Curriculum Guide

Design Technology

National Curriculum Aims

The 2014 National Curriculum for Design and Technology 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.

National Curriculum Purpose

Design and technology 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, 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 design and technology education makes an essential contribution to the creativity, culture, wealth and well-being of the nation.

Intent

At Pinner Park Primary School we want to encourage children to use their own and collective creativity and imagination to design and make products which solve a range of problems in real life contexts. We encourage children to consider the needs of the product user, whether it is another individual, group or themselves.

The Design Technology (DT) curriculum should draw on the knowledge and skills that children develop in other curriculum areas such as maths, science, computing and art.

Through the design process followed in the DT curriculum children will learn increasingly to take risks, become resourceful and to be innovative, enterprising and capable citizens.

They will develop the skills to evaluate notable designers and existing products to inspire them to develop their own ideas, designs and prototypes.

To aid their own designs children will learn that designing and making is an iterative process through which they will need to continuously evaluate their product by testing their ideas and making improvements.

Implementation

All teaching of DT should follow the design, make and evaluate cycle. Each stage should be rooted in technical knowledge. The design process should be rooted in real life, relevant contexts to give meaning to learning.

While making, children should be given choice and a range of tools to choose freely from.

To evaluate, children should be able to evaluate their own products against a design criteria, using this to improve their designs.

Each of these steps should be rooted in technical knowledge and vocabulary.

DT should be taught to a high standard, where each of the stages should be given equal weight. There should be evidence in each of these stages in both the written work and practical work that children produce.

Impact

If delivered successfully, the Design Technology curriculum will lead to children being able to talk confidently about the design process and the steps they go through to design and make a workable solution to a practical problem.

Children will have the creativity, knowledge and skills to follow the entire design process from initial ideas, through to the development of designs and finally into production.

Children's success will be evident through the drawings and notes they make as well as in the final products they produce. This will be gathered as part of teachers' ongoing formative assessment and from self and peer assessment.

Knowledge & Skills

Through the DT curriculum, children should be inspired by engineers, designers, chefs and architects to enable them to create a range of structures, mechanisms, textiles, electrical systems and food products with a real life purpose.

	In Key Stage 1	In Key Stage 2
Design	• Design should be rooted in real life, relevant contexts to give meaning to the learning. • Planned through appropriate formats: drawing, templates, talking and mock-ups.	• Rooted in real life, relevant contexts to give meaning to the learning. • Researched designs based on functional, appealing products with purpose. • Planned by appropriate methods; annotated sketches, cross-sectional diagrams, prototypes, pattern pieces and computer-aided design.
Make	• Children should be given a range of tools for their projects to choose from. • Children should use a wide range of materials and components; textiles, construction equipment and ingredients.	• Children can select from a wider range of tools than KS1. • Children should use from and select a wider range of materials and components; textiles, construction equipment and ingredients.
Evaluate	• Evaluate existing products. • Evaluate their own products against design criteria.	• Evaluations should be in comparison to existing products. • Children should evaluate against a design criteria. • Children should understand how key events and individuals have helped shape design and technology globally – products are in context

Creativity

The Design Technology curriculum lends itself to children employing their creativity in tandem with a logical and practical approach to solving problems.

We aim to encourage children to think broadly about possible solutions to a problem in a real life context by looking at similar products and adapting them to their own needs.

Having given children the knowledge and skills to solve problems with a range of mechanical and technical solutions we want also to encourage them to think creatively about the aesthetics of the products they have designed.

There are many opportunities for children to apply their learning from other areas of the overall curriculum in their Design Technology lessons.

Assessment

Tracking children's progress throughout their school life is vital in order to establish their acquisition of knowledge and skills. At Pinner Park Primary School, learning starts with the children's prior knowledge and any misconceptions they may have. Class teachers decide upon the most appropriate age related way of obtaining the children's prior knowledge. Units of work are then personalised to the children.

Misconceptions that arise throughout the unit are identified and addressed appropriately by the teacher. At Pinner Park Primary School we are trailing approaches to assessing children's recall of their learning to assess how effectively knowledge and skills have been embedded and mastered.

In Design Technology children's learning will be assessed through teachers' ongoing formative assessment. Children will keep a record of their learning through a portfolio, their notes and drawings as well as the prototypes and products they create. Children will also be encouraged to peer and self-assess their work.