



**STREATHAM
& CLAPHAM
PREP SCHOOL**

Design and Technology

Introduction – What is Design and Technology?

D&T should provide a child with the opportunity to develop skill, knowledge and understanding of designing and making functional products. It should enhance their awareness of structures, mechanisms, electrical control, and a range of materials, including food. D&T should nurture creativity and innovation through design, and by exploring the designed and made world in which we all live and work. It should also encourage a child to consider important issues.

D&T involves two crucial elements:

- Learning about the designed and made world and how things work
- Learning to design and make functional products for particular purposes and users

D&T will help a child to acquire and apply knowledge and understanding of materials and components, mechanisms and control systems, structures, existing products, quality and health and safety. These skills can be helpful in other subject areas e.g., knowledge of properties of materials is invaluable in science and the practice of measuring accurately assists in maths.

D&T will improve a child's skills and knowledge in design, materials, structures, mechanisms, and electrical control. They are encouraged to be creative and innovative, and to think about important issues such as sustainability and enterprise.

There are three core activities in D&T:

- **The investigation and evaluation of existing products**
- **Focused practical tasks in which children develop particular aspects of knowledge and skills**
- **Designing and making activities in which children design and make 'something' for 'somebody' for 'some purpose'**

These three activities are combined in sequence to create a D&T project.

Aims and Objectives

Every child should be encouraged to become a discerning and informed user and creator of products. A child should be encouraged to think and intervene imaginatively to improve the quality of life for society and to adopt a questioning approach to products and the need for them. Children should be encouraged to cooperate, work in teams, and develop the collaborative skills valued in the world beyond school. A child should be encouraged to consider thoughtful risk taking in their work rather than competent and predictable methods and designs.

All children should learn to appreciate opportunities to:

- Solve problems where there is no right answer. A child should learn to deal with ambiguity and without having all the information from the outset. D&T should help to build a child's self-confidence.
- Partake in technical, practical tasks, which provide a child with a hands-on, creative experience and develop a capability for innovation.

Why is D&T important?

- D&T is about providing opportunities for a child to develop their capability. By combining their design and making skills with knowledge and understanding they learn to create quality products.
- D&T is a popular subject because children like making decisions for themselves and doing practical work. They love creating products they can see, touch - and even taste - for themselves. They feel proud to have done so.
- D&T can develop higher-level cognitive skills – developing hypotheses, synthesis of ideas and reflection.
- D&T provides an opportunity for examination and critical evaluation of the mad world. It offers the opportunity for a child to investigate and evaluate the use of materials in products and designs and the consequent depletion of the earth's natural resources.

Curriculum Organisation and Management

Schemes of work are being devised to ensure adequate subject provision, distinct from Art and Design, and links well to our year-group Humanities work units.

Curriculum planning is conducted in three phases: long-term, medium-term, and short-term:

- Long-term planning – Provides a broad overview of the themes covered in each term during each Key Stage. The D&T subject leader will liaise with the class teachers in each year group.
- Medium-term planning - Provide termly details of each unit of work. These plans define what will be taught and will highlight opportunities for cross-curricular links. The term plans will be submitted to the D&T subject coordinator at the beginning of each term.
- Short-term planning - Provide a daily plan for each D&T lesson. These list the specific learning objectives for each lesson, the classroom activities and the materials required. The class teacher keeps these individual plans and can discuss them on an informal basis with the D&T coordinator.

The D&T coordinator will provide subject advice when necessary. There will be one D&T project per term.

Teaching and Learning

A variety of teaching and learning styles are used in lessons. Investigate and make something, including exploring, developing, evaluating, and enhancing work. This is done most effectively through a mixture of whole class teaching and individual/group activities. Exemplary pupil work can be used as a model for the other children. Teachers should also provide demonstrations of new techniques or materials, which children can observe and learn from. Children will partake in peer appraisals, providing thoughtful and constructive feedback to one another. All children, regardless of their ability, are encouraged to make evaluations and to participate in discussions.

Practical activities should include:

- Opportunities to develop and model ideas, drawing upon and using a range of sources of information
- Occasions to respond creatively to briefs. Exploring and testing a child's design thinking
- Chances to develop detailed criteria for products and use these to explore proposals
- The consideration of the designs of others
- Producing detailed plans that outline alternative methods of making progress
- Working with a range of different materials (some sustainable). Selecting suitable materials, which demonstrate an understanding of material properties e.g., which is stronger? Metal or wood? Which can melt? Plastic or wood?
- Using a variety of tools (safely) for cutting and construction
- Measuring materials accurately and constructing designs with care
- Model making and prototyping. Checking their work as it develops and solving technical problems by modifying their approach in the light of progress.
- Creating a design with a moving part or mechanism
- Evaluating and modifying their products as they are being used and identifying ways of improving them.

Assessment, Recording and Reporting

The overall monitoring of teaching and learning in D&T will be the role of the D&T Coordinator. This will involve the observation of school and classroom displays, the moderation of pupil work and where possible observation of classroom practice.

Formative assessment will be ongoing via observations and dialogue with the children. Teachers record the progress made by children against the learning objectives for their lessons. This information can be used to plan future work for each child. This method of recording also enables the teacher to make an annual assessment as part of each child's annual report to parents. Staff will also keep a photographic record of select examples of work, reflecting a range of pupil responses to a given task.

Suitable learning opportunities are provided for all children of differing abilities. We achieve this through a range of strategies:

- setting common tasks that are open-ended and can have a variety of responses;
- setting tasks of increasing difficulty where not all children complete all tasks;
- grouping children by ability and setting different tasks for each group;
- placing children in mixed ability groups to allow for collaborative / teamwork
- providing a range of challenges with different resources;
- Using additional teacher support to assist individual children or small groups.

Their class teacher will provide a summative assessment of each child's yearly progress in D&T in their end of year report. This will be shared through SONAR.

Continuity and Progression

We plan the activities in D&T so that they build upon the prior learning of the children. While we give children of all abilities opportunity to develop their skills, knowledge and understanding, we also build planned progression into the scheme of work, so that there is an increasing challenge for the children as they move up through the school.

Links with the Senior School

It is an important aim to strengthen the links with the Senior School D&T Department. The Senior School has specialist D&T facilities and equipment. Prep School staff and pupils can use either by prior arrangement with the Senior School HOD.

Resources

We have a number of resources to support the teaching of D&T across the school. All our classrooms have a range of basic items, but we keep the more specialised equipment in the art and design store. This room is only accessible to staff who are required to inform the art/D&T coordinator if this equipment is to be removed and if other materials are required.

More specialist facilities and equipment are also available at the Senior School, for example a pottery and DT workshop.

This policy will be reviewed annually.

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