for equal opportunities. Children who show a particular ability and flair for Science, who work more quickly through the levels of the National Curriculum are extended through the use of deeper scientific thinking and enquiry and more challenging problems and investigations.

Health and Safety
While wishing to encourage investigation and curiosity through Science teaching, we must ensure that children are made aware of the possible dangers of:

- Heat;
- Substances that may be poisonous, e.g. berries, fumes, fungi, liquids;
- Electricity;
- Water (including the danger of slipping on wet surfaces);
- Cutting equipment;
- Lack of hygiene (especially when handling food);
- Live animals;
- The sun;
- Handling of heavy and/or fragile equipment.

When necessary, teachers will complete risk assessments for visits and for particular activities.

Role of the Science leader:
The Science leader will oversee Science teaching and learning throughout school in the following ways:

- Support colleagues with teaching and learning of Science.
- Monitor the teaching and learning of Science through the collection of planning, work and book samples, pupil views and data analysis from Otrack.
- To promote Science as a core subject and raise the importance of good Science teaching and learning, e.g. use of displays, Science week, Science after school clubs.
- Monitor the resources for Science and take any action when needed.
- Take responsibility for the purchase and organisation of central resources for Science.
- Keep up to date with developments in Science education and disseminate information to colleagues as appropriate.