

The Grasmere Gingerbread Shop



Design Technology

This project enables children to investigate and explore product and package design.

The Importance of Design and Technology.

Design and technology prepares pupils to participate in tomorrow's rapidly changing technologies. They learn to think and intervene creatively to improve quality of life.

The subject area of Design Technology calls for pupils to become autonomous and creative problem solvers, as individuals or as a member of a team.

The National Curriculum, 1999

Design and technology is about making things that people want and that work well.

Creating these things is hugely exciting: it is an inventive, fun activity.

James Dyson, Chairman, Dyson Ltd

'Tell me and I forget - show me and I may remember - let me do it, and I learn'.

Learning through making works!

Prue Leith, Leith's School of Food and Wine

KS2

Investigating Product Design and Packaging

Programmes of Study: Design and Technology

During key stage 2 pupils work on their own and as part of a team on a range of designing and making activities. They think about what products are used for and the needs of the people who use them. They plan what has to be done and identify what works well and what could be improved in their own and other people's designs. They draw on knowledge and understanding from other areas of the curriculum and use computers in a range of ways. Knowledge, skills and understanding Teaching should ensure that knowledge and understanding are applied when developing ideas, planning, making products and evaluating them.

Developing, planning and communicating ideas

1. Pupils should be taught to:

- a) generate ideas for products after thinking about who will use them and what they will be used for, using information from a number of sources, including ICT-based sources
- b) develop ideas and explain them clearly, putting together a list of what they want their design to achieve
- c) plan what they have to do, suggesting a sequence of actions and alternatives, if needed
- d) communicate design ideas in different ways as these develop, bearing in mind aesthetic qualities, and the uses and purposes for which the product is intended.

Working with tools, equipment, materials and components to make quality products

2. Pupils should be taught to:

- a) select appropriate tools and techniques for making their product
- b) suggest alternative ways of making their product, if first attempts fail
- c) explore the sensory qualities of materials and how to use materials and processes
- d) measure, mark out, cut and shape a range of materials, and assemble, join and combine components and materials accurately
- e) use finishing techniques to strengthen and improve the appearance of their product, using a range of equipment including ICT [for example, 'drawing' software or computer-aided design (CAD) software and a printer]
- f) follow safe procedures for food safety and hygiene.

Evaluating processes and products

3. Pupils should be taught to:

- a) reflect on the progress of their work as they design and make, identifying ways they could improve their products
- b) carry out appropriate tests before making any improvements
- c) recognise that the quality of a product depends on how well it is made and how well it meets its intended purpose [for example, how well products meet social, economic and environmental considerations].

Knowledge and understanding of materials and components

4. Pupils should be taught:

- a) how the working characteristics of materials affect the ways they are used
- b) how materials can be combined and mixed to create more useful properties [for example, using cardboard triangles on the corners of a wooden framework to strengthen it]
- c) how mechanisms can be used to make things move in different ways, using a range of equipment including an ICT control program
- d) how electrical circuits, including those with simple switches, can be used to achieve results that work.

Look at the packaging of the products that you have bought from the Grasmere Gingerbread Shop and answer the following questions.

Name of product packaging (Type e.g. box, tin, paper etc.)

What's it for?

Does it have a job?

How good is it for this purpose?

How is it joined together?

What materials have been used?

How well is it made?

Decoration / aesthetics

Size and shape

Other comments or observations

Here are just a few ideas to get those thought processes started to plan a curriculum Design Technology Project based on the theme of product design and packaging.

Researching

Learning Objectives;

- To know that products are designed for different purposes and users.
- To evaluate products and identify ideas to use in our own work.
- To make labelled diagrams from a different view showing specific features.

Look at your research.

Choose a product - you may have bought it from the Grasmere Gingerbread Shop whilst on your visit.

USE THE SPACE BELOW:

- Draw 3 **different** versions of your product, each one needs to be drawn from 2 **different** angles.
- For each one you need to label any design features - 3-d effects, attachments, logos etc.

A large empty grid area for drawing, consisting of a vertical line and two horizontal lines, providing space for students to draw and label their product designs.

Investigating

Learning Objectives:

- To know that products are designed for different purposes.
- To know that the products purpose affects the materials used.

Using your work from the previous session answer the following questions:

Which materials are used to make the products you have seen?

Are any suitable for young children? If so which ones?

What is the main purpose of your product? What does it do?

What special effects can you see on your product?

List features that you think are essential to all your products?

List all the different fastenings/joins you have noticed.

Which design features from your research might you want to use in your own design?

Why have you chosen this feature?

Testing and Modelling

Learning Objectives;

- To know how to assemble various components.
- To know that materials have different properties.
- To realise some joining techniques are stronger/weaker than others.
- That materials can be joined in temporary ways.

1	2	3
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In the boxes above draw 3 of the fastenings/joins you have seen in the packaging or product design.
E.g. Which one is the strongest and safest?

Draw a detailed model in the space below:

Durability tests

Think about the materials you have available to make your product, which are the most durable? Which are practical? Which will wear easily? E.g: fabric, laminated card, board, paper, beads.

Which materials would you use?

Why?

Which materials wouldn't you use?

Why?

Generating a Design

Ideas and Design Brief

Learning Objectives;

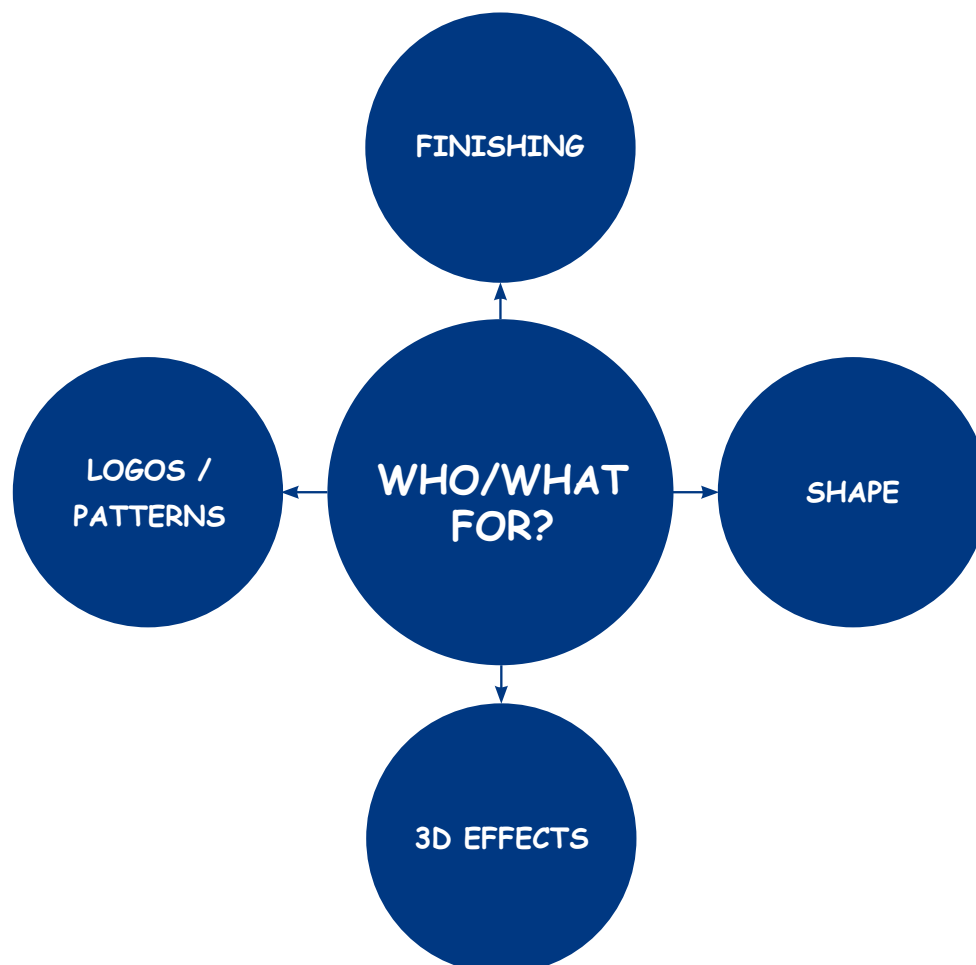
- To know that products are designed for a specific purpose or audience in mind.
- To appreciate the aesthetic qualities of a design.

You are going to design a new product to be sold in *The Grasmere Gingerbread Shop*. You need to decide who/what purpose you are going to design your product for? E.g: occasion, gift.

Think carefully about this. This is called your **Design brief**.

My brief is:

You can now use the brief to help you think about what your product must achieve to be successful and meet the brief. This will inform your design.



What must your product do to be successful and meet the design specification?

How will you meet your users' needs?

Which fastening/joins will you use, if any?

Which materials will you use?

If you need to attach the pieces of your product together how will you do this?

How will you make your product aesthetically pleasing?

Design Ideas

Learning Objectives;

- To help design a product for a specific purpose or audience.
- To communicate ideas.
- To appreciate the aesthetic qualities of design.
- To draw simple design specifications.

Now you need to design 2 sets of your product. Each should be different but relate to the same theme. Remember to think about your design brief, important features such as materials, suitability for the person, occasion and use your imagination. Be creative but practical!

1

2

3

Final Decision

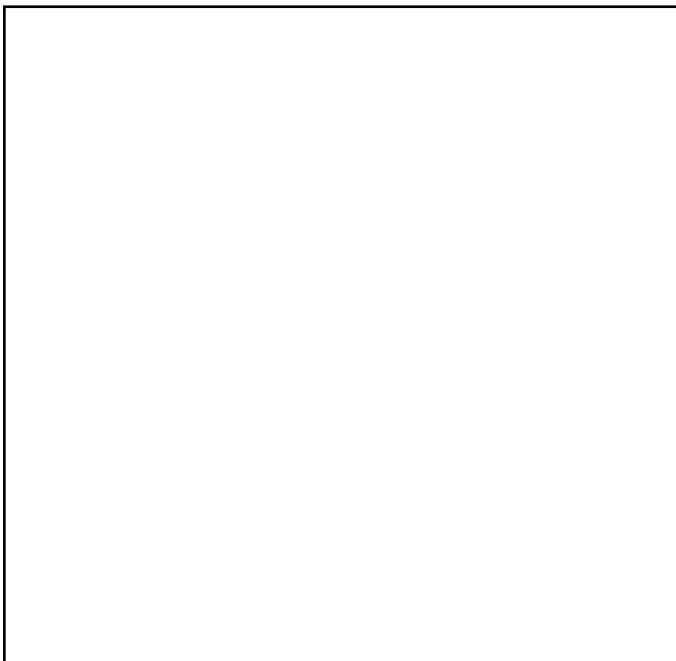
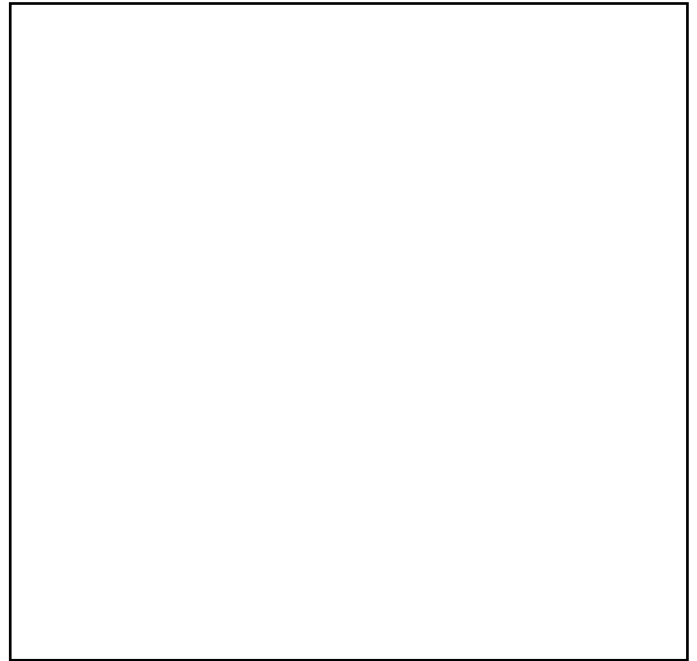
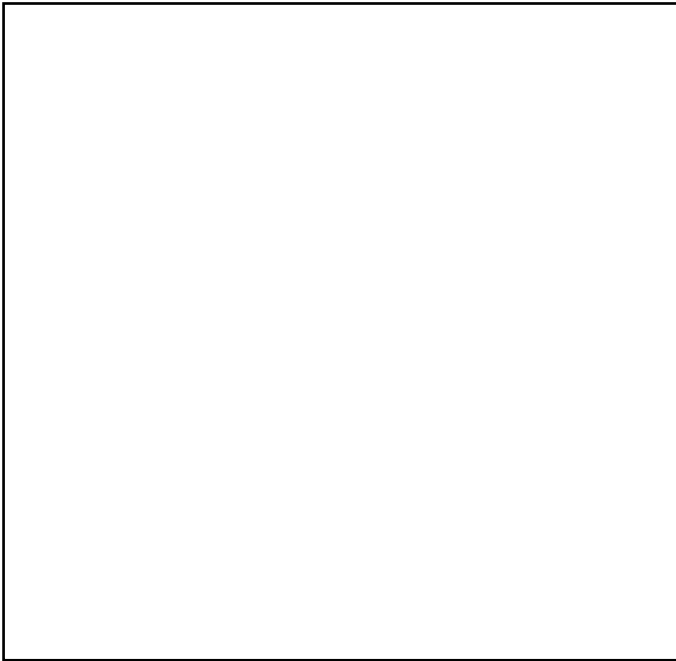
Now you have designed your product, you need to look at it again and think carefully about the following:

- Does it fulfil the design brief?
- Is it suitable for your audience?
- Is it creative?

You need a detailed diagram that includes the way you will join any fastenings or attachments, if you had added any to the design.

Don't forget to show any decorative details you intend to have.

Final Design - Show from different angles.



I have chosen to make this product because...

Planning

Planning to make:

- To make a plan of how to make the product.
- To know how to make a paper pattern/template.
- To measure and cut from a pattern with some accuracy.

Now you need to plan how you will make your product. How will you make the shape of them consistent? This means how you will keep them all the same.

Think back to the testing and modelling stages and write a list of materials and equipment you will use.

Materials I will use...

Equipment I will use...

Making

Learning Objectives:

- To be able to use simple decorative techniques.
- That fabric can be joined in temporary ways.
- To measure, pin, cut and join fabric with some accuracy

You are now ready to begin making your product.

Evaluation

Evaluating Your Design

Learning Objectives:

- To evaluate your own product identifying any strengths and any areas for development against the original specifications.
- To identify any changes you would make if you repeated the task.

What would you say are the strengths of your product?

Does your product meet your original criteria? How?

Did you change anything during the making process? What?

Was it hard to make? Why/ why not?

Are you pleased with your finished product? Why?

How could you make it better?