



# Design and Technology

## Scheme of Work:

### Upper Key Stage 2

# Year 5

## Sheet materials

### **SUCCESS CRITERIA**

- Cut slots
- Cut accurately and safely to a marked line
- Join and combing materials with temporary, fixed or moving joinings
- Use craft knife, cutting mat and safety ruler under one to one supervision if appropriate
- Choose an appropriate sheet material for the purpose

### **SPTO OBJECTIVES:**

- Make: Select from and use a wider range of tools and equipment to perform practical tasks.
- Make: 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.
- Technical Knowledge: Apply their understanding of how to strengthen, stiffen and reinforce more complex structures.
- Technical Knowledge: Understand and use mechanical systems in their products.

### **SUGGESTIONS FOR THE UNIT:**

- Packaging (Planning support available)
- Link to food unit, create packaging for the product

### **CROSS CURRICULAR LINKS:**

- MATHS- Nets/shape
- ENGLISH- Notes, labelling, evaluation, planning.
- SPEAKING AND LISTENING- Discussions (designing/making/evaluating)
- SMSC- Reflecting on products and inventions, the diversity of materials and the ways in which design can improve the quality of our lives.
- SMSC- Opportunities to work as a team, recognising others' strengths, sharing equipment.

# Food

## **SUCCESS CRITERIA**

- Prepare food products taking into account the properties of ingredients and sensory characteristics
- Select and prepare foods for a particular purpose
- Taste a range of ingredients, food items to develop a sensory food vocabulary for use when designing.
- Weigh and measure using scales
- Cut and shape ingredients using appropriate tools and equipment e.g. grating
- Join and combine food ingredients appropriately e.g. beating, rubbing in
- Decorate appropriately
- Work safely and hygienically
- Show awareness of a healthy diet from an understanding of a balanced diet

## **SPTO OBJECTIVES:**

- Cooking and Nutrition: Understand and apply the principles of a healthy and varied diet.
- Cooking and Nutrition: Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques.
- Cooking and Nutrition: Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.

## **SUGGESTIONS FOR THE UNIT:**

- Bread (Planning support available)
- Biscuits (Planning support available)
- Alternative pizzas
- Gingerbread
- Savoury biscuits
- Cakes
- Great British Bake Off
- Bread/cake/biscuits from other cultures

## **CROSS-CURRICULAR LINKS:**

- GEOGRAPHY- Food from around the world.
- SCIENCE- Staying healthy
- ENGLISH- Writing lists, planning, evaluating.
- Maths- Measures
- SPEAKING AND LISTENING- Discussion (developing/creating/evaluating)
- SMSC- Reflecting on products and inventions, the diversity of materials and the ways in which design can improve the quality of our lives.
- SMSC- Opportunities to work as a team, recognising others' strengths, sharing equipment.
- SMSC- How different cultures have contributed to technology.
- BRITISH VALUES- Traditional cooking and international influences

## Developing, planning and communicating ideas

### SUCCESS CRITERIA:

- Investigate similar products to the one to be made to give starting points for a design
- Draw/sketch products to help analyse and understand how products are made
- Think ahead about the order of their work and decide upon tools and materials
- Plan a sequence of actions to make a product
- Record the plan by drawing (labelled sketches) or writing
- Develop more than one design or adaptation of an initial design
- Propose realistic suggestions as to how they can achieve their design ideas
- Add notes to drawings to help explanations

### SPTO OBJECTIVES:

- 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.
- Design: Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design.
- Evaluate: Investigate and analyse a range of existing products.

## Evaluation

### SUCCESS CRITERIA:

- Identify the strengths and weaknesses of their design ideas
- Decide which design idea to develop
- Consider and explain how the finished product could be improved
- Discuss how well the finished product meets the design criteria and how well it meets the needs of the user.

### SPTO OBJECTIVES:

- Evaluate: Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.
- Evaluate: Understand how key events and individuals in design and technology have helped shape the world

# Year 6

## Construction

### **SUCCESS CRITERIA:**

- Use bradawl to mark hole positions
- Use hand drill to drill tight and loose fit holes
- Cut strip wood, dowel, square section wood accurately to 1mm
- Join materials using appropriate methods
- Incorporate motor and a switch into a model
- Use a cam to make an up and down mechanism.
- Build frameworks using a range of materials e.g. wood, card corrugated plastic to support mechanisms
- Use glue gun with close supervision

### **SPTO OBJECTIVES:**

- Make: Select from and use a wider range of tools and equipment to perform practical tasks.
- Make: 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.
- Technical Knowledge: Apply their understanding of how to strengthen, stiffen and reinforce more complex structures.
- Technical Knowledge: Understand and use electrical systems in their products

### **SUGGESTIONS FOR THE UNIT:**

- Kinex (Designing stage)
- At the fair (Planning support available)
- Controllable vehicles (Planning support available)

### **CROSS-CURRICULAR LINKS:**

- SCIENCE- Electricity, materials.
- MATHS- Measurement, shape, nets
- ENGLISH- Notes, labelling, designing, evaluating.
- SPEAKING AND LISTENING- Discussions (designing/making/evaluating)
- SMSC- Reflecting on products and inventions, the diversity of materials and the ways in which design can improve the quality of our lives.
- SMSC- Opportunities to work as a team, recognising others' strengths, sharing equipment.
- SMSC- Awareness of the moral dilemmas created by technological advances.

# Textiles

**SUCCESS CRITERIA:**

- Create 3D products using pattern pieces and seam allowance
- Understand pattern layout
- Decorate textiles appropriately often before joining components
- Pin and tack fabric pieces together
- Join fabrics using over sewing, back stitch, blanket stitch or machine stitching with adult supervision (if appropriate)
- Combine fabrics to create more useful properties
- Make quality products

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**SUGGESTIONS FOR THE UNIT:**

- Shoes (Planning support available)
- Pencil case
- Structured tote bag
- Lunch box/bag

**CROSS-CURRICULAR LINKS:**

- MATHS- Measure, nets (patterns).
- ART- Painting, aesthetic decisions, collage.
- ENGLISH- Notes, labelling, designing, evaluating.
- SPEAKING AND LISTENING- Discussions (designing/making/evaluating)
- SMSC- Reflecting on products and inventions, the diversity of materials and the ways in which design can improve the quality of our lives.
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