



Design and

Technology

Scheme of Work:

Lower KS2

Year 3

Sheet materials

SUCCESS CRITERIA

I can...

- Cut slots
- Cut internal shapes
- Use lolly sticks/card to make levers and linkages
- Use linkages to make movement larger or more varied.
- Use and explore complex pop ups
- Create nets

OBJECTIVES:

To begin to...

Make:

Select from and use a wider range of tools and equipment to perform practical tasks.

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.

Understand and use mechanical systems in their products.

SUGGESTIONS FOR THE UNIT:

- Moving creatures (Planning support available)
- Moving board game (spinners, levers etc.)
- Pop-up book
- Jack-in-the-box

CROSS CURRICULAR LINKS:

- MATHS- Nets/shape
- SCIENCE- Materials. Forces.
- 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

I can:

- Develop sensory vocabulary/knowledge using, smell, taste, texture and feel
- Analyse the taste, texture, smell and appearance of a range of foods
- Follow instructions
- Make healthy eating choices from and understanding of a balanced diet
- Join and combine a range of ingredients e.g. snack foods
- Work safely and hygienically
- Measure and weigh ingredients appropriately

OBJECTIVES:

To begin to...

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.

SUGGESTIONS FOR THE UNIT:

- Healthy snacks (Planning support available)
- Sandwiches
- Snack bars
- Viking menu
- Food from other cultures

CROSS-CURRICULAR LINKS:

- HISTORY- Vikings
- 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.

Developing, planning and communicating ideas

SUCCESS CRITERIA:

To begin to...

- 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

OBJECTIVES:

To begin to...

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.

Evaluate:

To investigate and analyse a range of existing products.

Evaluation

SUCCESS CRITERIA:

Beginning to...

- 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.

OBJECTIVES:

To begin to...

Evaluate:

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

Year 4

Construction

SUCCESS CRITERIA:

I can...

- Incorporate a circuit with a bulb or buzzer into a model
- Create shell or frame structures, strengthen frames with diagonal struts
- Make structures more stable by giving them a wide base
- Prototype frame and shell structures
- Measure and mark square selection, strip and dowel accordingly to 1cm
- Use glue gun with close supervision (one to one)

OBJECTIVES:

To begin to...

Make:

Select from and use a wider range of tools and equipment to perform practical tasks.

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.

Understand and use electrical systems in their products

SUGGESTIONS FOR THE UNIT:

- Light up product (Planning support available)
- Lighthouses
- Quiz game with buzzer/light
- Vehicle with working horn/light
- Alarms (Planning support available)
- Torches (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.
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Textiles

SUCCESS CRITERIA:

- Understand seam allowance
- Join fabrics using running stitch, over sewing, back stitch
- Explore fastenings and recreate some e.g. sew on buttons and make loops
- Prototype a product using J cloths
- Use appropriate decoration techniques e.g. appliqué (glued or simple stitches)
- Create a simple pattern
- Understand the need for patterns

OBJECTIVES:

To begin to...

Make:

Select from and use a wider range of tools and equipment to perform practical tasks.

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.

SUGGESTIONS FOR THE UNIT:

- Money holders (Planning support available)
- Drawstring bag
- Purse/wallet
- iPhone/iPad bag/case

CROSS-CURRICULAR LINKS:

- MATHS- Measure, nets (patterns).
- ART- Painting, aesthetic decisions.
- 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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Construction and Computing

SUCCESS CRITERIA:

I can...

- Create a model using a construction kit
- Control a model using an ICT control programme

OBJECTIVES:

Technical Knowledge:

Understand and use electrical systems in their products

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

SUGGESTIONS FOR THE UNIT:

- Lego Education packs

CROSS-CURRICULAR LINKS:

- COMPUTING- Algorithms, programming
- SCIENCE- Sensors
- 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.
- SMSC- Awareness of the moral dilemmas created by technological advances

Developing, planning and communicating ideas

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OBJECTIVES:

To begin to...

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