



Winterton Junior School Engineering Policy

Engineering is an inspiring, rigorous and practical subject. Using creativity and imagination, pupils design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. They acquire a broad range of subject knowledge and draw on disciplines such as mathematics, science, engineering, computing and art. Pupils learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens. Through the evaluation of past and present design and technology, they develop a critical understanding of its impact on daily life and the wider world. High -quality Engineering education makes an essential contribution to the creativity, culture, wealth and well being of the nation.

Aims

The national curriculum aims to ensure that all pupils:

- Develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world.
- Build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users.
- Critique, evaluate and test their ideas and products and the work of others.
- Understand and apply the principles of nutrition and learn how to cook.

Curriculum Provision

The teaching and learning of engineering helps to give pupils the knowledge, skills and understanding they need in order to meet the above aims. Winterton Junior School children are given opportunities to plan, develop and communicate ideas, through talking, drawing and writing. They work with a wide range of tools, equipment and materials to make products of increasingly good quality. Children are given opportunities to evaluate what they are making and the finished product, saying how they think it can be improved. Pupils increase their knowledge and understanding of materials and components. At Winterton Junior School, Engineering is delivered within a whole school approach that includes:

- Teaching as a discrete, timetabled subject.
- Delivery as part of other curricular activities, making links wherever appropriate.
- As part of extra-curricular activities such as clubs, visits and visitors.

Planning

Our school uses the National Curriculum 2014 for design and technology as the basis of its long-term curriculum planning for engineering. Our framework shows how engineering coverage is ensured through a progressive programme.

Our medium-term plans give details of each unit of work in each year group. These plans are monitored for coherence and progression.

Teaching methods and learning approaches

Good teaching relies on using appropriate methods for the aim of the lesson or unit of work. All teachers are encouraged to develop a repertoire of flexible, active learning methods, as well as an understanding of how children learn. Teaching methods may include a variety from the following:

- Effective strategies for starting and ending lessons, sharing objectives with the children.
- Encourage an active, questioning approach among the children.
- Providing opportunities for children to work both individually and as part of groups.
- Problem solving, with older children deciding on their own lines of enquiry.
- Developing strategies to encourage independent learning.
- Focusing on key skills, concepts and attitudes of the subject.
- Time for reflection, review and evaluation.

Assessment, Reporting and Recording

All class teachers are responsible for adapting and modifying planning based on the needs of their class.

Subject Leadership

Engineering is monitored by the subject leader, they will:

- Ensure that the subject is regularly discussed, reviewed and monitored within the school.
- Keep resources up-to-date and relevant, particularly in preparation for each unit of work.
- Promote engineering good practice through the school.
- Set a good example of engineering practice.
- Support long term planning for the whole school.
- Monitor engineering through the school.
- Provide INSET.
- Liaise with other primary and secondary schools.
- Promote engineering's high profile in the school.

Resources

At Winterton Junior School, resources for Engineering are kept in the Engineering hub and central resource store.

Related Subjects

Links are made with other STEM subjects (Science, Maths and Computing).

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