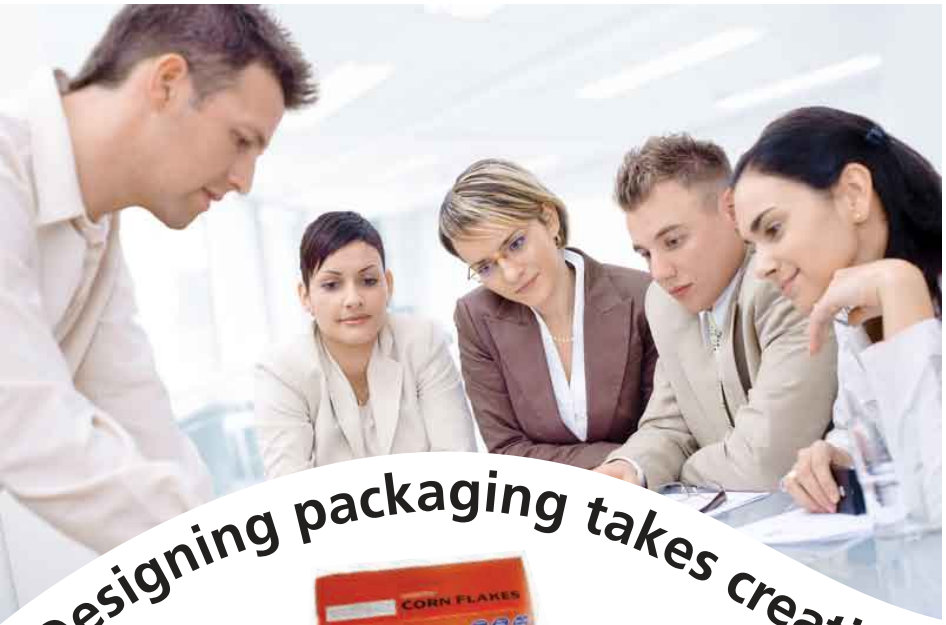
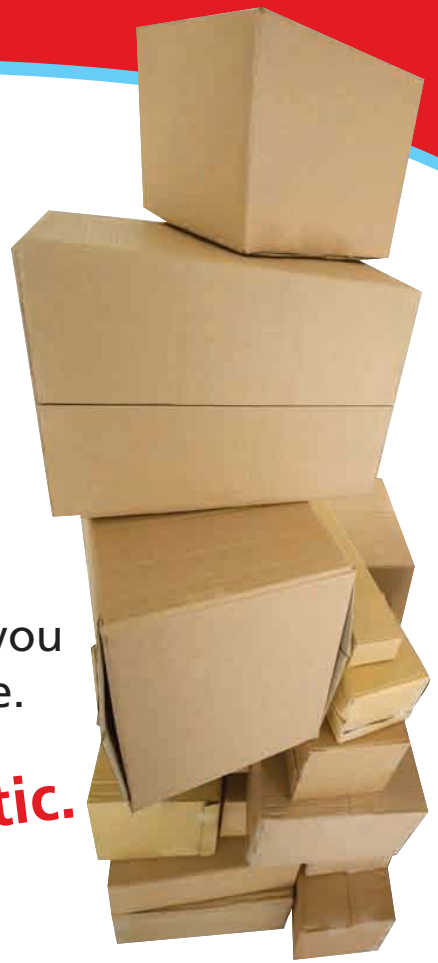
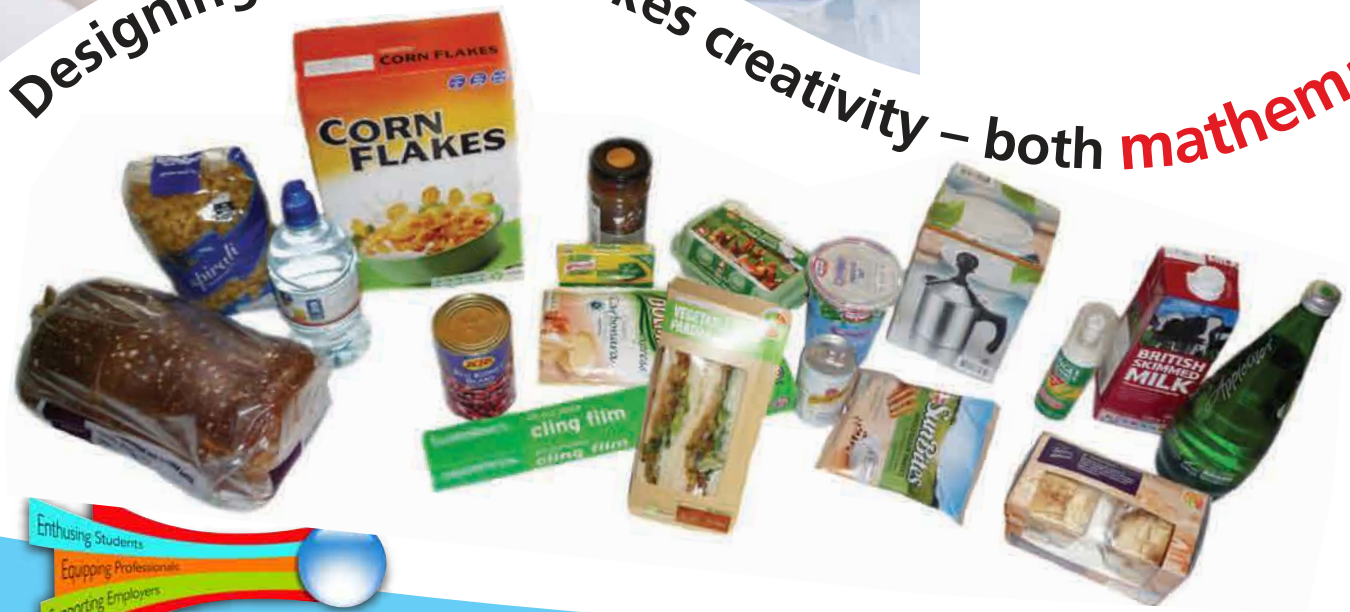
Packaging design Unpacking the box





- You will be working in design teams for this project.
- Collect some interesting packaging – as much as you can.
- Carefully open out your boxes until you have a flat piece of card for each one.
- These flat shapes are called **blanks**.

Designing packaging takes creativity – both mathematical and artistic.



Choose one from your collection. **Design a blank** for a product which is larger or smaller, fatter or thinner, wider or taller than the original.

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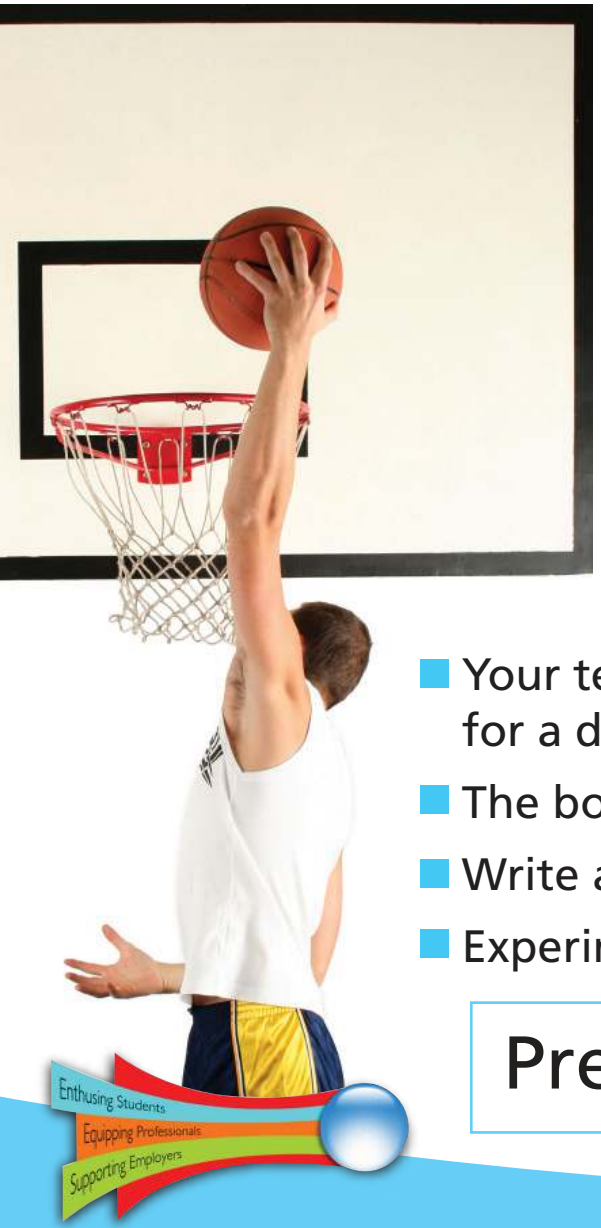
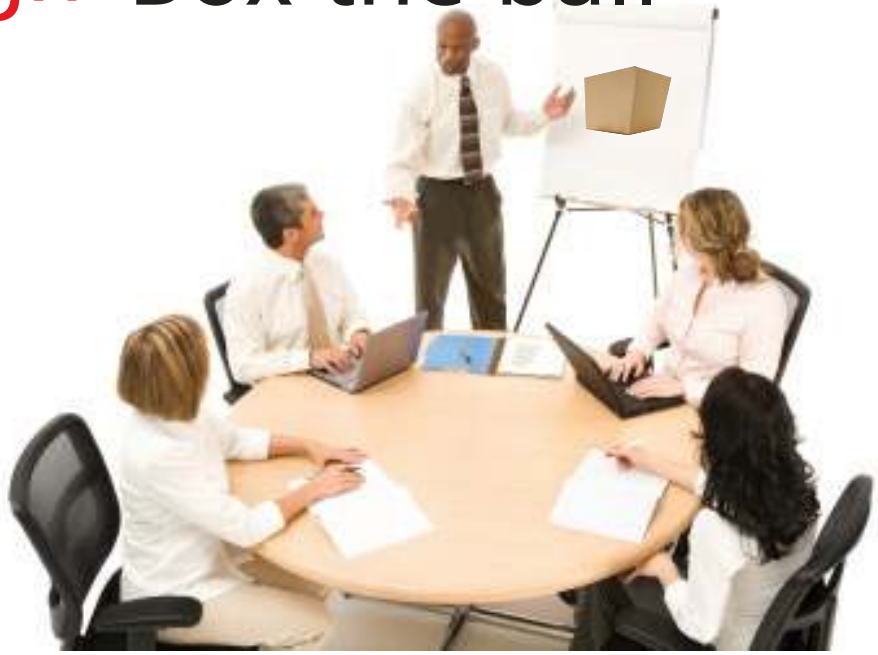
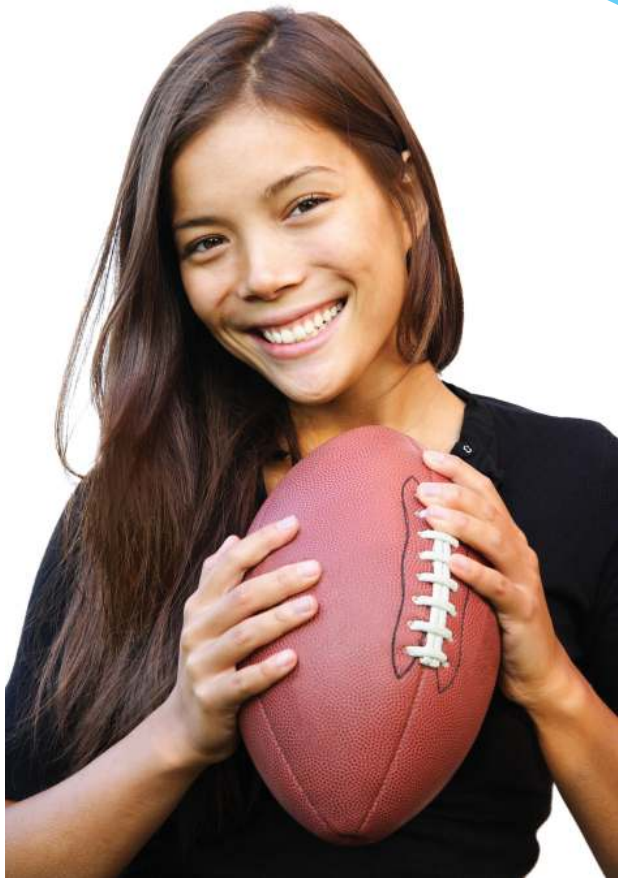
Packaging design Box the ball







- Your team's task is to **design and make a box** for a deluxe sports ball.
- The box must be original and eye-catching.
- Write a list of the things you think are **most important** to consider.
- Experiment with various design solutions then choose and make the best.

Present your ideas to the class as a **pitch**.

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Packaging design Working in graphics

Think about the two **packaging design** activities.

Is working in graphics the career for you?

Have you got the skills to be a graphic designer?

- The *Working in graphics skills audit sheet* shows what you need.
- **Did your team use these skills?**
- **What is the evidence?**
- Explain which skills you used, when and how, on the audit sheets.

Packaging design Working in graphics skills audit sheet 1

Skill set	When and how you used the skills
Accuracy, attention to detail and analytical skills	
Enthusiasm	
Self-discipline	
Flexibility	
Patience	
Excellent communication skills to interpret and negotiate a brief	

Packaging design Working in graphics skills audit sheet 2

Skill set	When and how you used the skills
Good presentation skills	
The confidence to explain and sell ideas to colleagues	
Time-management	
Technical skills	
Drawing skills	
The ability to work as a member of a team in a competitive culture	

Packaging design

Topic

This topic develops the 3-D thinking required to move between solids and their 2-D nets. It is placed in the context of packaging where nets are extended to provide the whole pack – the industry term is **blanks**. Pupils will work in small "design teams" to produce viable solutions to real-world 3-D problems.

Mathematical activities

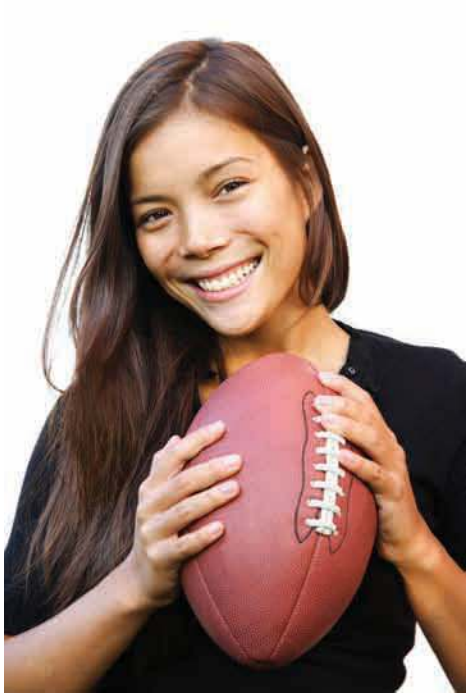
Unpacking the box

Box the ball

Careers link-up

Working in graphics

If you go to http://www.connexions-direct.com/jobs4u/ and search for Graphic Design you can see a range of jobs that include graphic design along with lots of links to further information.



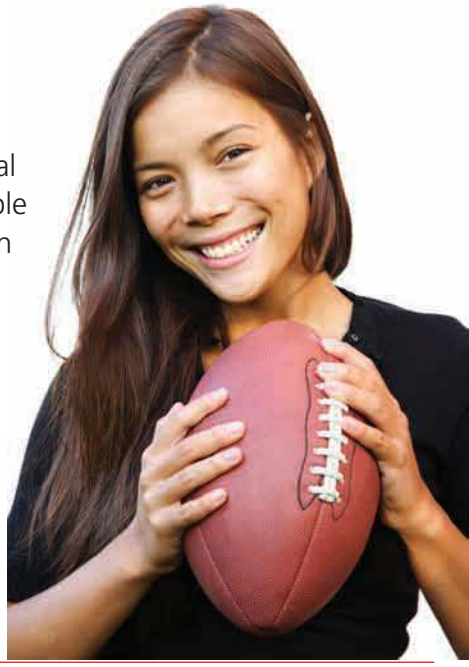
Planning for teaching

You will need a large number of boxes for **Unpacking the box** including some interesting shapes like supermarket sandwich boxes and triangular prisms use for chocolate. The pupils need to work in small teams of about four and need a box each to open out – more if available. These flat shapes are called blanks within the packaging industry. Each pupil shows their blank to the rest of the team and shows how it folds to make the original package. The team chooses one of the boxes and decides how to alter the dimensions for a different product; for example, a double-decker sandwich or a thicker block of chocolate. They then design the blank for their new product, testing it by making the box to check they have achieved their desired outcome. They can be encouraged to design a logo for their box so that they have to think about how the various parts of the blank meet up.

Box the ball takes the design activity a stage further. The activity will take two lessons or more and may be set up as a cross curricular project with the design technology department. The teams of pupils are challenged to design the packaging for a ball, bearing in mind a number of parameters. They are asked to think about what is important in producing an original and eye catching design – encourage them also to keep in mind what "works" – for example, showing the ball without opening the box, packing the boxes for transport, displaying the boxes in the shop and calculating the amount of card used. Additional challenges are to consider how multiple copies of the blank will fit onto a large piece of card for manufacture to reduce costs and to compare the volume of the ball with the volume of the pack. What are the arguments for and against keeping this difference small?

Once their packaging is complete, they prepare a *pitch* for their design solution to the rest of the class. Asking a design technology colleague to attend and give each team feedback will add authenticity to the activity.

Both mathematical activities pave the way for **Working in graphics**. Here the teams of pupils look back over the project and use the **Working in graphics skills audit sheets 1 and 2** to think about the skills required for a career in graphic design and about their individual and team strengths and weaknesses. They will probably have little experience of auditing their skills and will need support both in interpreting the skill definition and in understanding how to evidence its use. In-class support from local careers advisers – in school or from *Connexions* – will be invaluable here. The website **http://www.thefutureschannel.com/** has an entertaining short film *Creating an Advertising Campaign* linked to graphic design.



Want to know more?

Contact STEM Subject Choice and Careers

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A Department for Children, Schools and Families initiative to promote subject choice and careers in Science, Technology, Engineering and Maths (STEM) delivered by the Centre for Science Education at Sheffield Hallam University and VT Enterprise.

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or for more information on careers go to Maths careers at www.mathscareers.org.uk/
or Future Morph at www.futuremorph.org/<http://www.futuremorph.org/