

Year 4 Long-term planning

Design		Make	
<p>The National Curriculum states that when designing and making, children should be taught to:</p> <ul style="list-style-type: none"> • 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. 		<p>The National Curriculum states that when designing and making, children should be taught to:</p> <ul style="list-style-type: none"> • 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. 	
<p>Research a range of areas to inform their designing and making process, including:</p> <ul style="list-style-type: none"> • yoghurt and pizzas • wallets and purses • lamps and lights • modern abstract art • analogue clocks. <p>Model and communicate their ideas through:</p> <ul style="list-style-type: none"> • drawings, illustrations and photographs • using a standardised design sheet to convey their ideas • labelled diagrams and diagrams with annotations • illustrated action plans and flow charts • formal letters. 		<p>Use a range of tools across each area of design technology, including:</p> <ul style="list-style-type: none"> • utensils to cut and prepare food ingredients • sewing equipment • scissors and card snips • saw • PVA glue. <p>Use a range of materials to make their products, including:</p> <ul style="list-style-type: none"> • paper, card and cardboard • fabric materials • sheet materials • simple electrical components • wood strips. 	
Evaluate		Technical knowledge	
<p>The National Curriculum states that when designing and making, children should be taught to:</p> <ul style="list-style-type: none"> • 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. 		<p>The National Curriculum states that when designing and making, children should be taught to:</p> <ul style="list-style-type: none"> • 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. 	
<p>Investigate and evaluate a range of products including:</p> <ul style="list-style-type: none"> • yoghurts and pizzas • food packaging • Roman-style purses • nightlights • a magical box. <p>Gain an understanding of how design and technology have shaped the world in which we live through:</p> <ul style="list-style-type: none"> • Understanding what is meant by the term 'convenience food' and researching where food dishes originate from. 		<p>Develop and consolidate technical knowledge in the following areas:</p> <ul style="list-style-type: none"> • creating wooden frames that are strengthened using triangular struts • making simple circuits to make a bulb light using a switch. 	
Cooking and nutrition			
<p>The National Curriculum states that children should be taught to:</p> <ul style="list-style-type: none"> • 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/how a variety of ingredients are grown, reared, caught and processed. 			
<p>Develop and consolidate their knowledge and understanding of healthy eating and nutrition by:</p> <ul style="list-style-type: none"> • making a batch of yoghurt from milk and live yoghurt • preparing and adding ingredients to yoghurt • making pizza bases, tomato sauce and a range of pizza toppings. 			

Overview of progression in Year 4

Designing

Throughout units of work in Year 4 children:

- investigate similar products to get ideas, list key features and understand how they work
- describe the purpose of their products
- explain how parts and whole of products work and how they will be made
- research information about the needs and wants of users
- develop design criteria to inform ideas
- use prototypes and pattern pieces
- make design decisions taking account of the availability of resources.

Making and technical knowledge: Cooking and nutrition

By designing and making a yoghurt using Ancient Greek ingredients and through pizza art, children:

- select suitable tools and equipment and materials and components and explain choice
- list the order of the main stages of making and produce lists of required tools, equipment and materials
- know how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including the use of a heat source
- know how food is processed into ingredients that can be eaten or used in cooking
- know how to use a range of techniques such as peeling, chopping, slicing, grating and mixing
- assemble and measure ingredients accurately to make recipes
- understand that recipes can be adapted to change appearance, taste, texture and aroma
- use technical vocabulary correctly and with increasing regularity to describe taste, smell, texture and feel of food
- understand that ingredients can be fresh, pre-cooked and processed and that a recipe can be adapted by adding or substituting ingredients.

Making and technical knowledge: Textiles

By designing and making a Roman-style drawstring purse, children:

- select suitable tools and equipment and materials and components
- explain choice of tools and equipment depending on skills and techniques to be used
- measure, mark out, cut and shape textile materials with increasing accuracy
- assemble, join and combine textile materials with increasing accuracy
- apply a range of finishing techniques, with increasing accuracy
- understand that materials can be combined and mixed to create more useful characteristics
- use technical vocabulary correctly and with increasing regularity to describe sewing techniques and fabrics
- know that a single fabric shape can be used to make a 3D textiles product.

Year 4 Complete 'Overview of progression' is provided on the CD-ROM, including 'Making and technical knowledge: Construction', 'Making and technical knowledge: Sheet materials' and 'Evaluating' objectives.

Year 4 Medium-term planning: 1A Ancient times: Greek yoghurt

Design brief: To design and make a yoghurt using traditional ancient Greek ingredients.

P	Learning objectives	Creative, technical and practical activities
Designing	<ul style="list-style-type: none"> • To investigate similar products to get ideas and to use as a starting point for an original design. • To investigate similar products and list their key features. • To plan a sequence of actions to make a product. • To know that dairy produce comes from animal milk. • To know that food is processed into ingredients for cooking. • To analyse and state a preference about the taste, smell, texture and the look of food. 	<p>Evaluating existing products (EEP): Yogurt Discussion: <i>Where does yoghurt come from? How is it made? Who has eaten yoghurt before? What kind is your favourite?</i></p> <p>Children should be able to identify which part of 'The eatwell plate' yoghurt belongs to.</p> <p>Conduct a 'yoghurt tasting' session by blind-tasting five different strawberry yoghurts, giving each a mark out of ten. Investigate whether the most expensive yoghurt is in fact always the tastiest. They record their findings on the 'Cooking: evaluation sheet'. Investigate types of food from ancient Greece which would be suitable to use in yoghurt, using an internet search. Children should have the opportunity to taste some traditional ingredients such as, honey, figs, grapes, pomegranates and pine nuts.</p> <p>Discuss food packaging and ask: <i>What information is contained on yoghurt packaging and is it common to all food packaging?</i></p> <p>Designing As a class, children decide on a list of food eaten in ancient Greece that would be suitable to use in a yoghurt.</p>
Making	<ul style="list-style-type: none"> • To create plans that can be used by someone else to make the product. • To write a recipe. • To know that a recipe can be adapted to change the taste, appearance and smell. • To prepare ingredients by cutting and shaping using appropriate tools. • To work safely and hygienically. • To prepare and cook food using a heat source. 	<p>Focused practical task (FPT): Making yogurt from milk using live yogurt</p> <p>Demonstrate how to make yoghurt using milk and fresh, live, yoghurt (see background notes), explaining how yoghurt is formed by bacteria fermenting the milk.</p> <p>Children repeat the task experimenting with different types of milk, to see whether different types of milk affect the taste and texture. They try:</p> <ul style="list-style-type: none"> • full fat cow's milk • skimmed milk • semi-skimmed milk • soya or almond milk • goat's milk • flavoured milk (strawberry, banana). <p>They carry out a yoghurt 'tasting session' to gather results of the experiment.</p> <p>Children design and make their own Greek yoghurt, making decisions about:</p> <ul style="list-style-type: none"> • type of milk they will use • ingredients that they will add to the yoghurt • any ingredient preparation needed, for example, finely chopping, making a puree, etc. <p>They make their yoghurt and then write a recipe using ICT, giving ingredients and exact instructions on how to make an ancient Greek yoghurt.</p> <p>Children design a label for their ancient Greek yoghurt by combining pictures and text, including a list of ingredients. If using desktop publishing software, the design can be printed on to a sticky label and stuck to a plain yoghurt pot to create a 'mock up' yoghurt pot.</p>
Evaluating	<ul style="list-style-type: none"> • To express a preference about the likes and dislikes of their finished product and of similar products produced in the class. 	<p>Evaluating their own ideas and products</p> <ul style="list-style-type: none"> • Children evaluate each other's yoghurt recipes in a 'blind taste test'. • They give each yoghurt marks 'out of ten' and the most popular is declared the winner. • Children should also have the opportunity to evaluate the yoghurt pot design.

Notes:
 Check food allergy requirements of all children before undertaking the testing and tasting of yoghurts.

Year 4 Background knowledge

Ancient times: Greek yoghurt

Traditional ancient Greek ingredients suitable for yoghurts are: apples, oranges, figs, grapes, pears, plums, pomegranates, honey, pine nuts

To make 500ml of yoghurt:

- Heat 500ml of milk in a saucepan to 46°C (the correct temperature is important)
- Remove from heat and add 3 tablespoons of fresh, live, plain yoghurt.
- Pour the mixture into a thermos flask and leave overnight.
- In the morning it will have thickened and turned into yoghurt.

Ancient times: Roman purse

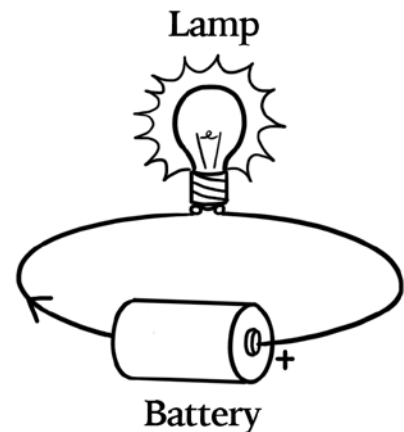
A bulla is a type of necklace with pouch that was worn by ancient Roman children as a protection from evil spirits. The pouch was made of gold, leather, or cloth depending on how wealthy the family was. The inside of a bulla contained amulets or charms. The bulla was presented to a child at birth. A Roman boy would wear the bulla until he became a man and a Roman girl wore the bulla until she got married.

Magic: A magical light

For the focused discussion include images of room lights, table lamp, traffic light, Christmas tree light, nightlight, security light, torch, Hannukah lights and other lights from other religious festivals.

Video resource:

BBC Learning Website – Design Technology
Video: *Batteries and their uses; Circuits, batteries and power sources; Electrical circuits; Dangers of electricity, the adventures of electro mouse; Using circuits to make games and activities*



Magic: A magic box

'The Magic Box' by Kit Wright features in many literacy schemes of work and there are many cross-curricular ideas available on the internet.

BBC Learning provides streaming video of the author reading his poetry.

Creating wooden box frames is an important skill to be mastered as these are needed again in units of work in Years 5 and 6.

Video resource: BBC Learning Website – Design Technology Video: *Building a wooden structure*

Piece of art: Pizza art

Suggested examples of abstract art that are suitable for this project:

- *Concentric circles* by Wassily Kandinsky
- Paintings by Piet Mondrian
- *Snail* by Henri Matisse

Ingredients for abstract toppings: cheese squares, sliced peppers, sliced tomatoes, sliced ham, pineapple rings, pepperoni, mushrooms.

Piece of art: Timeless art

Suggested examples of abstract art that are suitable for this project

- *Concentric circles* by Wassily Kandinsky
- Paintings by Joan Miro
- Paintings by Piet Mondrian
- *Le Premier Disque* by Robert Delaunay
- *Snail* by Henri Matisse