



# DT Year 3 Curriculum Overview

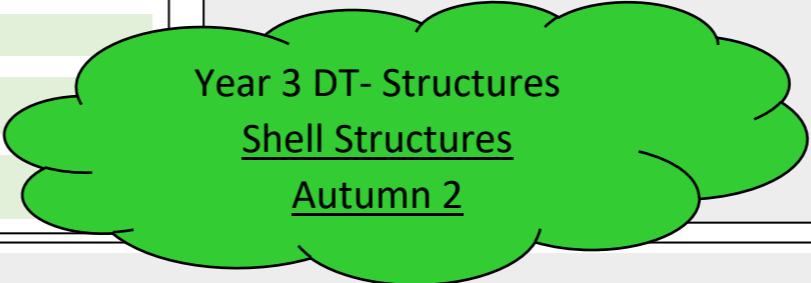
DT must be covered in Autumn 2, Spring 2, Summer 2 and is alternated with Art (in remaining half terms)

## The Big Picture

Within structures, the children will have opportunities to research different shell structures, specifically packed lunch containers or boxes used to transport food. They will practise creating nets to make 3D shapes in order to prepare them to make their net shape for their final product. They will design their food container, based on the ones they have seen for a purpose, for someone or something. They will be supported to develop their ideas by producing cross-sectional drawings and diagrams. They will be supported to develop more than one design and to make adaptations as they go along. After the design stage, they will be asked to make their product, using a range of tools and techniques. They will be asked to mark out what they need and use rulers when appropriate and joining with some accuracy. Once they have made their products, they will evaluate it. They will be asked to evaluate it against their design criteria and to identify strengths and areas for development. Children will have to consider the views of the user when evaluating too.

## What do we already know? What can we already do?

- Know what a structure is
- Know the simple order of making a structure
- Understand how and to make a free-standing structure stronger, stiffer and more stable
- Know and use some simple finishing techniques to complete their structure
- Know the names of and spot some simple 3D shapes seen within their structures



## NC objectives – Key Stage 2

### Pupils should be taught:

#### Design

- 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
- generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design

#### Make

- select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately
- select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities

#### Evaluate

- 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
- understand how key events and individuals in design and technology have helped shape the world

#### Technical knowledge

- apply their understanding of how to strengthen, stiffen and reinforce more complex structures
- understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]
- understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]
- apply their understanding of computing to program, monitor and control their products.

## Specific unit objectives

### Structure- Shell structures

- To explore and name more sophisticated methods for stiffening and strengthening structures.
- To know how to and be able to create a shape net.
- To know how to test a materials strength.
- To know how to use CAD (computer aided design) to develop a product.

### Research (objectives to cover all year)

- To explore some existing products- When was the product made? Where was the product designed and made? What methods of construction have been used?
- To evaluate the product on its design, material and its use.
- To research famous inventors and designers.

### Design (objectives to cover all year)

- To identify a purpose and establish a design criteria for a product.
- To develop ideas by producing cross- sectional drawings and diagrams.
- To develop more than one design or adaptation of the initial design.
- To generate realistic ideas that meet the needs of the user/s.

### Make (objectives to cover all year)

- To safely measure, mark out, cut, assemble and join with some accuracy.
- To make sensible choices from a wider range of tools and unfamiliar materials and plan out the main stages of using them.
- To use a range of techniques to join and combine ingredients e.g. slicing and mixing.
- To measure and weight ingredients using scales with support.
- To cook using a heat source e.g. oven with supervision.

### Evaluate (objectives to cover all year)

- To evaluate their product against their original design criteria whilst designing and making.
- To use their design criteria to evaluate their product; identify strengths and areas for development.
- To consider the views of the user whilst evaluating.

## Key vocabulary and understanding for concept connectors

Structures: structure, stiffening, strengthening, shape net, CAD- computer aided design, strength, testing

## Sticky Knowledge

- The flat or opened-out shape of an object, such as a box is called a net.
- Computer Aided Design – CAD can be used to design a product on the computer.

## Key Questions

- Can they explore and name more sophisticated methods for stiffening and strengthening structures?
- Can they create a shape net?
- Do they know how to test a materials strength?
- Do they know how to use CAD (computer aided design) to develop a product?

## Key designers/ architects/ inventors:

Sue Kirk



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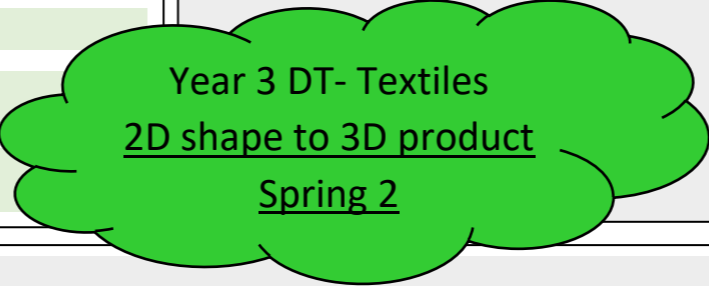
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## The Big Picture

Within textiles, the children will have the opportunity to research different passport pouches made from different materials. They will practise different stitches for example – running stitch (developed in Year 1) and a cross- stitch to join materials together before starting their final piece. They will practise stitches to create patten and texture. They will design their passport pouch, based on the ones they have seen for a purpose, for someone or something. They will be supported to develop their ideas by producing cross-sectional drawings and diagrams. They will be supported to develop more than one design and to make adaptations as they go along. After the design stage, they will be asked to make their product, using a range of tools and techniques. They will be asked to mark out what they need and use rulers when appropriate and joining with some accuracy. Once they have made their products, they will evaluate it. They will be asked to evaluate it against their design criteria and to identify strengths and areas for development. Children will have to consider the views of the user when evaluating too.

## What do we already know? What can we already do?

- Group and sort fabrics according to their qualities
- Use a simple running stitch to secure two pieces of fabric together
- Know what a template is and use one to cut out a shape
- Know and use a range of finishing techniques



## NC objectives – Key Stage 2

### Pupils should be taught:

#### Design

- 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
- generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design

#### Make

- select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately
- select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities

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#### Evaluate

- 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
- understand how key events and individuals in design and technology have helped shape the world

#### Technical knowledge

- apply their understanding of how to strengthen, stiffen and reinforce more complex structures
- understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]
- understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]
- apply their understanding of computing to program, monitor and control their products.

## Specific unit objectives

### Textiles – 2D shape to 3D product

- To use smaller eyed needles and finer threads to stitch.
- To practise and use more complex sewing techniques such as cross- stitch to join fabrics together.
- To use stiches to develop pattern and texture to a piece.
- To apply decoration to a piece using beads, buttons, feathers.

### Research (objectives to cover all year)

- To explore some existing products- When was the product made? Where was the product designed and made? What methods of construction have been used?
- To evaluate the product on its design, material and its use.
- To research famous inventors and designers.

### Design (objectives to cover all year)

- To identify a purpose and establish a design criteria for a product.
- To develop ideas by producing cross- sectional drawings and diagrams.
- To develop more than one design or adaptation of the initial design.
- To generate realistic ideas that meet the needs of the user/s.

### Make (objectives to cover all year)

- To safely measure, mark out, cut, assemble and join with some accuracy.
- To make sensible choices from a wider range or tools and unfamiliar materials and plan out the main stages of using them.
- To use a range of techniques to join and combine ingredients e.g. slicing and mixing.
- To measure and weight ingredients using scales with support.
- To cook using a heat source e.g. oven with supervision.

### Evaluate (objectives to cover all year)

- To evaluate their product against their original design criteria whilst designing and making.
- To use their design criteria to evaluate their product; identify strengths and areas for development.
- To consider the views of the user whilst evaluating.

## Key vocabulary and understanding for concept connectors

Textiles: needles, finer, threads, stitch, complex, cross-stitch, pattern, texture, decoration.

## Sticky Knowledge

- Cross-stitch is a sewing stitch which is more complex.
- Stitches can be used to add pattern and texture to a piece.

## Key Questions

- Can they use smaller eyed needles and finer threads to stitch
- Can they practise and use more complex sewing techniques such as cross- stitch to join fabrics together
- To use stiches to develop pattern and texture to a piece
- Can they apply decoration to a piece?

## Key designers/ architects/ inventors:

N/A



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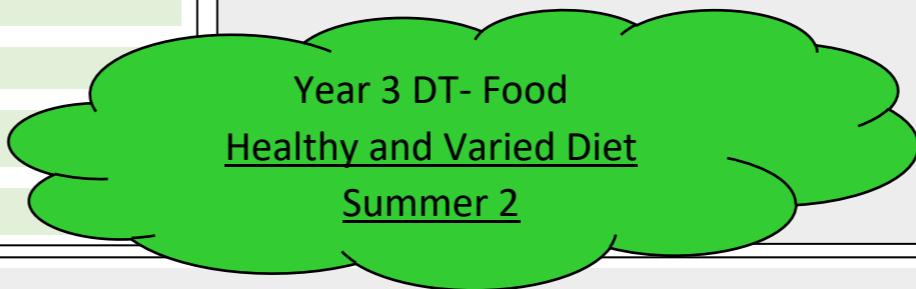
## The Big Picture

Within food, children will know that all foods must be farmed, grown, and caught and the processes behind this, learnt in Year 2, but will begin to understand that food comes from the UK and around the world. They will learn about the eat well-plate and the important food groups within it.

They will have the opportunity to research a well-known chef and look at different recipes and foods from around the world, in particular fruits and vegetables. They will design their own healthy breakfast muffin for a purpose, for someone or something. They will be supported to develop their ideas by producing cross-sectional drawings and diagrams. They will be supported to develop more than one design and to make adaptations as they go along. After the design stage, they will be asked to make their product, using a range of tools and techniques. Once they have made their products, they will evaluate it. They will be asked to evaluate it against their design criteria and to identify strengths and areas for development. Children will have to consider the views of the user when evaluating too.

## What do we already know? What can we already do?

- Understanding that all food must be farmed, grown, or caught
- Understand the principles of a balanced diet and its importance
- Know and follow some safety procedures e.g. regular hand washing, wearing an apron, tying hair up
- Know how to follow a simple recipe independently
- Know some famous chefs



## NC objectives – Key Stage 2

### Pupils should be taught:

#### Design

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- select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately
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#### Evaluate

- 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
- understand how key events and individuals in design and technology have helped shape the world

#### Technical knowledge

- apply their understanding of how to strengthen, stiffen and reinforce more complex structures
- understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]
- understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]
- apply their understanding of computing to program, monitor and control their products.

#### Cooking and Nutrition

- understand and apply the principles of a healthy and varied diet
- prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques
- understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.

## Specific unit objectives

### Food- Healthy and Varied Diet

- To know the five food groups from the eat-well plate.
- To understand that all foods must be farmed, grown or caught and that food comes from the UK and across the world.
- To know safety and food hygiene procedures and follow them confidently.

### Research (objectives to cover all year)

- To explore some existing products- When was the product made? Where was the product designed and made? What methods of construction have been used?
- To evaluate the product on its design, material and its use.
- To research famous inventors and designers.

### Design (objectives to cover all year)

- To identify a purpose and establish a design criteria for a product.
- To develop ideas by producing cross- sectional drawings and diagrams.
- To develop more than one design or adaptation of the initial design.
- To generate realistic ideas that meet the needs of the user/s.

### Make (objectives to cover all year)

- To safely measure, mark out, cut, assemble and join with some accuracy.
- To make sensible choices from a wider range or tools and unfamiliar materials and plan out the main stages of using them.
- To use a range of techniques to join and combine ingredients e.g. slicing and mixing.
- To measure and weight ingredients using scales with support.
- To cook using a heat source e.g. oven with supervision.

### Evaluate (objectives to cover all year)

- To evaluate their product against their original design criteria whilst designing and making.
- To use their design criteria to evaluate their product; identify strengths and areas for development.
- To consider the views of the user whilst evaluating

## Key vocabulary and understanding for concept connectors

- Food: food groups, eat well plate, bread and cereals, meat and fish, milk and dairy, fats and sugars and fruits and vegetables, farmed, grown, caught, UK, around the world.

## Sticky Knowledge

- The 5 food groups are bread and cereals, meat and fish, milk and dairy, fats and sugars and fruits and vegetables.
- All foods must be farmed, grown or caught and that food comes from the UK and across the world.

## Key Questions

- Do they know the 5 food groups from the eat- well plate?
- Do they understand that foods must be farmed, grown or caught and that food comes from the UK and across the world?
- Do they know safety and food hygiene procedures?

Famous chef:  
Jamie Oliver