

Autumn 2 - Through the Ages - Cook Well, Eat Well - Food and Nutrition

Previous learning

This project teaches children about food groups and the Eatwell guide. They learn about methods of cooking and explore these by cooking potatoes and ratatouille. The children choose and make a taco filling according to specific design criteria.

Substantive Knowledge

Children from Patrington Primary Academy will be able to participate fully in an increasingly technological world and have an understanding of how to be critical and reflective consumers. They will be able to use their practical, creative and reflective skills to become consumers and innovators who are well informed and can use their own skills to develop products for the future.

Disciplinary knowledge

By the end of Key Stage Two, children at Patrington Primary Academy will be able to: prepare ingredients safely and hygienically and cook nutritious food. They will be able to design their own products using a range of materials and evaluate their product against success criteria. The children will generate their own product ideas by reflecting upon existing products and then developing prototypes. Finally, in order to make successful products, the children will have a secure understanding of mechanical structures, such as: gears, pulley systems and levers.

Lesson 1

Technical Knowledge

- Know that there are five main food groups that should be eaten regularly as part of a balanced diet: fruit and vegetables; carbohydrates (potatoes, bread, rice and pasta); proteins (beans, pulses, fish, eggs and meat); dairy and alternatives (milk, cheese and yoghurt) and fats (oils and spreads). Foods high in fat, salt and sugar should only be eaten occasionally as part of a healthy, balanced diet.
- Know that the types of food that will grow in a particular area depend on a range of factors, such as the rainfall, climate and soil type. For example, many crops, such as potatoes and sugar beet, are grown in the south-east of England. Wheat, barley and vegetables grow well in the east of England.
- Can identify the main food groups (carbohydrates, protein, dairy, fruits and vegetables, fats and sugars).

Lesson 2

Design

- Understanding preparation techniques for savoury dishes include peeling, chopping, deseeding, slicing, dicing, grating, mixing and skinning.

Lesson 3

Make

- Can prepare and cook a simple savoury dish.
- Can identify and name foods that are produced in different places.

Lesson 4

Evaluate

- Understand that asking questions can help others to evaluate their products, such as asking them whether the selected materials achieved the purpose of the model.
- Can suggest improvements to their products and describe how to implement them, beginning to take the views of others into account.

Vocabulary

- Cook, fresh, savoury, hygienic, edible, grown, reared, caught, frozen, tinned, processed, seasonal, harvested healthy/varied diet

Sticky Knowledge

- Can identify the main food groups (carbohydrates, protein, dairy, fruits and vegetables, fats and sugars).
- Know that the types of food that will grow in a particular area depend on a range of factors, such as the rainfall, climate and soil type.

Spring 2 - Rocks, Relics and Rumbles - Making it Move - Mechanisms

Previous learning

This project teaches children about food groups and the Eatwell guide. They learn about methods of cooking and explore these by cooking potatoes and ratatouille. The children choose and make a taco filling according to specific design criteria.

Substantive Knowledge

Children from Patrington Primary Academy will be able to participate fully in an increasingly technological world and have an understanding of how to be critical and reflective consumers. They will be able to use their practical, creative and reflective skills to become consumers and innovators who are well informed and can use their own skills to develop products for the future.

Disciplinary knowledge

By the end of Key Stage Two, children at Patrington Primary Academy will be able to: prepare ingredients safely and hygienically and cook nutritious food. They will be able to design their own products using a range of materials and evaluate their product against success criteria. The children will generate their own product ideas by reflecting upon existing products and then developing prototypes. Finally, in order to make successful products, the children will have a secure understanding of mechanical structures, such as: gears, pulley systems and levers.

Lesson 1

Technical Knowledge

- To know that particular products have been designed for specific tasks, such as nail clippers, the spinning top and the cool box.
- Can explain how an existing product benefits the user.

Lesson 2

Technical Knowledge

- Know that levers consist of a rigid bar that rotates around a fixed point, called a fulcrum. They reduce the amount of work needed to lift a heavy object. Sliders move from side to side or up and down, and are often used to make moving parts in books. Axles are shafts on which wheels can rotate to make a moving vehicle. Cams are devices that can convert circular motion into up-and-down motion.

Lesson 3

Design

- Can design criteria are the exact goals a project must achieve to be successful. These criteria might include the product's use, appearance, cost and target user.
- Can develop design criteria to inform a design.

Lesson 4

Make

- Can explore and use a range of mechanisms (levers, sliders, axles, wheels and cams) in models or products.

Lesson 5

Evaluate

- Understanding that asking questions can help others to evaluate their products, such as asking them whether the selected materials achieved the purpose of the model.
- Can suggest improvements to their products and describe how to implement them, beginning to take the views of others into account.

Vocabulary

- Mechanism, lever, linkage, pivot, prototype, axels, cams, gears, fulcrum, sliders, motion.

Sticky Knowledge

- Know that levers consist of a rigid bar that rotates around a fixed point, called a fulcrum.
- Sliders move from side to side or up and down.
- Axles are shafts on which wheels can rotate to make a moving vehicle.
- Cams are devices that can convert circular motion into up-and-down motion.

Summer 1 - Emperors and Empires - Greenhouse - Structures

Previous learning

This project teaches children about the purpose, structure and design features of greenhouses, and compares the work of two significant greenhouse designers. They learn techniques to strengthen structures and use tools safely. They use their learning to design and construct a mini greenhouse.

Substantive Knowledge

Children from Patrington Primary Academy will be able to participate fully in an increasingly technological world and have an understanding of how to be critical and reflective consumers. They will be able to use their practical, creative and reflective skills to become consumers and innovators who are well informed and can use their own skills to develop products for the future.

Disciplinary knowledge

By the end of Key Stage Two, children at Patrington Primary Academy will be able to: prepare ingredients safely and hygienically and cook nutritious food. They will be able to design their own products using a range of materials and evaluate their product against success criteria. The children will generate their own product ideas by reflecting upon existing products and then developing prototypes. Finally, in order to make successful products, the children will have a secure understanding of mechanical structures, such as: gears, pulley systems and levers.

Lesson 1

Technical Knowledge

- Know how particular products have been designed for specific tasks, such as nail clippers, the spinning top and the cool box.
- Can explain how an existing product benefits the user
- Develop design criteria to inform a design.

Lesson 2

Design

- To know how to follow design criteria are the exact goals a project must achieve to be successful. These criteria might include the product's use, appearance, cost and target user.

Lesson 3

Make

- Can create a shell or frame structures using diagonal struts to strengthen them
- Can make shell structures are hollow, 3-D structures with a thin outer covering, such as a box. Frame structures are made from thin, rigid components, such as a tent frame. The rigid frame gives the structure shape and support. Diagonal struts can strengthen the structure.

Lesson 4

Make

- Can use specific tools that can be used for cutting, such as saws. Wood can be joined using glue, nails, staples, or a combination of these. Safety rules must be followed to prevent injury from sharp blades. These rules include using a bench hook to keep the wood still, using a junior hacksaw with a pistol grip and working under adult supervision.
- Can use tools safely for cutting and joining materials and components.

Lesson 5

Evaluate

- Understanding that asking questions can help others to evaluate their products, such as asking them whether the selected materials achieved the purpose of the model.
- Can suggest improvements to their products and describe how to implement them, beginning to take the views of others into account.

Vocabulary

Sticky Knowledge

<ul style="list-style-type: none"> Mechanism, lever, linkage, pivot, slot, bridge, guide system, input, process, output linear, rotary, oscillating, reciprocating. 	<ul style="list-style-type: none"> Products have been designed for specific tasks. Can explain how an existing product benefits the user. Explain which materials will best be used for their project. Triangles are a strong shape used in construction.
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Summer 2 - Emperors and Empires - Cushion making - Textiles	
Previous learning	
This project develops children's knowledge and understanding of textiles and recalls skills from previous years. Children will plan, design and develop using a range of transitional methods and IT to create a fabric based product.	
Substantive Knowledge	Disciplinary knowledge
Children from Patrington Primary Academy will be able to participate fully in an increasingly technological world and have an understanding of how to be critical and reflective consumers. They will be able to use their practical, creative and reflective skills to become consumers and innovators who are well informed and can use their own skills to develop products for the future.	By the end of Key Stage Two, children at Patrington Primary Academy will be able to: prepare ingredients safely and hygienically and cook nutritious food. They will be able to design their own products using a range of materials and evaluate their product against success criteria. The children will generate their own product ideas by reflecting upon existing products and then developing prototypes. Finally, in order to make successful products, the children will have a secure understanding of mechanical structures, such as: gears, pulley systems and levers.
Lesson 1	Technical Knowledge
	<ul style="list-style-type: none"> To know what a cross stitch and appliqué is. Understand how to securely join two pieces of fabric together. Understand the need for patterns and seam allowances. Know and use technical vocabulary relevant to the project.
Lesson 2	Design
	<ul style="list-style-type: none"> Can plan which materials will be needed for a task and explain why. Can design criteria are the exact goals a project must achieve to be successful. These criteria might include the product's use, appearance, cost and target user. Can develop design criteria to inform a design. Using a computer program children create a design of what their cushions will look like. What pattern will they use, where will they need stitches to join the pieces together.
Lesson 3	Make
	<ul style="list-style-type: none"> To decorate fabric using appliqué and cross-stitch.
Lesson 4	Make
	<ul style="list-style-type: none"> To assemble and complete a cushion.
Lesson 5	Evaluate
	<ul style="list-style-type: none"> Understanding that asking questions can help others to evaluate their products, such as asking them whether the selected materials achieved the purpose of the model. Can suggest improvements to their products and describe how to implement them,

beginning to take the views of others into account.

Vocabulary

- Fabric, names of fabrics, fastening, compartment, structure, finishing technique, strength, weakness, stiffening, templates, stitch, seam, seam allowance.

Sticky Knowledge

- To know what a cross stitch and appliqué is.
- Understand how to securely join two pieces of fabric together.
- Understand the need for patterns and seam allowances.
- Know and use technical vocabulary relevant to the project.