Design Technology in Year 3

Topics: Design and make a sewn Viking pouch; Plan and make seasonal food dishes; Design and make a Roman chariot

Design and make a sewn Viking pouch

National Curriculum Statements:

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

Make:

- 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

Evaluate:

- 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

Progression of Knowledge and Understanding in Year 3:

- Textiles:
    - begin to understand that a simple fabric shape can be used to make a 3D textiles project
    - join different textiles in different ways
    - choose textiles considering appearance and functionality

Progression of Skills in Year 3:

- Design:
    - begin to research others' needs
    - show design meets a range of requirements
    - describe purpose of product
    - follow a given design criteria
    - have at least one idea about how to create product
    - create a plan which shows order, equipment and tools
    - describe design using an accurately labelled sketch and words
    - make design decisions
    - explain how product will work
    - make a prototype
- Make:
    - select suitable tools/equipment, explain choices; begin to use them accurately
    - select appropriate materials, fit for purpose
    - work through plan in order
    - consider how good the product will be
    - begin to measure, mark out, cut and shape materials/components with some accuracy
    - begin to assemble, join and combine materials and components with some accuracy
    - begin to use computers to show design

- Evaluate:
    - look at design criteria while designing and making
    - use design criteria to evaluate finished product
    - say what I would change to make design better
    - begin to evaluate existing products, considering: how well they have been made, materials, whether they work, how they have been made, fit for purpose
    - begin to understand by whom, when and where products were designed
    - learn about some inventors/designers/ engineers/chefs/ manufacturers of ground- breaking products

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Plan and make seasonal food dishes

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Cooking and Nutrition:

- 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 and how a variety of ingredients are grown, reared, caught and processed.

Progression of Knowledge and Understanding in Year 3:

- Cooking and Nutrition:
    - carefully select ingredients
    - use equipment safely
    - make product look attractive
    - think about how to grow plants to use in cooking
    - begin to understand food comes from UK and wider world
    - describe how healthy diet= variety/balance of food/drinks
    - explain how food and drink are needed for active/healthy bodies.
    - prepare and cook some dishes safely and hygienically
    - grow in confidence using some of the following techniques: peeling, chopping, slicing, grating, mixing, spreading, kneading and baking

Progression of Skills in Year 3:

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    - to research others' needs
    - show design meets a range of requirements
    - describe purpose of product
    - follow a given design criteria
    - have at least one idea about how to create product
    - create a plan which shows order, equipment and tools
- Make:
    - Select suitable tools/equipment, explain choices; begin to use them accurately

- Select appropriate materials, fit for purpose
- Work through plan in order
- Consider how good the product will be

- Evaluate:
  - look at design criteria while designing and making
  - use design criteria to evaluate finished product
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  - begin to evaluate existing products, considering: how well they have been made, materials, whether they work, how they have been made, fit for purpose
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Design and make a Roman chariot

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Technical knowledge:

- 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

Progression of Knowledge and Understanding in Year 3:

- Structures and Materials:
    - use appropriate materials
    - work accurately to make cuts and holes
    - join materials
    - begin to make strong structures
- Mechanisms:
    - select appropriate tools / techniques
    - alter product after checking, to make it better
    - begin to try new/different ideas
    - use simple lever and linkages to create movement

Progression of Skills in Year 3:

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    - show design meets a range of requirements

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  - Select appropriate materials, fit for purpose
  - Work through plan in order
  - Consider how goof the product will be
  - Begin to measure, mark out, cut and shape materials/components with some accuracy
  - Begin to assemble, join and combine materials and components with some accuracy
  - Begin to use computers to show design
  - Begin to apply a range of finishing techniques with some accuracy

- Evaluate:
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