

NEW ASH GREEN PRIMARY SCHOOL

Design and Technology Curriculum Policy

Rationale

Design and Technology is an exciting, practical subject which allows pupils to make sense of appliances and processes in their environment: primarily through firsthand experience and exploration. Design and Technology lessons can extend and enhance pupils' natural curiosity by providing pupils with an opportunity to apply and develop further, the skills they have already mastered.

Design and Technology prepares pupils to participate in the rapidly changing technologies of the present and the future. The subject requires children to be autonomous and creative problem solvers, as individuals and as members of a team. Design and Technology also allows them to develop their creative skills through planning, designing and making. Children can gain great satisfaction from using physical resources to create a product that meets a perceived need. It provides an opportunity for pupils to develop an understanding and knowledge of different products, their manufacture and their uses. The subject stimulates an interest in design which helps pupils to understand how, throughout history, people have used design to meet their needs and to make progress. There is opportunity to evaluate designs, past and present, which encourages pupils to think critically.

Design and Technology lessons provide opportunities for cross curricular work, including ICT. Mathematical skills may be used for calculating the required dimensions and shape of packaging or products; scientific skills may be required for testing the strengths of different materials; historical knowledge may be used for accurate designs from the past and artistic skills may be employed to make the product from the design.

Aims

Within the context of the subject, children should be given opportunities to work independently and in groups, listening to other's ideas and treating them with respect. They should be given the scope to develop creativity, flexibility and perseverance. They will critically evaluate existing products, their own design and make activities and that of their peers, in a positive, constructive manner. Respect for the environment and for health and safety will be fostered. Through designing and realising their own creations, children will find enjoyment, satisfaction and purpose.

D and T offers children an opportunity to:

- ✓ Gain a knowledge and understanding of materials, components, controls and structures.
- ✓ Develop skills, techniques and knowledge of materials and tools through focused practical tasks.
- ✓ Disassemble, investigate and evaluate a range of simple products which are found in everyday life.
- ✓ Develop their confidence when formulating their original ideas. A range of D and T activities will support this.

- ✓ Experience a sense of achievement, having worked through the design processes that led to the finished article.
- ✓ Be taught positive health and safety attitudes.

Objectives

- 1) Pupils will be encouraged to generate ideas through:
 - ✓ Group discussions either led by teacher or between pupils.
 - ✓ Assembling and rearranging materials and components (ie construction kits, junk materials).

- 2) Pupils will gain knowledge and understanding of a wide range of materials including:
 - ✓ Construction kits
 - ✓ Textiles
 - ✓ Food
 - ✓ Wood, metal, plastic
 - ✓ Junk materials (reclaimed materials)

- 3) Pupils will be given the opportunity to work with cross curricular links and units in groups or on an individual basis to produce a design.

- 4) Pupils will make freehand drawings and models to communicate their ideas explaining their choice of tools or equipment.

- 5) Pupils will be given the opportunity to evaluate their designs and identify strengths and weaknesses in a positive way.

- 6) Pupils will be given the opportunity to:
 - ✓ Use simple mechanisms
 - ✓ Use wheels and axles
 - ✓ Make structures to withstand a load
 - ✓ Disassemble simple products and investigate them, so that they may understand how they work.

- 7) Pupils shall gain a knowledge and understanding of health and safety aspects:
 - ✓ When working with materials and tools
 - ✓ When considering the risk to themselves and others during the activity
 - ✓ When following instructions given by the teacher
 - ✓ As consumers, knowing that some products are, or can become dangerous.

- 8) Pupils will be given the opportunity to gain insight into how the design process applies in real life situations, through the use of the site, local environment and links developed with local high schools and businesses.

- 9) Pupils will be encouraged to use the correct vocabulary and terminology when designing, making and evaluating their products.

Principles of teaching and learning for DT

- **Breadth and Balance**

Medium term planning takes place across the Year groups using the topic plans. Day to day planning is the responsibility of the class teacher, who may call upon the D and T coordinator for assistance.

Planning is used to set clear goals, in terms of knowledge skills and understanding, to ensure work is matched to pupils' abilities and to ensure progression, continuity and subject coverage throughout the school. Projects need to be carefully planned to bring out the full potential of the pupils. In this respect the long term plan has been prepared with suggested activities and skills to be developed for each band of year groups, with cross curricular links included.

- **Differentiation**

In planning the Learning Outcomes should be differentiated to allow for pupils of all abilities to succeed. To overcome any potential barriers to learning in D and T, some children may require:

- ✓ Alternative tasks to overcome any difficulties arising from specific religious beliefs they may hold in relation to the ideas or experiences they are expected to represent.
- ✓ Alternative or adapted activities to overcome difficulties with manipulating tools, equipments or materials.
- ✓ Specific support to communicate through means other than writing or drawing and help to record or translate their ideas into a drawing.
- ✓ Opportunities to work in ways that avoid contact with materials to which they may be allergic.
- ✓ More time than others to complete the range of work indicated in the POS.

Inclusion

Even though a child has difficulties in other curriculum areas he/she may cope well with D and T, it being a practical subject. If a child is experiencing difficulties and is identified as having special needs, the work from a lower age group may be more suitable to allow the pupil to achieve and gain confidence. However it must be age appropriate. Alternatively for children who excel (G and T pupils) at the subject, work for a higher age group may be selected.

- **Cross Curricular Skills**

Design and technology can lend itself to cross curricular topic work, links particularly to art, maths, science and history. However, this approach alone may not teach all the appropriate skills. Therefore, we should be following the Design and make assignments in the long term plans which include the following:

- ✓ **Focused Practical Tasks (FPTs)**

These tasks are aimed at individual children to help them develop specific skills. They should be designed so that the child is able to achieve and develop confidence (these tasks should be teacher directed).

- ✓ **“Investigate, Disassemble and Evaluate” Activities (IDEAs)**

These tasks should be set by the teacher with pupils working in small groups and then reporting their findings. The tasks are laid out in the long term plans. The class teacher is responsible for the teaching of Design and Technology.

The requirement to integrate ICT into DT with the focus on control electrical and computer will be dealt with by the ICT subject leader and delivered in a block of work in the ICT Suite.

- **Equal Opportunities**

Design and Technology is an integral part of the curriculum and every child will be given an equal opportunity to develop the relevant skills, regardless of ability, gender, race or cultural background. Pupils will be provided with additional challenges in the D and T curriculum so that they reach their full potential. We believe pupils should derive pleasure from their learning and the pace and range of work must be differentiated for different abilities.

- **Assessment, Recording and Reporting**

Ongoing teacher assessment has always been an integral part of good practise, using the National Curriculum levels. It is important to remember that the main reason for assessment is to enable the teacher to match the tasks set to the abilities and needs of the children. To this end children's work is regularly assessed by the class teacher to show how the children have progressed throughout the year and the pupils also assess and evaluate their own work. This appraisal encourages the children to recognise their strengths, which promotes self esteem and consequently will impact on their future performance.

- **Health and Safety**

The teacher is responsible for the health and safety of themselves, the Teaching Assistants, visitors and children with in their class. Pupils should:

- ✓ Collect and return tools and equipment safely
- ✓ Follow clear instructions
- ✓ Only move around the room when necessary
- ✓ Wear safety equipment when necessary.

To ensure the safe use of tools and equipment it is important that teachers are confident when handling them so that they can demonstrate correctly. All pupils should be clear on the intended use of the tools. Pupils should have safe, controlled access to tools and equipment during Design and Technology lessons.

The role of the Design and Technology Subject Leader.

The DT subject leader is responsible for:

- The development and monitoring of the DT curriculum. (See Subject Leader file for photographic evidence).
- Up-dating the School's Policy and Scheme of Work and Subject Development Plan for the School Development Plan.
- The management of changes in the curriculum and resources.
- Involvement in class teachers' planning and giving support if requested.
- Ordering and allocating resources.
- Ensuring health and safety guidelines are acknowledged and adhered to.

- Keeping staff updated and providing training days (INSET) when needed.
- Providing children with different opportunities for learning, such as fun workshops.

Wherever possible or practicable time may be made available to allow the Subject Leader opportunity to visit classes other than her own, enabling monitoring and support to take place more effectively.

Resources.

The National Curriculum documents a wide range of materials and equipment to be used within this subject. The safe storage of the materials and equipment together with ease of access for the class teacher is important.