



Design technology Component Knowledge

Year 3

Cooking and nutrition: Eating seasonally.

National Curriculum

Pupils should be taught to:

Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.

Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately.

Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques.

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.

Key Learning and Component knowledge

Key Learning:

L1: To explain why food comes from different places around the world.

Component Knowledge:

- Identify some fruits and vegetables that cannot be grown in the UK.
- Label countries where different fruits and vegetables grow.

Key Learning:

L2: Explain the benefits of seasonal foods.

Component Knowledge:

- Know that importing food has an impact on the environment.
- Match fruits and vegetables with the season in which they grow in the UK.
- Find recipes containing seasonal foods.

Key Learning:

L3: To develop cutting and peeling skills.

Component Knowledge:

- Identify equipment used for preparing food.
- Explain why food would or would not need to be prepared.
- Describe the safety rules for preparation techniques.

Key Learning:

L4: To evaluate seasonal ingredients.

Component Knowledge:

- Identify current seasonal foods.
- Taste various fruits and vegetables and describe their flavours.
- Contribute to a class taste wheel.

Key Learning:

L5: To design a mock-up using criteria.

Component Knowledge:

- Design a puff pastry tart using seasonal vegetables and fruits.
- Use colours to identify nutritional benefits.
- Describe their puff pastry tart and the benefits of its ingredients.

Key Learning:

L6: To evaluate a dish.

Component Knowledge:

- Taste their tarts and provide feedback.
- Consider taste, texture, appearance and use of seasonal ingredients.
- Receive feedback on their tart and identify strengths.

Digital World: Electronic Charm

National Curriculum

Pupils should be taught to:

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.

Understand how key events and individuals in design and technology have helped shape the world.

Apply their understanding of computing to program, monitor and control their products.

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

Select from and use a wider range of tools and equipment Items and objects which are needed to complete a task. 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 their ideas and products against their own design criteria and consider the views of others to improve their work.

Key learning and Component knowledge

Key Learning:

L1: To understand the impact of the digital revolution in the world of (D&T) product design

Component Knowledge:

- Identify some key product developments that occurred as a result of the digital revolution.
- Analyse and evaluate an existing product.
- Problem solve by suggesting potential features on the Micro: bit and justifying their ideas.

Key Learning:

L2: To write a program to initiate a flashing LED panel after button press and/or automatically initiate using the Micro: bit light sensing, as part of an eCharm.

Component Knowledge:

- Write a program to control (button press) and/or monitor (sense light) to initiate a flashing LED algorithm.
- Understand what a loop is in programming.
- Explain the basic functionality of their eCharm program.

Key Learning:

L3: To create and decorate a foam pouch for the eCharm, using a template.

Component Knowledge:

- Identify the key features of a pouch.
- Develop design ideas for a technology pouch.
- Use a template when cutting and assembling the pouch.

Key Learning:

L4: To design a display badge and/or stand using CAD (computer-aided design) software for an eCharm product.

Component Knowledge:

- Draw and manipulate 2D shapes, using computer-aided design, to produce a point of sale badge.
- Understand what is meant by 'point of sale display.'
- Follow a list of design requirements.

Structures: Constructing a castle.

National Curriculum

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.

Key learning and Component knowledge

Key Learning:

L1: To recognise how multiple shapes (2D and 3D) are combined to form a strong and stable structure.

Component Knowledge:

- Identify different features of a castle.
- Design their own castle.
- Label the features of their castle.
- Explain why a castle needs to be strong and stable.

Key Learning:

L2: To design a castle.

Component Knowledge:

- Recall the features of a castle.
- Add two design points to the design specification to appeal to the person/purpose of a castle.
- Draw the design of a castle using 2D shapes and labelling:
 - the 3D shapes that will create the features;
 - the materials needed;
 - the colours that will be used.

Key Learning:

L3: To construct 3D nets.

Component Knowledge:

- Know that a net is what a 3D shape would look like if it were opened out flat.
- Construct a range of 3D geometric shapes using a net by:
 - Cutting along the bold lines.
 - Folding along the dotted lines.
 - Keeping the tabs the correct size.
 - Making crisply folded edges.
 - Constructing the net using glue to make a geometric shape.

Key Learning:

L4: To construct and evaluate my final product.

Component Knowledge:

- Know that a net is what a 3D shape would look like if it were opened out flat.
- Construct a range of 3D geometric shapes using a net by:
 - Cutting along the bold lines.
 - Folding along the dotted lines.
 - Keeping the tabs the correct size.
 - Making crisply folded edges.
 - Constructing the net using glue to make a geometric shape.