



Claremont Primary and Nursery School Design and Technology Curriculum



Year 5: Dynasties – Make a moving toy with cams – How can I make a toy move up and down? *NC Link: Mechanisms*

- Objectives:**
- Be able to research ideas about different toys to inform my design
 - Be able to explain how a simple cam mechanism works
 - Be able to understand how changing the shape of the cam changes the movement of the follower
 - Be able to select materials to make a simple cam mechanism
 - Be able to research and develop design criteria to inform my moving toy design
 - Be able to build a framework accurately using a range of tools and equipment
 - Be able to understand and make a mechanical system
 - Be able to evaluate my moving toy

- Substantive Knowledge:**
- Design**
- Design innovative, functional and appealing products that are fit for purpose.
 - Undertake research to inform the design criteria and process.
 - Generate, develop and model ideas through the use of annotated prototypes and cross-sectional diagrams.
 - Generate, develop, model and communicate their ideas through computer aided design where appropriate.
- Make**
- Make a product using a range of materials
 - Select from a range of materials, based on their functional properties and what they look like.
 - Select from and use a wide range of tools and equipment to cut and join accurately.
- Evaluate**
- Investigate and analyse a range of existing products.
 - Evaluate their ideas and product against their design criteria.
 - Consider the views of others and how they could improve their work.
 - Where appropriate, consider how significant events and individuals in DT have helped to shape the world.
- Technical knowledge**
- Apply their understanding of how to strengthen and reinforce materials.
 - Apply knowledge of a CAM to create a pop-up part to the toy

- Disciplinary knowledge (Think like a designer):**
- Measuring accurately, marking out, cutting, folding, scoring, drilling and mounting structures
 - Using a range of sharp tools safely – paper drill, hole punch
 - Understanding how different materials can be reinforced for different purposes
 - Assembling materials in temporary ways as a trial prior to finalizing design choices
 - Cutting and joining component parts to a main structure
 - Understanding how to control movement with a cam mechanism
 - Selecting appropriate methods and resources for finishing a design that reflect the intended use, cultural, geographical or historical influences

Key Vocabulary:
purpose, brief, design, product, draw, bespoke, aesthetic, user, tools, equipment, objects, join, measure, safety, components, assemble, like, develop, dislike, quality, improve, manufacture, function, properties, strengths, cams, pop-up



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Year 5: The Industrial Revolution – Make a puppet – How can I join fabric to make a puppet? *NC Link: Textiles*

- Objectives:**
- Be able to create design criteria for a puppet
 - Be able to clearly communicate my final design using a prototype
 - Be able to make a paper template for a puppet
 - Be able to use different types of stitches and choose the best one for a puppet
 - Be able to organise ideas into a step by step plan to make the puppet
 - Be able to select decorative techniques and fastenings according to their functional properties and aesthetic qualities
 - Be able to evaluate my product

- Substantive Knowledge:**
- Design**
- Design innovative, functional and appealing products that are fit for purpose.
 - Undertake research to inform the design criteria and process. This may include surveys and interviews (data)
 - Generate, develop and model ideas through the use of annotated prototypes
 - Generate, develop, model and communicate their ideas through computer aided design where appropriate.
- Make**
- Make a product using textiles and fabrics as the choice of materials.
 - Select from a range of textiles and fabrics, based on their functional properties and what they look like.
 - Select from and use a wide range of tools and equipment to cut and join accurately.
 - Create a list of tools, equipment and materials
- Evaluate**
- Investigate and analyse a range of existing products.
 - Evaluate their ideas and product against their design criteria.
 - Consider the views of others and how they could improve their work.
 - Where appropriate, consider how significant events and individuals in DT have helped to shape the world.
- Technical knowledge**
- Apply their understanding of how to strengthen and reinforce materials.
 - Apply a knowledge of simple stitches to join materials together.

- Disciplinary knowledge (Think like a designer):**
- Measuring accurately, marking out, cutting, folding
 - Using a range of sharp tools safely
 - Understanding how different materials can be reinforced for different purposes
 - Assembling materials in temporary ways as a trial prior to finalizing design choices
 - Cutting and joining component parts to a main structure
 - Selecting appropriate methods and resources for finishing a design that reflect the intended use, cultural, geographical or historical influences

Key Vocabulary:
purpose, brief, design, product, draw, bespoke, aesthetic, user, tools, equipment, objects, join, measure, safety, components, assemble, like, develop, dislike, quality, improve, manufacture, function, properties, strengths



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Year 5: Groovy Greeks – Make a Spanakopita – How can I make a spanakopita for a Greek feast? *NC Link: Cooking and Nutrition*

- Objectives:**
- Be able to investigate and analyse existing products according to their characteristics
 - Be able to develop design criteria
 - Be able to add original ideas for a spanakopita based on the design criteria
 - Be able to select ingredients and kitchen equipment to help follow a recipe
 - Be able to make dough
 - Be able to evaluate a product – did it meet the design brief?

<p>Substantive Knowledge:</p> <p>Design</p> <ul style="list-style-type: none"> • Design innovative, functional and appealing products that are fit for purpose. • Undertake research to inform the design criteria and process. This may include surveys and interviews (data) <p>Make</p> <ul style="list-style-type: none"> • Understand the principles of a healthy diet. • Prepare and cook a sweet dish, using ingredients linked to knowledge of Greek cuisine. <p>Evaluate</p> <ul style="list-style-type: none"> • Investigate and analyse a range of existing products. • Evaluate their ideas and product against their design criteria. • Consider the views of others and how they could improve their work. • Where appropriate, consider how significant events and individuals in DT have helped to shape the world. <p>Technical knowledge</p> <ul style="list-style-type: none"> • Understand and apply the principles of a healthy diet. • Understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed • Know recipes can be adapted • Know that food contains different substances- nutrients, fibre etc • Know food can be grown, reared or caught • Understand the importance of storage and handling of ingredients 	<p>Disciplinary knowledge (Think like a designer):</p> <ul style="list-style-type: none"> • Use a range of sharp equipment safely • Use a range of techniques such as peeling, chopping, slicing, grating, mixing and spreading • Be able to follow a recipe • Prepare ingredients hygienically • Measure accurately to the nearest gram • Learn to control the temp of oven or hob.
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Key Vocabulary: purpose, brief, design, product, draw, bespoke, equipment, objects, like, develop, dislike, quality, improve, strengths, prepare, cook, savoury, peeling, chopping, slicing, kneading, baking, melting, whisking, rise, grating, dissolving, juicing, mixing, blending, seasonal, dietary, growing, requirements, vegetarian, vegan, processed