



## Design Technology (DT) Whole School Curriculum Overview

### Design Technology - Cooking and Nutrition

#### Rationale:

#### Year 1

A range of opportunities and experiences are provided in Y1 to ensure that all pupils:

- Begin to understand that all food comes from plants or animals.
- Begin to develop children's peeling and chopping skills.

#### Year 2

A range of opportunities and experiences are provided in Y2 to ensure that all pupils:

- Begin to understand that all food comes from plants or animals.
- Begin to develop children's peeling and chopping skills.

#### Year 3

A range of opportunities and experiences are provided in Y3 to ensure that all pupils:

- Begin to know that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world.
- Be able to use a range of techniques such as peeling, chopping, slicing and grating.

#### Year 4

A range of opportunities and experiences are provided in Y4 to ensure that all pupils:

- Understand that food is grown, reared and caught in the UK, Europe and the wider world.
- Understand how to prepare and cook a variety of predominantly savoury dishes safely and hygienically.
- Further develop skills including mixing, kneading and baking.

#### Year 5

A range of opportunities and experiences are provided in Y5 to ensure that all pupils:

- Understand that seasons may affect the food available.
- Understand how food is processed into ingredients that can be eaten or used in cooking.

Gain confidence in the skills of peeling, chopping, slicing, grating, mixing, kneading and baking.

## Year 6

A range of opportunities and experiences are provided in Y6 to ensure that all pupils:

- Using their knowledge and skills know how to prepare and cook a variety of predominantly savoury dishes safely and hygienically.
- Become increasingly skilled at peeling, chopping, slicing, grating, mixing, kneading and baking.

### Learning

#### Prior Knowledge - In EYFS pupils are taught to:

- Begin to develop a food vocabulary using taste, smell, texture and feel.
- Think about the need for a variety of foods in a diet.

#### In Y1 pupils are taught to:

- Talk about what he/she eats at home and begin to discuss what healthy foods are.
- Say where some food comes from and give examples of food that is grown.
- Use simple tools with help to prepare food safely.

#### Key Vocabulary

*food vocabulary using taste, smell, texture and feel  
plants, animals, home, healthy, grown, safe, peel, chop*

#### In Y2 pupils are taught to:

- Understand the need for a variety of food in a diet.
- Understand that all food has to be farmed, grown or caught.
- Use a wider range of cookery techniques to prepare food safely.

#### Key Vocabulary

*food vocabulary using taste, smell, texture and feel  
plants, animals, home, healthy, grown, safe, peel, chop*

#### In Y4 pupils are taught to:

- Understand what makes a healthy and balanced diet, and that different foods and drinks provide different substances the body needs to be healthy and active.
- Understand seasonality and the advantages of eating seasonal and locally produced food.
- Read and follow recipes which involve several processes, skills and techniques.

#### Key Vocabulary

*food vocabulary using taste, smell, texture and feel  
plants, animals, home, healthy, variety, diet, savoury, sweet  
farmed, grown, reared, caught  
prepare, ingredients, cook, variety, combine, safe, safely, hygiene  
peel, chop, grate, slice, mix, knead, bake*

#### In Y5 pupils are taught to:

- Understand how a variety of ingredients are grown, reared, caught and processed to make them safe and palatable/tasty to eat.
- Select appropriate ingredients and use a wide range of techniques to combine them.
- Use his/her research into existing products and his/her market research to inform the design of his/her own innovative product.

#### Key Vocabulary

	<p><b>In Y3 pupils are taught to:</b></p> <ul style="list-style-type: none"> <li>• Talk about the different food groups and name food from each group.</li> <li>• Understand that food has to be grown, farmed or caught in Europe and the wider world.</li> <li>• Use a wider variety of ingredients and techniques to prepare and combine ingredients safely.</li> </ul> <p><b><u>Key Vocabulary</u></b>  <i>food vocabulary using taste, smell, texture and feel</i>  <i>plants, animals, home, healthy, variety, diet</i>  <i>prepare, ingredients, combine, safe, safely,</i>  <i>peel, chop, grate, slice</i>  <i>farmed, grown, reared, caught</i></p>	<p><i>food vocabulary using taste, smell, texture and feel</i>  <i>plants, animals, home, healthy, variety, diet, savoury, sweet</i>  <i>farmed, grown, reared, caught, seasonal, locally, availability, produced, processed</i>  <i>prepare, ingredients, cook, variety, combine, safe, safely, hygiene</i>  <i>peel, chop, grate, slice, mix, knead, bake</i></p> <p><b>In Y6 pupils are taught to:</b></p> <ul style="list-style-type: none"> <li>• Confidently plan a series of healthy meals based on the principles of a healthy and varied diet.</li> <li>• Use information on food labels to inform choices.</li> <li>• Research plan and prepare and cook a savoury dish, applying his/her knowledge of ingredients and his/her technical skills.</li> </ul> <p><b><u>Key Vocabulary</u></b>  <i>food vocabulary using taste, smell, texture and feel</i>  <i>plants, animals, home, healthy, variety, varied, diet, savoury, sweet</i>  <i>farmed, grown, reared, caught, seasonal, locally, availability, produced, processed</i>  <i>information associated with food labels</i>  <i>prepare, ingredients, cook, variety, combine, safe, safely, hygiene</i>  <i>peel, chop, grate, slice, mix, knead, bake</i></p>
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<b>Design Technology - Processes</b>
<b>Rationale:</b>
<b>Year 1</b>

A range of opportunities and experiences are provided in Y1 to ensure that all pupils:

- Children learn how to sew and join fabrics using a running stitch.
- With some support, begin to explore and use simple mechanisms. For example, use sliders in moving pictures, hinges into models etc.
- Begin to build structures, joining components together to create a finished product.

## Year 2

A range of opportunities and experiences are provided in Y2 to ensure that all pupils:

- learn how to cut out shapes which have been created by drawing round a template onto the fabric.
- begin to sew using a range of basic stitches.
- with some independence, explore and use winding mechanisms.
- begin to incorporate wheels and axles into their products.
- begin to build structures with some independence exploring how they can be made stronger, stiffer and more stable.

## Year 3

A range of opportunities and experiences are provided in Y3 to ensure that all pupils:

- Join fabrics using a range of stitches including cross-stitch with increasing independence. They learn how to add further decoration to their work using buttons, beads, sequins etc.
- Begin to develop an understanding that mechanical systems such as levers and linkages or pneumatic systems can create movement.
- Begin to incorporate levers and linkages into their products.
- Build structures with increasing independence.
- Begin to demonstrate a growing understanding of how to reinforce and strengthen their finished products.

## Year 4

A range of opportunities and experiences are provided in Y4 to ensure that all pupils:

- Are able to use a pattern and are introduced to making a prototype of a product.
- Are becoming more accurate with sewing skills.
- With increasing independence produce models that incorporate mechanical systems such as levers, linkages or pneumatic systems to create movement.
- Build structures with increasing independence and accuracy.
- Demonstrate an understanding of how models can be made stronger and more stable.

## Year 5

A range of opportunities and experiences are provided in Y5 to ensure that all pupils:

- Create products using pattern pieces and demonstrate an awareness of seam allowance.
- Are taught how to blanket stitch.
- Begin to understand how mechanical systems such as cams create movement.

- Design and make a product that incorporates a cam mechanism.
- Build innovative, functional, appealing, structures that are fit for purpose.
- Evidence how products can be made stronger and more stable.
- Use finishing techniques to strengthen and improve the appearance of their models.

## Year 6

A range of opportunities and experiences are provided in Y6 to ensure that all pupils:

- Can pin and tack fabric pieces together.
- Can join fabrics by over-sewing, back-stitch, blanket-stitch and are introduced to machine sewing.
- Make quality products with increasing accuracy and independence.
- Make quality products, evidencing a range of designing and making skills of a particularly high standard.
- Have an understanding of a range of mechanisms.
- With increasing independence and ability, build innovative, functional, appealing, stable structures that are fit for purpose.
- Demonstrate confidently how to reinforce and strengthen a 3D framework.

## Learning

### Prior Knowledge. In EYFS pupils are taught to:

- Learn how to weave with a range of different fabrics.
- With support, begin to incorporate moving parts into models. For example, use split pins to make body parts move.
- Begin to build structures with a range of materials inside and out.

### In Y1 pupils are taught to:

- Use pictures and words to describe what he/she wants to do.
- Select from and use a range of tools and equipment to perform practical tasks e.g. cutting, shaping, joining and finishing.
- Use a range of simple tools to cut, join and combine materials.
- Ask simple questions about existing products and those that he/she has made.
- Build structures, exploring how they can be made stronger, stiffer and more stable.
- Use wheels and axles in a product.

**Key Vocabulary**  
*pictures, words*

### In Y4 pupils are taught to:

- Use knowledge of existing products to design a functional and appealing product for a particular purpose and audience.
- Create designs using exploded diagrams.
- Use techniques which require more accuracy to cut, shape, join and finish his/her work e.g. Cutting internal shapes, slots in frameworks.
- Consider how existing products and his/her own finished products might be improved and how well they meet the needs of the intended user.
- Apply techniques he/she has learnt to strengthen structures and explore his/her own ideas.
- Understand and use electrical systems in products.

### **Key Vocabulary**

*design, template, fabric, annotated sketches, cross-section, diagram*

*tools, equipment, cutting, shaping, joining, finishing*  
*build, construct, structures, stronger, stiffer, stable*  
*wheels, axles, join, construct*

**In Y2 pupils are taught to:**

- Design purposeful, appealing products for himself/herself and other users based on design criteria.
- Generate, develop, model and communicate his/her ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology.
- Choose appropriate tools, equipment, techniques and materials from a wide range.
- Safely measure, mark out, cut and shape materials and components using a range of tools.
- Evaluate and assess existing products and those that he/she has made using a design criteria.
- Investigate different techniques for stiffening a variety of materials and explore different methods of enabling structures to remain stable.

Explore and use mechanisms e.g. levers, sliders, wheels and axles in his/her products.

**Key Vocabulary**

*design, template, fabric,*

*winding, mechanism, wheels, axles, winder, slider, levers, linkage girder, rafter, strut*  
*strengthen, structure, stronger, stiffer, stable, rigid*  
*measure, mark out, cut, assemble, join, diagonal, exploded diagram, internal*  
*mechanical, pneumatic, electrical*

**In Y5 pupils are taught to:**

- Use his/her research into existing products and his/her market research to inform the design of his/her own innovative product.
- Create prototypes to show his/her ideas.
- Make careful and precise measurements so that joins, holes and openings are in exactly the right place.
- Produce step by step plans to guide his/her making, demonstrating that he/she can apply his/her knowledge of different materials, tools and techniques.
- Make detailed evaluations about existing products and his/her own considering the views of others to improve his/her work.
- Build more complex 3D structures and apply his/her knowledge of strengthening techniques to make them stronger or more stable.
- Understand how to use more complex mechanical and electrical systems.

**Key Vocabulary**

*design, template, fabric, annotated sketches, cross-section, diagram, prototype*  
*winding, mechanism, wheels, axles, winder, slider, levers, linkage, girder, rafter*  
*strengthen, structure, stronger, stiffer, stable, rigid*

*winding, mechanism, wheels, axles, winder, slider*

*structure, stronger, stiffer, stable, rigid*

**In Y3 pupils are taught to:**

- Use knowledge of existing products to design his/her own functional product.
- Create designs using annotated sketches, cross-sectional diagrams and simple computer programmes.
- Safely measure, mark out, cut, assemble and join with some accuracy.
- Make suitable choices from a wider range of tools and unfamiliar materials and plan out the main stages of using them.
- Investigate and analyse existing products and those he/she has made, considering a wide range of factors.
- Strengthen frames using diagonal struts.
- Understand how mechanical systems such as levers and linkages or pneumatic systems create movement.

**Key Vocabulary**

*design, template, fabric, annotated sketches, cross-section, diagram*

*winding, mechanism, wheels, axles, winder, slider, levers, linkage*

*strengthen, structure, stronger, stiffer, stable, rigid*

*measure, mark out, cut, assemble, join, evaluate, diagonal, strut, exploded diagram, internal, precise mechanical, pneumatic, electrical, complex*

**In Y6 pupils are taught to:**

- Use research he/she has done into famous designers and inventors to inform the design of his/her own innovative products.
- Generate, develop, model and communicate his/her ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design.
- Apply his/her knowledge of materials and techniques to refine and rework his/her product to improve its functional properties and aesthetic qualities.
- Use technical knowledge accurate skills to problem solve during the making process.
- Use his/her knowledge of famous designs to further explain the effectiveness of existing products and products he/she have made.
- Use a wide range of methods to strengthen, stiffen and reinforce complex structures and can use them accurately and appropriately.
- Apply his/her understanding of computing to program, monitor and control his/her product.

**Key Vocabulary**

*design, template, fabric, annotated sketches, cross-section, diagram, prototype, innovative, functional, aesthetic*

*winding, mechanism, wheels, axles, winder, slider, levers, linkage, cross brace, cantilever*

	<i>measure, mark out, cut, assemble, join, diagonal, strut mechanical, pneumatic</i>	<i>strengthen, structure, stronger, stiffer, stable, rigid measure, mark out, cut, assemble, join, evaluate, effective diagonal, strut, exploded diagram, internal, precise mechanical, pneumatic, electrical, complex</i>
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