



Westwood Primary School

Design and Technology Policy

Reviewed: June 2015
Next Review: June 2018

*Respecting each other,
Expecting our best,
Learning in a happy school.*

Design and Technology Policy

*"As an engineer I'm constantly spotting problems and plotting how to solve them."
James Dyson*

*"Design is not just what it looks like and feels like. Design is how it works."
Steve Jobs*

Rationale

Design and technology prepares pupils to participate in tomorrow's rapidly changing technologies. They learn to think and intervene creatively to improve quality of life. The subject calls for pupils to become autonomous and creative problem solvers, as individuals and members of a team. They must look for needs, wants and opportunities and respond to them by developing a range of ideas and making products and systems. They combine practical skills with an understanding of aesthetics, social and environmental issues, function and industrial practices. As they do so, they reflect on and evaluate present and past design and technology, its uses and effects. Through design and technology, all pupils can become discriminating and informed users of products, and become innovators. QCA 1999

Aims and Objectives

- To provide a broad and balanced learning experience for all children.
- To provide activities which nurture enjoyment, excitement and interest in design and technology.
- To provide opportunities for children to design and make using a range of materials including electrical and mechanical components, food, mouldable materials, stiff and flexible sheet materials, and textiles.
- To provide opportunities for children to learn the practical skills and processes of measuring, drawing, assembling, disassembling, joining, cutting, bending, forming, tying, shaping, modelling, testing, finishing, colouring, organising materials and using tools safely.
- To provide opportunities for children to learn the perceptual skills of analysing, observing, generating ideas, planning, evaluating, investigating, problem solving and decision making.
- To encourage children to adopt the personal qualities of creativity, enterprise, imagination, initiative, flexibility, invention, motivation and perseverance.
- To develop children's capability to create high quality products through combining their designing and making skills with knowledge and understanding.
- To understand the sources of some materials and the energy required to produce them.
- To consider the re-use and recycling of component materials of products designed and created.
- To develop children's understanding of the ways in which people from the past and present, and from different cultural backgrounds have used design to meet their needs.

Organisation

Approximately 20 hours per class, per year is dedicated to the exclusive teaching of the subject of design and technology according to the requirements of The National Curriculum for Key Stage 1 and Key Stage 2. During this time children will learn to develop, plan and communicate ideas; work with tools, equipment, materials and components to make quality products; and evaluate processes and products. They will acquire knowledge and understanding about the working characteristics of materials and how mechanisms can be used in different ways. In Key Stage 2 children will be taught how electrical circuits can be incorporated into their work.

The knowledge, skills and understanding requirements of The National Curriculum will be taught through providing children with opportunities for investigating and evaluating a range of familiar products; developing a range of techniques and processes; and designing and making using a range of materials. They will work both collaboratively and on their own as appropriate.

Children in the Foundation Stage will be given regular opportunities to develop their knowledge, skills and understanding in design and technology in accordance with the Early Years Foundation Stage curriculum.

We are currently introducing the Chris Quigley Essentials Curriculum which covers Design and Technology. This lists the essential characteristics of designers, essential opportunities at Key Stage 1 and Key Stage 2 and essential learning objectives. This will ensure balanced coverage of the Early Years Foundation Stage and National Curriculum requirements, whilst enabling teachers and/or the HLTAs to decide on the subject matter for the teaching of new knowledge, skills and understanding. Cross-curricular links will be made wherever possible in order that design and technology may contribute to the teaching of other subjects.

Teaching and Learning

A variety of teaching and learning styles will be utilised in design and technology lessons. A combination of whole-class teaching and individual or group activities will be implemented according to the needs of the children and the requirements of each unit of work.

Visiting designers and trips to museums and exhibitions will be planned as appropriate and will serve to enrich the learning experience of the children.

Differentiation

Suitable learning opportunities in design and technology will be provided for all children regardless of ability. A range of strategies will be implemented as appropriate to ensure that each child is enabled to achieve their maximum potential. For example:

- Planning open-ended activities which invite a variety of responses and outcomes.
- Providing a range of challenges which match the abilities of all children in each class.
- Providing small group or one-to-one adult support as necessary.
- Grouping children of similar levels of ability or mixed ability in order to encourage peer support.

Equal Opportunities

The culture and ethos of the school are such that everyone in the school community, whatever their ability/disability, race, colour, ethnic origin, religion, age, sexuality or gender, is equally valued and treated with respect. There is also a commitment to ensuring that stereotyping in relation to the ability/disability, race, colour, ethnic origin, religion, age, sexuality or gender of any designers and inventors being studied is avoided. All children will be provided with opportunities to experience, understand and celebrate diversity through the subject of design and technology.

Resources

The subject leader is provided with an annual budget to purchase design and technology resources. General stock is maintained as necessary and each class teacher and the HLTA is given the opportunity to request resources that specifically relate to their planning. Resources are stored centrally and are monitored by the subject leader.

Health and Safety

Class teachers and/or the HLTA will take reasonable steps to ensure the health and safety of children in design and technology lessons (including food technology lessons). They will carry out risk assessments for visits and experiences as necessary.

When working with tools, equipment and materials, in practical activities and in different environments, including those that are unfamiliar children will be taught:

- About hazards, risks and risk control.
- To recognize hazards, assess consequent risks and take steps to control the risks to themselves and others.
- To use information to assess the immediate and cumulative risks.
- To manage their environment to ensure the health and safety of themselves and others.
- To explain the steps they take to control risks.

See **Appendix 1** for further details regarding the safe use of design and technology equipment.

Monitoring and Assessment

Assessment for learning will take place as appropriate in the context of each Key Stage. Class teachers and/or the HLTA will use the Early Years Foundation Stage Profile and Chris Quigley essentials for progress and milestones to assess children's progress throughout the year. Children's achievements at the end of each year will be reported to parents.

Evidence of coverage of the requirements of the Early Years Foundation Stage curriculum and The National Curriculum will be gathered and stored in individual portfolios of work.

The subject leader will monitor planning and assessment and will keep a portfolio of examples in school. This portfolio will also contain samples of children's work, photographs of displays and details of INSET.

ICT

The value of ICT as an important tool for learning in design and technology is acknowledged and promoted. Software installed on the school network, video recorders, cameras, in addition to design and technology websites on the internet contribute a further dimension in the provision of an enriched design and technology curriculum and these resources will be utilised as appropriate by each class teacher and/or the HLTA.

Display and Presentation

Staff will display design and technology work in their classrooms, in designated areas of the school building and on the internet as a means of communicating to children that their efforts are valued and respected. Occasional exhibitions of work will be organised by the subject leader in order to share the children's learning with a wider audience.