

Grange Primary School (2016)

Science Policy

Values and Aims

At Grange Primary School we aim to provide every child, irrespective of gender, race, culture or ability, with a rich, stimulating and varied scientific curriculum through which we can acquire knowledge and skills whilst challenging their thinking. This will enable them to:

- Stimulate and excite their curiosity about phenomena and events in the world allowing them to enjoy and achieve excellence in science.
- Have practical opportunities to make science learning enjoyable, meaningful and beneficial.
- Become confident and independent scientists, who have the ability to think logically and clearly through using experimental evidence and modelling through scientific method.
- To recognise the cultural significance of science and trace its worldwide development.
- Develop an awareness of scientific relevance within their environment that may affect their daily lives and the direction of society and the future.

We value our pupils and recognise the importance of their contributions to the development of our science curriculum through a topic linked thematic curriculum. Within the framework of the National Curriculum and the IPC units of work, the needs of all the children, at every stage of their scientific development, will be catered for using a variety of teaching methods, apparatus, materials and ICT hardware and software.

Teaching and Learning – Policy into Practice

We begin our science topics by using a hook to excite and engage children. Throughout each topic children are encouraged to question and investigate in order to become inquisitive and independent learners. We support children in making clear links throughout their topics and through embedding this in a skills approach to the curriculum.

We recognise that practical approaches are the most effective way of teaching science. We therefore provide the child with a scientific environment that provides for the development of scientific skills and concepts, with a strong emphasis on understanding, which will grow through concrete experiences and investigations. Special emphasis is also placed on the basic language of science, with frequent interaction between the children themselves, the teacher and the pupils, within the framework of self assessment and personalised learning.

Our science scheme of work is driven by the National Curriculum programmes of study and delivered through 'Switched on Science' scheme and targeted science weeks to address any gaps in learning. Links with the termly topics studied by the year group and with other curriculum subjects are identified. We provide differentiated work at appropriate levels to match the abilities of all the children within our school, including challenges.

We aim to keep the children enthusiastic and motivated by science and to see how it impacts on the world we live in. Therefore we carry out an annual 'Science Week' that involves parents, pupils and governors in carrying out exciting new science projects in an interactive and engaging way.

Extra-curricular activities include trips, links with local secondary schools, outreach projects and clubs are organised to further enrich the curriculum.

The New Curriculum was introduced in September 2014 and has been embedded into the Grange Primary School Curriculum. Within each year group and subjects there have been a variety of changes that has impacted on how we deliver teaching and learning. In science, these changes have included:

- Teaching standalone science units to ensure that there is appropriate coverage so that statutory requirements are being met
- Reflecting the importance of spoken language in pupils' development
- Increased opportunities for scientific enquiry

Classroom Organisation

The children are taught using a variety of teaching methods and organisational strategies to meet the needs of individuals, groups and the class. Children undertake practical enquires, working collaboratively and independently, while also developing high quality purposeful talk for science.

Science resources are audited at the beginning of each term.

- **Foundation Stage (EYFS):**

The EYFS curriculum has been developed so that it places emphasis on practical play learning activities designed to develop scientific language and help them make sense of the world. Planning takes place with reference to the Early Learning Goals and the EYFS curriculum.

- **Key Stage 1 and 2:**

Within Key Stage 1 and 2 each class follows the 'Switched on Science' units of work with reference to the National Curriculum for science, with the learning objectives (WALT?), divided up to suit and have relevance to the topic. Each science topic is introduced through teacher-led discussion or through activities that allow the children to use and display the skills and language they have already learnt related to the science in which they are engaged. We promote active learning owned and directed by the children.

The development of scientific skills through first-hand experience and investigation is paramount within our planning. AT1, 'Scientific Enquiry', is ongoing throughout each topic. Each term there is a focus on teaching two skills and whole investigations being carried out, with modelling by the teacher where necessary.

Children will learn how science has contributed to industry, business and medicine, and how these developments have improved the quality of life for most people in our society. Through the study of famous scientists and the growth of scientific thought across the world at different times, children will become aware of the contribution of other countries and cultures in the development of science.

In line with the requirements of the National Curriculum, 2 hours (KS2) and 1 hour in KS1 of curriculum time will be spent on science with individual or group targets set.

The coverage of science lessons taught through 'Switched on Science' will be monitored and gaps appropriately identified so that they can be addressed during science week or through targeted lessons.

SMSC in science

At Grange Primary School the promotion of pupils' spiritual, moral, social and cultural education is considered to be a whole school issue. Spiritual, Moral, Social and Cultural Development is promoted not only through all the subjects of the curriculum but also through the ethos of the school and through the development of positive attitudes and values and planned time for reflection. This policy supports and reinforces the aims of Grange Primary School, valuing all children and staff equally and as individuals.

At Grange science contributes to children's SMSC development through:

- Encouraging pupils to reflect on the wonder of the natural world.
- Awareness of the ways that science and technology can affect society and the environment.
- Consideration of the moral dilemmas that can result in scientific developments.
- Showing respect for differing, on creation for example.
- Co-operation in practical activity
- Raising awareness that scientific developments are the product of many different cultures.

Health and Safety Issues

There are some specific health and safety issues relating to the delivery of science that need a risk assessment to ensure the safety of the children at all times. Examples of these activities include handling animals, using matches, candles and wax, using the cooker and where artefacts are introduced children and teacher alike should be aware of the need for careful handling and due respect that the artefact deserves.

When using equipment the risk assessment must be followed at all times (risk assessments are available on the school network and in the staffroom). All children should be reminded of safety rules when using equipment that could cause harm.

Any outside agencies or visitors contributing to science must be advised of the safety guidelines and must provide an up to date CRB as well as their own risk assessment for the activity.

When educational visits are arranged all necessary risk assessments must be completed and the need for respect from children and adults alike must be reiterated.

SEND

At Grange Primary School we aim to ensure the needs of all pupils, including those with SEND, are met. We seek to ensure that all barriers to learning are removed to enable children with SEND to be offered full access to a broad, balanced and relevant education. This may include aspects such as adapting the curriculum, and/or resources.

For example: Children who have been identified with SEND are supported through differentiated planning and resources (for example: providing multi-sensory stimulus, adapting the task, adapting learning outcomes and setting suitable challenges.) This is regularly monitored by scrutinising books and planning.

Also, trained teaching assistants support children by using in-class and out-of-class strategies to gauge progress and understanding of children – such as aiding children when handling scientific equipment and delivering follow up mini lessons to consolidate learning.

All staff at Grange Primary School have the highest aspirations for all their pupils, including those with SEND, and promote high expectations.

Pupil Premium

The pupil premium is additional funding given to publicly funded schools in England to raise the attainment of disadvantaged pupils and close the gap between them and their peers.

The funding supports the children at Grange in the following ways:

Enrichment of the curriculum: The children are presented with a wealth of visits and visitors to 'hook' the children in their learning. They also have the opportunity to attend residential weekends that motivate them and develop their social skills such as concentration, cooperation and team work that has a positive impact on their learning.

Targeted support: This is provided through intervention strategies, e.g. 1-1 support, group work and whole school initiatives (e.g. enabling enterprise for the more able).

Extended School support: The school employs a Family Support Worker to help organise and run before and after school clubs which provide targeted opportunities for homework, booster sessions and extension activities.