



Nuffield Design & Technology teaches students to design what they can make and then make what they have designed.

This booklet is part of the **Starting Nuffield Design & Technology Pack.**

It can be used in conjunction with the main course materials or as a teaching resource in its own right. You can find out about these in the Resources section of the website.

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Developing and communicating design ideas

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Key words

annotated sketch

a design sketch with brief notes

components

the name given to the parts that make
up a product

presentation drawing

a detailed drawing showing the look of
a product

working drawing

a detailed drawing showing all the
information needed to make a product

3D mock ups

a 3D model to show what your product
will look like and how it will work

nutritional information

information that tells you about the
chemicals in foods which the body uses
for growth, repair, energy, warmth and
to keep healthy

Packaging

You will also need to decide how your product will be packaged.

Clear graphics make this food product attractive.



They show ...

- ◆ the name of the product
- ◆ the sort of product
- ◆ a picture
- ◆ a free offer
- ◆ nutritional information.

Try drawing the packaging for a cereal called Moonflakes.

Developing design ideas

When you have an idea about what you want to make, you need to work out the details. You can do this in a number of ways.

Using annotated sketches

Sketches with notes will help to develop your ideas.

Imagine you want to make a model butterfly.



- Keep the drawings simple.
- Make the drawings large.
- Only use colour when it is important.
- Use notes that ...
 - ◆ ask questions
 - ◆ describe things
 - ◆ suggest materials
 - ◆ given reasons.

Working drawing

A working drawing shows all the information needed to make the product.

A working drawing of the biscuit box has been done on a computer. It shows ...

- ◆ both the box and the lid
- ◆ the plan — the view looking down
- ◆ the front elevation — the view looking straight at it.

Try making a working drawing of the biscuit box.





This presentation drawing shows just how attractive the biscuit box will be ...

- ◆ it is a large drawing
- ◆ it has been carefully coloured
- ◆ it shows that the box is made from plastic.

Try making a presentation drawing for a plastic pencil sharpener.

Using 3D mock ups

Making quick models will help to develop your ideas.

Imagine you want to make a rocking toy.



Use these materials and tools ...

- ◆ paper
- ◆ card
- ◆ glue stick
- ◆ sticky tape
- ◆ staples
- ◆ paper fasteners
- ◆ scissors
- ◆ paper punch.

Working models

The next step is to make a more detailed models — a model that works.



It is important to use the right materials to build your model.

You could use a kit, like Lego. These are quick to use, but they have to be taken to pieces and put away.

You could use components and build from scratch. This kind of model takes longer to build, but you can keep it.

Communicating design ideas

You will need to show your design ideas to other people. There are different ways to do this.

Presentation drawings

This drawing shows what the hat will look like and the materials that will be used to make it.

It is a large drawing.

It has been carefully coloured.

Try making a presentation drawing for a baseball cap.



Second review

You should do your second review when you have made your drawings and models.

Use the questions in the picture to decide if your design ideas will work.

If you think that they won't work, change them so that they do.



Testing taste

If your idea is for a food product, you will need to do quick tasting tests.



But remember, some people might not like what you like.

So, ask other people to taste your food products.

Listen to what they say.

Use what they tell you to improve your food product.

Reviewing your work

A review is a time when you stop what you are doing and think about three things ...

- ◆ what you have done
- ◆ how well you have done it
- ◆ what you should do next.

How do you do a review?

- By talking to other students.
- By writing down your thoughts in a review diary.
- By writing down the answers to questions on a worksheet.

How long should it take?

Don't spend too long —
20 minutes maximum!



First Review

You should do your first review when you have decided what you are going to make.



Use the questions in the picture to decide if your design ideas will work.

If you think that they won't work, change them so that they do.