Design and Technology Progression Map

Curriculum overview

Design and Technology (DT) forms part of Downsell Primary's Creative Curriculum. The learning in DT is linked, as much as possible, to the key text / topic for that half term, supporting our thematic curriculum approach.

Design and Technology at Downsell Primary School	
Intent	Design and Technology is an inspiring, rigorous and practical subject which has a vital role in contributing to a balanced curriculum and creating the problem solvers of the future. It is a subject that encourages children to 'learn to think' creatively to solve practical problems both as individuals and through teamwork. At Downsell Primary School, our aim is to encourage children to use their creativity and imagination to design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. We aim, as much as possible to link design and technology to the wider curriculum, offering a thematic approach. The children are also given opportunities to explore, reflect upon and evaluate past and present design technology and are encouraged to become problem solvers in their own right.
Implementation	Through a variety of creative and practical activities, we teach the knowledge, understanding and skills needed to engage in the process of designing and making. Although we follow a thematic approach we ensure that we adhere to the expectations set out in the National Curriculum and use this as our starting point. Key skills and knowledge for DT have been mapped across the school to ensure clear progression through the year groups. Key concepts and technical vocabulary are also included in planning which follows an overall design, make, evaluate structure. Encouraging the use of technical vocabulary during discussion opportunities links directly into our whole school focus on improving oracy skills.
Impact	The impact of the teaching of Design and Technology is assessed in a number of ways. Formal assessment by book looks and marking of children's work is used alongside more informal child interviews and photographic and video evidence. Careful questioning and planning for child led discussions are some of the other methods of measuring impact.

The teaching of Art and Design & Technology is alternated dependent on what area links best with the text / topic.

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 1	Art	Design and Technology	Design and Technology	Design and Technology	Design and Technology	Art
Year 2	Art	Art	Art	Design and Technology	Art	Design and Technology
Year 3	Design and Technology	Design and Technology	Art	Art	Art	Design and Technology
Year 4	Design and Technology	Art	Art	Design and Technology	Design and Technology	Design and Technology
Year 5	Art	Design and Technology	Design and Technology	Art	Design and Technology	Art
Year 6	Art	Design and Technology	Design and Technology	Art	Design and Technology	Art

Curriculum Learning Intentions Overview				
Year 1	**Autumn 2** <u>Mechanisms – moving toy (puppets)</u> • To create a plan to follow • To choose suitable materials • To use appropriate equipment • To use a running stitch • To use a range of materials • To evaluate against the design criteria	**Spring 1** <u>Design and construct a lighthouse</u> • To identify features of a lighthouse and design a lighthouse • To select materials and resources for my lighthouse • To construct a lighthouse • To evaluate against the design criteria <u>Food technology: Eat more fruit and vegetables</u> • To find out the favourite fruits and vegetables in the class and present the data in a pictogram. • To examine, taste and describe a variety of fruits and vegetables. • To find out how to handle and prepare a variety of fruits and vegetables.	**Spring 2** <u>Plan, create and evaluate a bird box</u> • To explore existing bird boxes • To select materials and resources • To construct my bird box • To evaluate against the design criteria	**Summer 1** <u>Mechanisms – Space Buggy</u> • To identify mechanical systems needed for a space buggy. • To use the features of a space buggy in a design. • To construct a space buggy and evaluate against design criteria.

		• To be able to design a recipe to include fruit and/or vegetables. • To be able to make and evaluate a food product based on a design.		
Year 2	**Spring 2** <u>Construct Tudor houses</u> • To identify the structure of a Tudor house • To identify the materials needed • To use accurate measurements and instructions to begin creating my structure • To use a range of materials to make a model of a recognisable Tudor house		**Summer 2** <u>Design and create purposeful and functional lava lamp</u> • To explore buoyancy and density when designing a lava lamp • To design my own lava lamp taking into consideration existing products • To ensure my lava lamp has a unique selling point • To select materials and resources for my lava lamp	
Year 3	**Autumn 1** <u>Food technology: Greek Bread</u> • To learn about different types of bread • To evaluate different types of bread • To follow a recipe on how to make Greek bread • To design your own bread • To make my own bread • To evaluate my bread	**Autumn 2** <u>Mechanisms – Pulley systems</u> • To understand the mechanics of a pulley system • To design a functional product • To construct a Roman well with a purposeful function • To evaluate against a design criteria	**Summer 2** <u>Mechanisms: transportation of goods</u> • To explain why Rivers were so important in Ancient Egypt • To explore mechanisms used to transport goods • To explore the functions of different mechanisms • To identify the features that I will include and the materials / resources that will be needed • To build a structure and create a system to transport goods	
Year 4	**Autumn 1** <u>Textiles – Slippers</u> • To research existing products and designs • To select from a wide range of materials to produce an aesthetically pleasing product	**Spring 2** <u>Quilling</u> • To use quilling techniques to construct an eco-friendly campaign tool • To test my product with the intended user	**Summer 1** <u>Mechanisms: Constructing a mechanical system</u> • To research existing products and a design a controllable mechanical system • To understand the benefits of using recyclable materials	**Summer 2** <u>Textiles: design and sewing a coat of arms</u> • To plan and design my Norman shield • To use cutting and joining techniques • To evaluate my design

	• To use sewing techniques to make a product • To evaluate my product	• To consider the view of others in the evaluation process	• To design a simple design specification • To use a motor in my design • To use a range of tools to construct a mechanical system • To evaluate my design	
Year 5	**Autumn 2** <u>Mechanisms: Electrical system game</u> • To carry out research into existing products • To design a functional product against a design brief • To test out and evaluate various circuits • To construct an electrical system game with a purposeful function • To evaluate against design criteria	**Spring 1** <u>Textiles: Stone age shelter and jewellery</u> • To design my 3D model of a Neolithic settlement • To plan and explain my choices • To follow my plan, making adaptations where needed • To manipulate materials and construct a 3D model of a Neolithic settlement	**Summer 1** <u>Food Technology: Seasonal Food</u> • To cook using British ingredients available all year round. • To know how seasonal fruits in Britain are grown and processed. • To understand why vegetables form an important part of a healthy and varied diet. • To find out about how seasonally produced meat can form part of a healthy diet. • To know how fish are caught or reared, processed and used in healthy meals. • To show what you have learned about eating seasonal food as part of a healthy, varied diet.	
Year 6	**Autumn 2** <u>Mixed media – fashion mood board</u> • To understand how sustainable fashion will impact climate changes • To understand the importance of recycling in the fashion industry • To create a mood board to develop my ideas • To use weaving techniques • To evaluate my work	**Spring 1** <u>Mixed media – recycled fashion</u> • To be able to design a waterproof container. • To be able to make a waterproof container. • To be able to evaluate. • To be able to design interactive info-boxes. • To be able to make interactive info-boxes. • To be able to evaluate the product.	**Summer 1** <u>Food Technology: Burgers</u> • To explore different types of burgers and their nutrition facts. • To explore how to make burger patties. • To explore sauces and side dishes for burgers. • To explore burger buns and their suitability • To be able to plan and design a burger to make. • To be able to make a burger and evaluate the process.	

National curriculum expectations: In Key Stage 1 pupils should be taught to: Through a variety of creative and practical activities, the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home and school, gardens and playgrounds, the local community, industry and the wider environment].			**National curriculum expectations: In Key Stage 2 pupils should be taught to:** Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home, school, leisure, culture, enterprise, industry and the wider environment].			
	Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
Design	I am beginning to design products using pictures and words based on a design criteria. I use pictures, words and models to convey what I want to design.	I use simple drawings and labels to record my ideas. I design products that have a clear purpose based on my own design criteria.	I can research similar products to develop my own design ideas. I am able to develop a design through discussion and annotated sketches to add detail to my design.	I generate and develop ideas using exploding diagrams and prototypes. I use different ways to creatively record and present my designs to show they are fit for purpose.	I can generate and develop ideas using pattern pieces and computer aided design.	I generate and develop ideas using a variety of design techniques. I justify my plans in a convincing way. I use research and develop design criteria to design innovative functional and appealing products aimed at a specific group.
Make	I can choose appropriate resources and tools to make a product. I can use a range of materials to make a product, including construction materials, textiles and ingredients.	I can select from and use a range of tools and equipment to perform practical tasks for example, cutting, shaping, joining and finishing.) I use a range of materials to make a product, including construction materials, textiles and ingredients and explain why the materials have been selected.	I can choose a material for both its suitability and its appearance and explain why it has been selected. I can think ahead about the order of my work, select tools needed for a given task and give reasons for my choices.	I can choose and use appropriate tools from a wider range to perform practical tasks. I can choose suitable materials from a wider range and explain its suitability.	I use a range of appropriate tools competently. I can join and combine a range of materials competently.	I select and use specialist tools and equipment to perform practical tasks accurately. I can select from and use a wider range of materials and components according to their functional qualities and aesthetic qualities.
Evaluate	I am beginning to explore and evaluate a range of existing products by evaluating the product against the purpose	I can explore and evaluate a range of existing products by looking at function and materials.	I can investigate and analyse an existing product by identifying whether it is fit for	I can explain why certain materials were used to make existing products.	I can evaluate appearance and function against original criteria.	I can critically evaluate the quality of the design, manufacture and fitness for purpose by

	I can evaluate my designs and products by saying how well they do the job they were designed for.	I can evaluate my ideas and products against set design criteria.	purpose and how easy it is to use. I can prove that my design meets some set criteria and evaluate how well it works.	I can evaluate and suggest improvements for my design	I am able to justify decisions made during the design process.	comparing existing products I can evaluate my ideas and products against my own design criteria and consider the views of others to improve my work.
Technical knowledge	I can explore and use simple mechanisms in my products.	I can build structures, exploring how they can be made stronger, stiffer and more stable.	I can apply my understanding of how to strengthen, stiffen and reinforce more complex structures.	I am able to understand and use mechanical systems in my products.	I can understand and use electrical systems in my products.	I am able to control and model using an ICT control programme.
Cooking and nutrition	I can design purposeful, functional, appealing products for myself and other users based on design criteria I can generate, develop, model and communicate my ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology I can select from and use a range of tools and equipment to perform practical tasks (for example, cutting) I can select from and use a wide range of materials and components, including		I can explore and evaluate a range of existing products I can understand and apply the principles of a healthy and varied diet I can prepare and cook a variety of predominantly savoury dishes I can use a range of cooking techniques		I can understand and apply the principles of a healthy and varied diet I can prepare and cook a variety of predominantly savoury dishes I can use a range of cooking techniques understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed	I can use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups I can generate, develop, model and communicate my ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design I can select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting], accurately

	ingredients, according to their characteristics I can explore and evaluate a range of existing products I can use the basic principles of a healthy and varied diet to prepare dishes I can understand where food comes from					I can investigate and analyse a range of existing products evaluate their ideas and products against their own design criteria and consider the views of others to improve their work I can understand and apply the principles of a healthy and varied diet I can prepare and cook a variety of predominantly savoury dishes I can use a range of cooking techniques