

# Common Road Infant and Nursery School

## Our Design Technology Curriculum

Our Design Technology (DT) curriculum is guided by the **National Curriculum** (2014) for KS1 DT. Pupils should be taught about:

Pupils should be taught:

### To 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

### To make

- 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

### To evaluate

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

### To apply 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

### Cooking and nutrition

- use the basic principles of a healthy and varied diet to prepare dishes
- understand where food comes from
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**Intent** - Our ambition is that through high quality design technology teaching our children will grow to become creative thinkers and problem solvers. They will experience a range of practical hands on learning opportunities where they are taught the knowledge and skills to become proficient designers. Children will make products to solve some simple problems, applying their design and technology knowledge allowing them to make their designs a reality. They will grow to have the confidence to evaluate their work developing and building upon its successes and flaws, building their resilience. Our aim is to inspire our children to be future innovators.



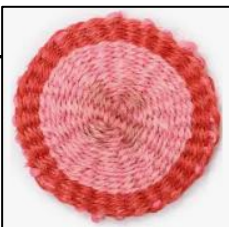
EYFS - In the EYFS children have independent access to modelling and making through continuous provision. They think of their own ideas and use the available tools to make them. They have talk about what they make and draw with adults in the setting. Children have the opportunity to return to their projects and make changes.

Year 1

Autumn term

Textiles - Weaving

Use a simple weaving technique to create a drinks coaster gift.



Year 2

Autumn term

Textiles – Sewing

Design and use simple sewing techniques to create a Christmas stocking.



Year 1

Summer term

Food – Smoothies

Use knowledge of healthy food groups to design a smoothie.  
Use safe and appropriate cutting techniques to make their smoothie.



Year 1

Spring term

Structures - Lighthouses

Measure, cut and shape materials, and use a flange joint to create a model lighthouse.



Year 2

Spring term

Mechanisms – Moving Pictures

Design and use simple joins and mechanisms to create a moving picture.

Year 2

Summer term

Food – Healthy Wraps

Use knowledge of healthy food groups to design a healthy wrap. Cut, grate and peel safely to make their wrap.



# DT – Early Years

## Statutory Framework: Expressive Art and Design:

The development of children’s artistic and cultural awareness supports their imagination and creativity. It is important that children have regular opportunities to engage with the arts, enabling them to explore and play with a wide range of media and materials. The quality and variety of what children see, hear and participate in is crucial for developing their understanding, self-expression, vocabulary and ability to communicate through the arts. The frequency, repetition and depth of their experiences are fundamental to their progress in interpreting and appreciating what they hear, respond to and observe.

## ELGs

- 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.

Marvellous Me	Traditional Tales	People Who Help Us	Transport	Growing and Changing	Under the Sea
<p><b>DT focus:</b> Baking gingerbread men. Make pumpkin soup.</p> <p><b>Enhancement:</b> Loose parts / natural materials available to create portraits</p>	<p><b>DT focus:</b> Make porridge.</p> <p><b>Enhancement:</b> Three Little Pigs – use different materials to design and make houses (nursery)</p>	<p><b>DT focus:</b> Junk box modelling – emergency vehicles – Fire engines (nursery)</p>	<p><b>DT focus:</b> Junk box modelling – buses (Nursery) / trains (Reception)</p>	<p><b>DT focus:</b> Taste different fruit and make a fruit salad.</p> <p><b>Enhancement:</b> Exploration of textures – linked to frog spawn</p>	<p><b>DT focus:</b> Creating sea creatures / scene using modelling clay</p> <p><b>Enhancement (creative area):</b> Create a rainbow fish – scales using different materials / textures</p>
Exploring different textures of natural materials through looking at seasons					

Through continuous provision throughout the year:

- Playdough area – linked to the topic of the half term. Dough disco.
- Creative area – linked to different areas of learning throughout the year.
- Painting easel – exploration of colour and different tools / techniques.

# KS1 DT NATIONAL CURRICULUM COVERAGE AND CORE CONCEPTS

## National Curriculum –

Design – design purposeful, functional, appealing products for themselves and other users based on design criteria

Make - select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics

Evaluate - evaluate their ideas and products against design criteria

Substantive knowledge running through all units – **Design, make, evaluate**

Year 1		
Textiles (weaving)	Structures (lighthouses)	Food (smoothie)
<p>Background: Create a drinks coaster as a gift for someone.</p> <p><b>Key knowledge/skills:</b> Explore and evaluate existing products (coasters). Understand that weaving is a type of join, and that it can be used in a wide range of products and with different materials. Practise skills of plain weaving on a weaving loom, using wool. Design a coaster as a gift for someone. Be able to use a plain weave to create a product. Make their final product using their design and practised skills. Evaluate their own and peers' final products using success criteria.</p> <p><b>Vocabulary:</b> Thread – A long, thin strand used to weave. Weaving – Using different materials to create a pattern. Weft – The material you are threading with. Plain weave – A style of weaving which goes under and over. Loom – A frame for weaving. Direction – The way something moves or travels.</p> <p><b>CC – Joining materials</b></p>	<p>Background: Children are to create a design for a new lighthouse.</p> <p><b>Key knowledge/skills:</b> Explore and evaluate existing products (model lighthouses, photos etc). Understand the term sturdy and stable and choose materials appropriately. Be able to use a flange joint correctly. Practise skills of cutting, shaping and measuring materials, using a range of tools and equipment. Design a prototype castle toy, giving reasons for their choices. Make their final product using their design and practised skills. Evaluate their own and their peers' final products using success criteria.</p> <p><b>Vocabulary:</b> Structure – A 3D shape made from different materials and parts. Stable – Not shaky or easily moved. Sturdy - Strong Joining - Putting together 2 materials. (Flange joint)</p> <p><b>CC – Joining materials</b></p>	<p>Background: Create a cool, healthy drink for the summer. Include looking at where different fruits come from around the world.</p> <p><b>Key knowledge/skills:</b> Explore and evaluate existing products (smoothies). Understand what a balanced diet is and why it is important. Be able to identify different fruits and vegetables, including those from our own and other countries. Practise skills of cutting safely (claw grip and bridge grip). Understand and practise good hygiene when preparing food. Design a healthy smoothie. Make their final product using their design and practised skills. Evaluate their own and peers' final products using success criteria.</p> <p><b>Vocabulary:</b> Good hygiene – The practise of keeping clean. Safely – Protected from danger. Prepare – Making something ready to use. Diet – The food that you eat. Healthy – Is good for your body. Cut – Use a knife to separate food into smaller pieces. Cutting techniques: Bridge and claw grip. Vegetable – A part of a plant that you can eat. Fruit – A part of a plant that you can eat, which comes from the flower and has seeds.</p> <p><b>CC – Nutrition, safety and hygiene</b></p>

## Year 2

### Textiles (Christmas stocking)

Background: Create a Christmas stocking to hang on your fireplace at Christmas.

#### Key knowledge/skills:

Explore and evaluate existing products (Christmas stockings).

Understand that sewing is a type of join that it can be used in different products and with different materials.

Thread a needle independently.

Practise skills of an overstitch.

Design their Christmas stocking.

Be able to use an overstitch to create a product.

Make their final product using their design and practised skills.

Evaluate their own and peers' final products using success criteria.

#### Vocabulary:

Thread – A long, thin strand used to sew.

Sewing – Using a needle and thread to join or fix something.

Needle - A thin, sharp piece of metal with a hole at the end.

Fabric – A type of material.

Stitch – A loop of thread that joins materials together.

Overstitch – A loop of thread that goes over the edge of the fabric.

#### CC – Joining materials

### Mechanisms (moving picture)

Background: Create a page for a titanic information book, which must include moving pictures with moving parts.

#### Key knowledge/skills:

Explore and evaluate existing products (moving picture books).

Practise skills in making different mechanisms including levers and sliders.

Design a moving picture using levers and sliders.

Make their final product using their design and practised skills.

Evaluate their own and peers' final products using success criteria.

#### Vocabulary:

Mechanism – a tool used to control how something moves.

Slider – a mechanism that moves up or down or side to side.

Lever – a mechanism that can move around a fixed point.

Pivot – a fixed point that the lever rests on.

#### CC – Joining materials, moving parts

### Food (healthy wraps)

Background: We are planning a picnic. Design and make a healthy wrap for the picnic.

#### Key knowledge/skills:

Explore and evaluate existing products (healthy wraps).

Understand what a balanced diet is and why it is important.

Be able to identify different food categories and make healthy choices.

Practise skills of cutting safely (claw grip and bridge grip).

Practise skills of grating and peeling.

Understand and practise good hygiene when preparing food.

Design a healthy wrap using their knowledge of food groups.

Make their final product using their design and practised skills.

Evaluate their own and peers' final products using success criteria.

#### Vocabulary:

Cut – Use a knife to separate food into smaller pieces.

Cutting techniques: bridge and claw grip.

Grating – Used to cut food into tiny pieces.

Peeling – To remove the skin of a food.

Good hygiene – The practise of keeping clean.

Safely – Protected from danger.

Prepare – Making something ready to use.

Diet – The food that you eat.

Healthy – Is good for your body.

Taste – What you experience on your tongue when you eat or drink something.

Texture – The way that something feels.

#### CC – Nutrition, safety and hygiene

## Key knowledge/skills overview – Year 1

## Autumn Term –Textiles (weaving)

**National Curriculum Coverage:**

**Core Concept(s):** Joining materials

**Substantive knowledge:** *Design, make, evaluate*

Lesson	Substantive Knowledge	Disciplinary Knowledge	Key questions/skills
1 Evaluate	Explore and handle different types of existing woven drink coasters. Explore and discuss similarities and differences in how they are made and the size of the coaster.	Understand the development of existing coasters: Explain what they are for, what materials have been used and how they are made.  Develop success criteria for woven coaster (tight weave, correct size for a mug, flat for balancing a mug).	What do you notice about how these products have been made?  What is weaving?  What does our finished product need to be?
2 Make - skills	Practise skills to use joining techniques.	Practise the skill of plain weaving on a weaving loom, using wool. Understand that weaving is a type of join and that it can be used in a wide range of products and with different materials.	What is weaving?  To be able to use a plain weave on a weaving loom.
3 Design	Design a woven drinks coaster as a gift for someone.	Design a final product.	To be able to design a woven drinks coaster. Can you explain the reasons for your pattern choices?
4 Make	Make their final product using their design and practised skills.	Use the skill of plain weaving when making their final product.	To be able to use a plain weave to weave our final product.
5 Evaluate	Evaluate their own and their peers' work against the success criteria.	Evaluate using specific success criteria: Is the weave of the coaster tight so there are no holes in the coaster? Is the coaster the correct size for a mug? Can a mug balance on the coaster?	Does our coaster meet the success criteria?

## Key knowledge/skills overview – Year 1

## Spring Term – Lighthouses (structures)

### National Curriculum Coverage:

**Core Concept(s):** Joining materials

**Substantive knowledge:** *Design, make, evaluate*

Lesson	Substantive Knowledge	Disciplinary Knowledge	Key questions/skills
1 Evaluate	Explore and handle existing lighthouse models and photographs. Understand the development of existing products: Explain what they are for, how they work, what materials have been used.	Evaluate model lighthouses based on whether they are stable and sturdy. Explore how they are all different. Develop success criteria for a prototype castle toy (strong and sturdy).	What do you notice about how these products have been made? What does our finished product need to be?
2 Make - skills	Practise a range of joining techniques to join materials when making a castle. Know which joining technique is the most suitable for their structure.	Practise skills to use different joining skills (flange joint, L brace and tabs).	What is a joining technique?  To be able to use a flange joint, L brace and tabs to join materials together.
3 Make - skills	Practise cutting, shaping and measuring different materials. Know which tools and equipment they need to use.		What is the best way to shape this material? How can we cut safely?  To be able to measure by comparing size of materials and objects.
4 Design	Design a castle toy that is sturdy and stable. Explain the reasons for their choices.	Design a prototype of a castle toy.	To be able to design a castle toy that is sturdy and stable. Can you explain the reasons for your choices?
5 Make	Carefully select and use appropriate joining techniques when making their final product. Make their final product using their design and practised skills.	Choose and use the most appropriate ways of cutting, joining and shaping their materials to make their final product.	To be able to use joining techniques to make a castle toy using our designs.
6 Evaluate	Evaluate their own and their peers' work against the success criteria.	Evaluate using specific success criteria: Is the castle sturdy and stable?	Does our castle toy prototype meet our success criteria?

## Key knowledge/skills overview – Year 1

## Summer Term – Food (smoothies)

### National Curriculum Coverage:

**Core Concept(s):** Nutrition, safety and hygiene

**Substantive knowledge:** *Design, make, evaluate*

Lesson	Substantive Knowledge	Disciplinary Knowledge	Key questions/skills
1 Evaluate	Understand the development of existing products. Explain what they are for, what they are made from and how we make them.	Evaluate smoothies based on personal preferences of taste and texture. Explore and discuss the different ingredients the smoothies are made from. Develop success criteria for a smoothie.	What are smoothies? Use our senses to evaluate a range of smoothies. What does our smoothie need to be?
2	Understand what a balanced diet is and why it is important. To identify different fruits and vegetables from a range of countries.		What is a balanced diet? What is a vegetable? What is a fruit?
3 Make - skills	Understand and practise good hygiene techniques before preparing food. Practise different cutting skills safely. Understand good hygiene techniques before handling food.	Practise different cutting skills when preparing fruits and vegetables. Practise claw grip and bridge grip when cutting different fruits and vegetables. Understand when to use each type of grip when cutting food.	To be able to cut different fruits and vegetables safely. To be able to use the claw grip and bridge grip when cutting fruits and vegetables.
4 Design	Design a final product.	Design a healthy smoothie using different fruits and vegetables.	To be able to design a healthy smoothie using their knowledge of a balanced diet.
5 Make	Make their final product using their design and practised skills.	Select and use the appropriate cutting technique when making their smoothie.	To be able to use cutting techniques to make our smoothie.
6 Evaluate	Evaluate their own work against the success criteria.	Evaluate using specific success criteria: Are there a range of healthy fruits/vegetables? Do you like the taste and texture of your smoothie?	Does our smoothie meet our success criteria?

## Key knowledge/skills overview – Year 2

## Autumn Term – Textiles (Christmas stocking)

**National Curriculum Coverage:**

**Core Concept(s):** Joining materials

**Substantive knowledge:** *Design, make, evaluate*

Lesson	Substantive Knowledge	Disciplinary Knowledge	Key questions/skills
1 Evaluate	Understand the development of existing products: Explain what they are for, what materials have been used and how they are made.	Explore and handle different types of existing Christmas stockings. Explore and discuss similarities and differences in how they are made and the size of the stockings. Develop success criteria for a stocking.	What do you notice about how these products have been made?  What is sewing?  What does our stocking need to be? (joined well so that there are no holes, with an opening at the top, look attractive).
2 Make - skills	Practise skills to use joining techniques.	Understand that sewing is a type of join and that it can be used in a wide range of products and with different materials. Practise the skill of sewing with an overstitch.	What is sewing?  To be able to sew safely. To be able to use an overstitch.
3 Design	Design a final product.	Design a Christmas stocking.	To be able to design a Christmas stocking. Can you explain the reasons for your pattern choices?
4 Make	Make their final product using their design and practised skills.	Use the skill of sewing with an overstitch when making their final product.	To be able to use an overstitch to sew our final product.
5 Evaluate	Evaluate their own and their peers' work against the success criteria.	Evaluate using specific success criteria: Is it joined well so that there are no holes? Is there an opening at the top? Does it look attractive?	Does our Christmas stocking meet the success criteria?

## Key knowledge/skills overview – Year 2

## Spring Term – Mechanisms (moving pictures)

**National Curriculum Coverage:**

**Core Concept(s):** Joining materials

**Substantive knowledge:** *Design, make, evaluate*

Lesson	Substantive Knowledge	Disciplinary Knowledge	Key questions/skills
1 Evaluate	Understand the development of existing products: Explain what they are for, how they work, what materials have been used.	Explore and handle different types of moving picture books. Explore how they are all different. Develop success criteria for a page in a moving picture book.	What do you notice about how this product has been made? What is a moving picture book? What does our moving picture need? (To have a movable lever and slider, using a pivot).
2 Make - skills	Practise skills to use different mechanism skills.	Practise a range of mechanism skills - making levers and sliders.	What is a mechanism?  To be able to make and use a slider and lever.
3 Design	Design a final product.	Design a page for a moving picture book – including a lever, slider and pivot. Explain the reasons for their choices.	To be able to design a page for a moving picture book. Can you explain the reasons for your choices?
4 Make	Make their final product using their design and practised skills.	Carefully select and use appropriate joining techniques when making their final product. Use the practised mechanisms.	To be able to make a movable mechanism when creating a page for a moving picture book.
5 Evaluate	Evaluate their own and their peers' work against the success criteria.	Evaluate using specific success criteria: Does it have a movable lever and slider? Does it use a pivot?	Does our moving picture book page meet our success criteria?

\*\*All above lessons linked to Titanic theme. Then lessons 4 and 5 to be repeated for their own design.

## Key knowledge/skills overview – Year 2

## Summer Term – Food (healthy wraps)

### National Curriculum Coverage:

**Core Concept(s):** Nutrition, safety and hygiene

**Substantive knowledge:** *Design, make, evaluate*

Lesson	Substantive Knowledge	Disciplinary Knowledge	Key questions/skills
1 Evaluate	Understand the development of existing products. Explain what they are for, what they are made from and how we make them.	Evaluate healthy wraps based on personal preferences of taste and texture. Explore and discuss the different ingredients the wraps are made from. Develop success criteria for a healthy wrap.	What do you notice about this product? Use our senses to evaluate a range of smoothies. What does our wrap need? (to contain a range of healthy foods from different food groups, to taste good).
2	Identifying different food groups and knowing which is the healthiest choice.	Understand what a balanced diet is and why it is important. To identify different food categories and which is the healthiest choice.	What is a balanced diet? Which food is the healthiest choice?
3 Make - skills	Practise different cutting, peeling and grating skills safely. Understand good hygiene techniques before handling food.	Practise different cutting, grating and peeling skills when preparing fruits and vegetables. Practise claw grip and bridge grip when cutting different fruits and vegetables. Understand when to use each type of grip when cutting food. Understand and practise good hygiene techniques before preparing food.	To be able to cut different fruits and vegetables safely. To be able to peel and grate different foods safely. To be able to use the claw grip and bridge grip when cutting fruits and vegetables.
4 Design	Design a final product.	Design a healthy wrap using different foods.	To be able to design a healthy wrap using their knowledge of a balanced diet.
5 Make	Make their final product using their design and practised skills.	Select and use the appropriate cutting technique when making their wrap.	To be able to use cutting, peeling and grating techniques to make our wrap.
6 Evaluate	Evaluate their own work against the success criteria.	Evaluate using specific success criteria: Does it contain a range of healthy foods from different food groups? Do you like the taste and texture of your wrap?	Does our healthy wrap meet our success criteria?

