

Year 2- DT Long Term Plan

Our Rationale

At Courthill Infant School, we believe that Design and Technology gives children the opportunity to develop skill, knowledge and understanding of designing and making functional products. We feel it is vital to nurture creativity and innovation through design and by exploring the designed world in which we live and work.

We develop the children's skills and knowledge in design, structures, mechanisms and use a range of materials including food. This is done by providing exciting activities linked to topics that encourage creativity and the opportunity to think about important issues.

In Foundation, children are encouraged to be creative and innovative using construction toys and develop joining skills and fine motor skills. They are encouraged to use these skills to solve problems.

In Key Stage One children follow the National Curriculum. They learn about becoming a designer and the process of design: plan, make and evaluate. 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.

Specific curriculum input may include areas such as the events of the

We want our children leaving us to understand that design and technology is about the creation of a product to fulfil a need. We would like them to know the 'big ideas':

Big idea 1: Design

- design purposeful, functional, appealing products for themselves and other users based on design criteria
- generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology

Big idea 2: skills and manufacture

- select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]
- select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics

Technical knowledge

- build structures, exploring how they can be made stronger, stiffer and more stable
- explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.

Big idea 3: Evaluate

- explore and evaluate a range of existing products
- evaluate their ideas and products against design criteria

Knowledge and facts (NC)

Progression of skills across the year group

Topics

Spring 2: 3, 2, 1 Blast Off! - Space Buggies (wheels and axles)

Summer 2: Amazing Achievers (textiles)

Ongoing: Cooking and nutrition

Big Idea 1: That design and technology is about the creation of a product to fulfil a need

- a) That design is about making choices
- b) That evaluation is about understanding the effectiveness of these choices

To know that a product can be made for a target user and a specific purpose.
 To know how to make a simple sketch design and annotate key features.
 To understand that there is a design criteria and brief they must follow for their target user and purpose.
 To plan and write a list equipment and materials best suited for the purpose.
 To know how to communicate and discuss their choices when designing giving verbal reasons for their choices.
 To learn that you can make adjustments to the original design.
 To accurately learn and name the materials needed and techniques used (dowel, Axles, Components, Mechanisms, chassis, logo).

To know that a product can be made for a target user and a specific purpose.
 To know how to make a simple sketch design and annotate the key features (specific to textiles).
 To learn the new vocabulary associated with textiles e.g. materials, equipment and skill (needle, thread, fabric, running stitch).
 To understand that there is a design criteria and brief they must follow for their target user and purpose.
 To know and understand which equipment and materials to use in a simple textiles activity.
 To be able to make adjustments to the original design.
 To know that you can make adjustments to the original design.

Technical knowledge
 To know where food consumed comes from (source of food, how it is grown e.g. trees field or underground, and country of origin link to food miles and sustainability: geography)

Design
 To know that a product can be made for a target user and a specific purpose.
 To know how to make a simple sketch design and annotate the key features (specific to cooking).
 Identify techniques required for cooking and mixing preparation, cooking and presentation of ingredients
 To understand that there is a design criteria and brief they must follow for their target user and purpose.
 To know and understand which equipment to use in a simple cooking activity.
 To be able to make adjustments to the original design.

			To know that you can make adjustments to the original design.
Big idea 2: That technical knowledge and skill is required in the manufacture of a product.	<p>To use a wider range of joining techniques and materials. To choose materials based on more scientific properties. To begin to change and adapt the techniques or materials they are using and begin to give reasons why. To learn how to manufacture a moving wheel and axle. To know that there are different ways of joining a range materials e.g. PVA glue, pritt stick, sellotape, masking tape, split pins and be able to choose the most appropriate based on the materials being used.</p>	<p>To learn how to use a simple running stitch as a joining technique. To learn how to use sewing equipment safely. To know that textiles designs can also be changed and adapted if needed and begin to give reasons. To know how to join materials together in different ways. To know how to handle tool safely e.g. sewing needles To learn how to measure and mark in order to cut out.</p>	<p><u>Technical knowledge</u> To know that there are basic hygiene rules that should be followed when preparing food (e.g. hands washed, hair up, apron on, sleeves rolled up)</p> <p><u>Make:</u> To know how to follow hygiene rules To know how to measure ingredients using non-standard measurements (cups, spoons, etc.) To know how to mix, stir, cut, pour, shape and spread (EYFS) sieve, slice, squeeze grate and peel. To know how to follow instructions / set steps of a recipe</p>
Big idea 3: Evaluation of a product during and after. Evaluation is about understanding the effectiveness of their choices.	<p><u>During:</u> To know how to evaluate what is working well and what isn't and make changes to the materials, equipment or techniques (independently).</p> <p><u>After:</u> To write an evaluation communicating what worked well and what didn't work well giving reasons in relation to purpose (design criteria). To identify how they could improve their product next time and explain why.</p>	<p><u>During:</u> To know how to evaluate their sewing in relation to their design what is working well and what isn't and make changes to the materials, equipment or techniques (with support as sewing is a new skill).</p> <p><u>After:</u> To write an evaluation communicating what worked well and what didn't work well giving reasons in relation to purpose (design criteria). To identify how they could improve their product next time and explain why.</p>	<p><u>Before</u> Independently change part of the design (technical skill or material) to a problem (in manufacture) Evaluate existing products for how well they work in relation to their intended purpose. Evaluate existing products against the design criteria set and identify what is good and what features could be improved</p> <p><u>After:</u> Discuss reasons for any changes to initial design, why they were needed and how they could make the product better. Explain how their product works and identify if they have met the design criteria Identify successes, improvements and what they have learnt</p>
Context	<p>Through every unit of work children will follow the three big ideas of, design, skill/manufacture and evaluation:</p> <p>5,4,3,2,1 Blast Off! Topic – Make Space buggies using wheels and axles.</p> <p>Textiles – Create a Courthill bookmark using a simple running stitch</p> <p>Cooking and Nutrition- ongoing</p>		