DT AT SHIPLEY

# Friendship, Faith, Future

**SUBJECT: DESIGN TECHNOLOGY (DT ) NATIONAL CURRICULUM**

# Purpose of study

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, 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 design and technology education makes an essential contribution to the future of product development.

# Aims

The 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.

**INTENT**

Our intent, when teaching Design Technology, is for pupils to design, make and evaluate products that solve real and relevant problems within a variety of contexts. We want children to be inspired by engineers, designers, chefs and architects to enable these designs. We want them to have the opportunities to make their designs using a range of structures, mechanisms, textiles, electrical systems and food products and apply a broad range of knowledge, skills, and understanding. Through evaluation of past and present Design and Technology projects, they will develop a critical understanding of its impact on daily life and the wider world.

Design and Technology aims to:

* develop all children’s thinking, designing and making skills
* teach children the knowledge and understanding to start, modify, complete and evaluate a product
* teach children the safe and effective use of a range of tools, materials and components
* develop children’s understanding of the ways in which people have designed products in the past and present to meet their needs
* develop all children’s creativity and innovation through designing and making
* develop the children’s understanding of technological processes, their management and their contribution to the workforce.

**IMPLEMENTATION**

Across key stage 1 and 2, we teach one DT block each term across a two year rolling programme. A series of lessons will then allow the children to research, design, problem solve, practice relevant skills, make, evaluate and present a product as a solution to a problem. These DT projects include structures, textiles, mechanical systems, electrical systems and cooking and nutrition.

Disadvantaged and SEND pupils are at the heart of all planning sequences in the school. Like with every other lesson, we deploy a range of scaffolds, differentiation and support strategies in order to ensure every pupil can access the learning. This is reviewed as part of the Assess, Plan, Do, Review cycle.

**EYFS**

# Expressive Arts and Design ELG: Creating with Materials

*Children at the expected level of development will:*

* Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function;
* Share their creations, explaining the process they have used;
* Make use of props and materials when role playing characters in narratives and stories.

Early Years Foundation Stage children explore, develop, construct, evaluate and adapt their ideas purposefully using a range of media and tools. This learning forms the foundations for later work in Design and Technology. Children have daily opportunities to explore Design and Technology. We provide a range of experiences that encourage exploration, observation, problem solving, critical thinking and discussion. These activities, indoors and outdoors, attract the children’s interest and curiosity.

**DT Curriculum – Cycles A & B**

**2023-2024 cycle A**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Autumn** | **Spring** | **Summer** |
| **EYFS** | Children safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. – clay divas. Sawing wood frames. Junk modelling towers & superheroes. Collage poppies. | Children safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. Junk modelling bus. Whittling with potato peelers. Nature animal pictures – 3D | Children safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. Cooking Australian recipes. Weaving Australian animals. |
| **KS1** | Sewing – research embroidery, design bunting & consider which stitches to use, select thread and needles  Food tech – mince pies – understand where food comes from, research mince pies, selecting tools  Card making – design, make and evaluate | Junk modelling  STEM project - mechanisms – design and make a moving vehicle, evaluate design  Food tech – sandwiches & instruction writing | 3D Structures: Windmill  Visit to Shipley Windmill as inspiration – design features, proportion, selection of materials  Making and evaluating |
| **Y3/4** | Food tech: blackberry muffins, pizza – healthy and varied diet (science)  Sewing – felt Christmas decorations – joining fabrics, understand the properties of materials. Investigate and analyse existing products – Christmas decorations. | STEM project: Design, make and evaluate, using a range of woodwork techniques and tools to make a moving vehicle. Apply understanding of how to strengthen, stiffen and reinforce more complex structures. | Selecting materials to frame art work for Petworth Art exhibition  Use of tools – measuring, strimming, safe scoring and cutting techniques, attaching  (Link with art work on complementary colours) |
| **Y5/6** | Designing and making a fruit kebab – healthy diet – understanding seasonality, preparing a dish using different cooking techniques  Designing a catapult and a paper plane – follow instructions for a design – select from a wide range of tools to perform a practical task, use technical vocabulary, research catapults – airplanes – investigating and analysing a range of existing products, considering the view of others to improve their work. Understanding how key events and individuals in design and technology have helped shape the world. | Apply their understanding of computing to program, monitor and control products – make a moving structure. | Mixed media collage (link with art) inspired by nature. |

**2024-2025 – cycle B**

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| --- | --- | --- | --- |
|  | **Autumn** | **Spring** | **Summer** |
| **EYFS** | Children safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. – clay divas. Split pin Santas.  Cooking & icing star Christmas Trees. | Children safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.  3D planets. Junk modelling rockets. | Children safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.  Junk model lighthouses. |
| **KS1** | Sculptures based on text character– junk and exploring ways of joining materials  Using tools to sculpt | Slider rocket designs | Sky Arts project – creating a big make – use of willow & tissue  Food tech: Sushi |
| **Y3/4** | Food tech: blackberry muffins  3D masks – technical knowledge  Design od buzz games  Peg decorations (making) | 3D planets – research, making, papier mache  Food tech: | Junk modelling – problem solving with structures, testing and evaluating |
| **Y5/6** | STEM project – ROAR – research, design, develop, build & evaluate  Egyptian jewellery design/cartouche  Peg decorations (making & evaluating)) | Designing planets/space hotels – space architecture  Food tech: Space food – dehydrated foods, preparing a packed lunch for space | Designing and re-purposing plastic packaging |

**IMPACT**

Our DT Curriculum is planned to demonstrate progression and build on and embed current skills. Children will have developed their ability to problem solve, design, make and evaluate products to solve real and relevant problems within a variety of contexts. By then end of KS2, children should have gained the relevant knowledge and understanding of different skills and techniques required to problem-solve by designing and creating a variety of products using a safe approach. They will have an understanding of the cross curricular context, the application of skills learnt in other areas of the curriculum and how they aid the design and make process. We aim for children to be inspired to continue to study the subject in KS3.

We measure the impact of our curriculum through the following methods:

* + Pupil discussions and pupil voice
  + Governor and subject leader monitoring.
  + Annual reporting and curriculum review.
  + Photo evidence of the pupils’ practical learning.
  + Evidence of analysis and evaluation as a starting point for their next unit of work