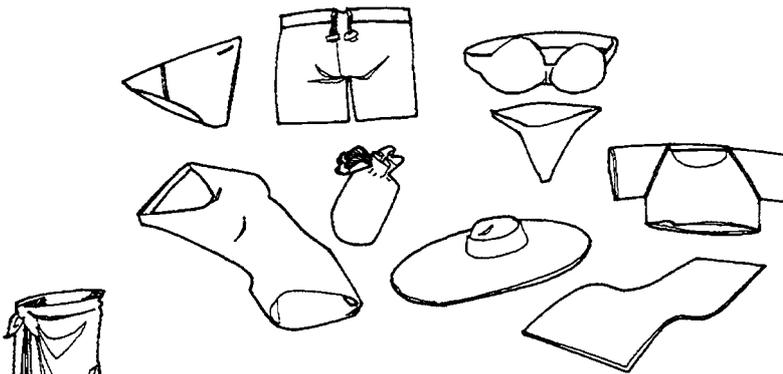
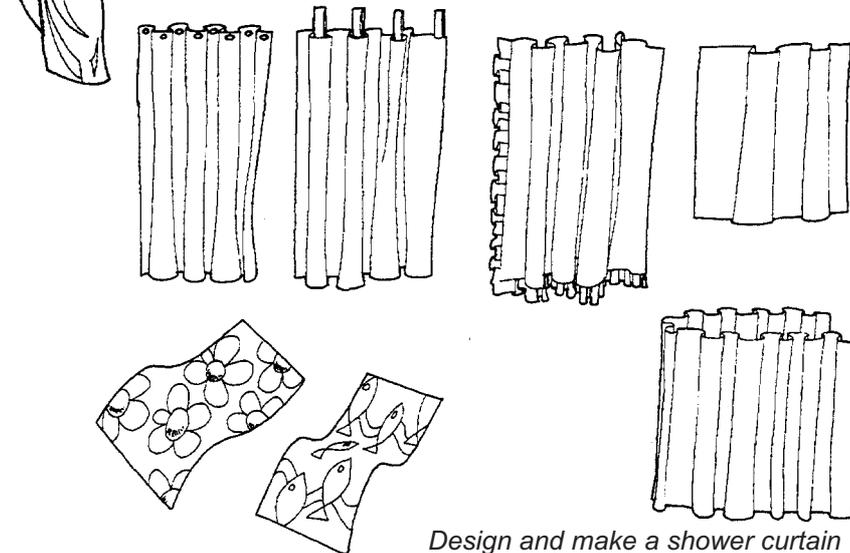


Part 1: What can I use for this?

The illustrations below show two design and make situations.



Design and make a set of beachwear items that won't crush and that pack into a small space



Design and make a shower curtain

- 1 In a group of at least three, brainstorm each situation using words, phrases or sketches. Put down every idea you think of. Use who? what? why? when? and where? questions to help you.

Use the Chooser Charts and PIES heading to help you answer the questions.

- 2 In your group, agree and circle in different colours which ideas are:
 - * most unusual;
 - * most interesting;
 - * easier to make but also unusual or interesting;
 - * harder to make but also unusual or interesting.

Learning

To apply two sorts of brainstorming.

Student's Booklet

Generating design ideas, pages 1-2

Timing

Part 1: 40 minutes

Part 2: 40 minutes

Equipment and materials

- large sheets of paper
- fat pens
- coloured pens
- workbook
- pen, pencil

Type of task

Extension

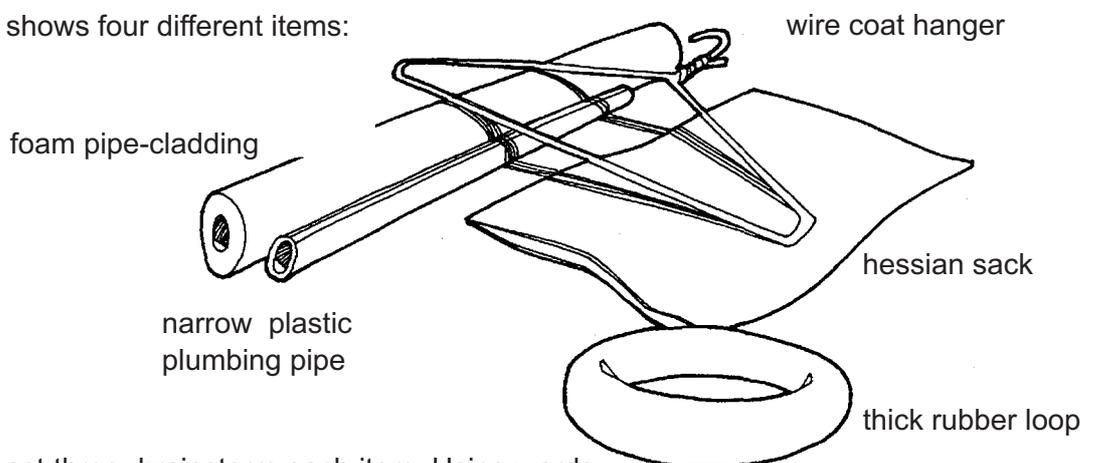
- 3 Agree which ideas are both interesting and could, realistically, be made by you.
- 4 List these agreed possible ideas for each situation in your workbook.
- 5 Try to put the ideas into categories – groups of ideas that seem to go together.
- 6 Make a priority list for each situation – the most important ideas (or groups of ideas) first; and so on.

Further/homework

- 1 Choose one of the situations from page 1.
- 2 Using your priority list of ideas for that situation; sketch a product that you could make which would provide a possible solution.
- 3 Write a performance specification for your product.

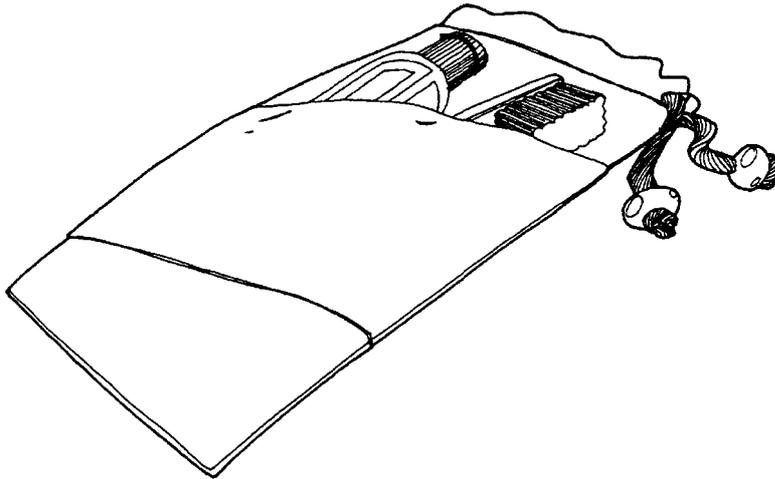
Part 2: What can I use this for?

The illustration below shows four different items:



- 1 In a group of at least three, brainstorm each item. Using words, phrases or sketches, generate a list of possible uses for each item in the design of a baby carrier that leaves both hands free and in the design of costumes for a school play about a giant and some dwarfs. Put down everything you think of.
- 2 In your group, agree and circle in different colours which possibilities are:
 - * most unusual;
 - * most interesting;
 - * easier to make but also unusual or interesting;
 - * harder to make but also unusual or interesting.
- 3 Agree which possible uses are both interesting and could, realistically, be made by you.
- 4 In your workbook list these agreed possible ideas for each design.

The attribute analysis table below describes different aspects of toiletry carriers. The first line of the table describes the attributes of the draw-string soap-bag shown in the illustration.



- 1 Look across the columns in the attribute analysis table. Select words from each column, putting them together in different combinations to give you new ideas for toiletry carriers. List as many different combinations as you can in the time available to you. (There are almost 20,000 possible variations!)

L Learning

To extend your understanding of how to use attribute analysis to think up different ideas for a product

Student's Booklet

Generating design ideas, page 3

Timing

45 minutes

Equipment and materials

- workbook
- pen, pencil

Type of task

Extension

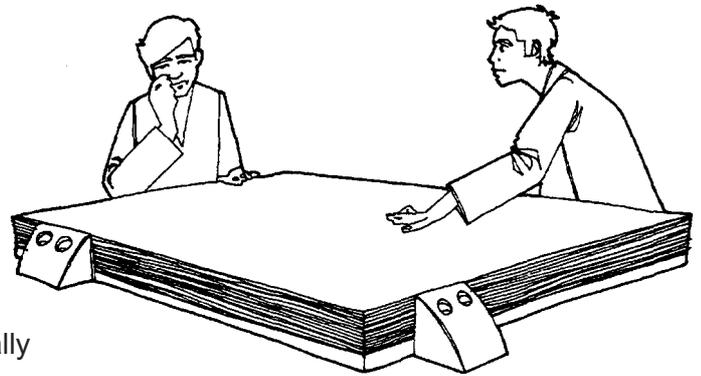
Material	Properties	Image	Cost	Weight	Manufacture
Day-glo Ripstop Nylon	Waterproof	Street style	Inexpensive	Very light	Mass
Towelling	Strong	Hi-tech	Moderate	Light	One-off
PVC	Resilient	Feminine	Expensive	Medium	Batch
Calico	Rotproof	Masculine		Heavy	
Mesh	Inflammable	Children's			
Metallic	Crush-proof	Green			
Polyester	Washable	Outdoor			
Aluminium	Disposable	Smart			
Plastic	Colour-fast	Casual			
Rubber	Stores things safely				
Non-woven	Hangs up				

Attribute analysis table for toiletry carriers

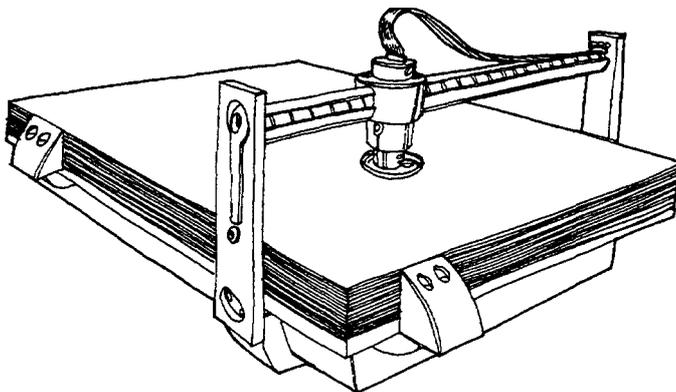
2 Look at the different combinations on your list. Some of the ideas may seem impossible to achieve. If you are not sure:

- discuss with a partner;
- using the PIES approach for each idea, find out what physical, intellectual, emotional and social needs it meets that the original idea did not;
- ask yourself “Who might this idea appeal to that the original did not?”

3 List those product ideas which you think could actually be made.



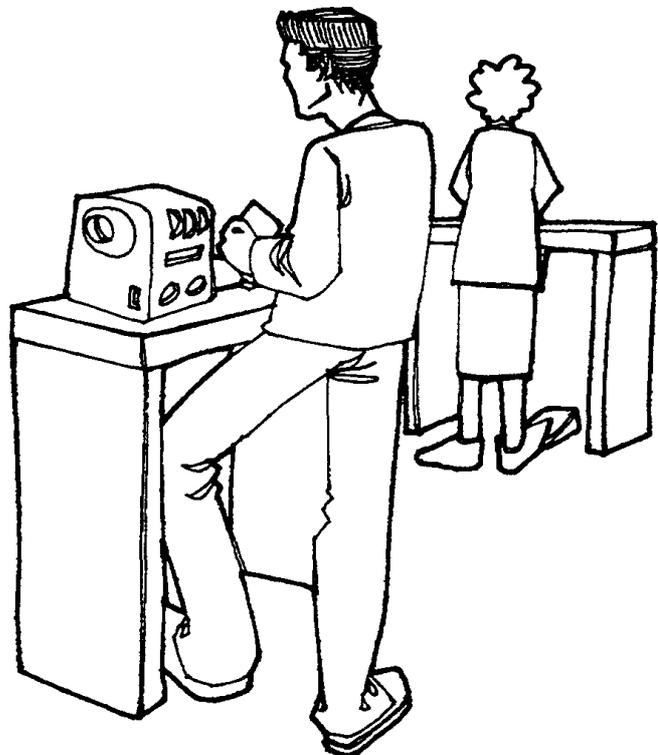
One team lay the cloth



The cloth is cut using a computerised laser cutter



The cords are cut to length



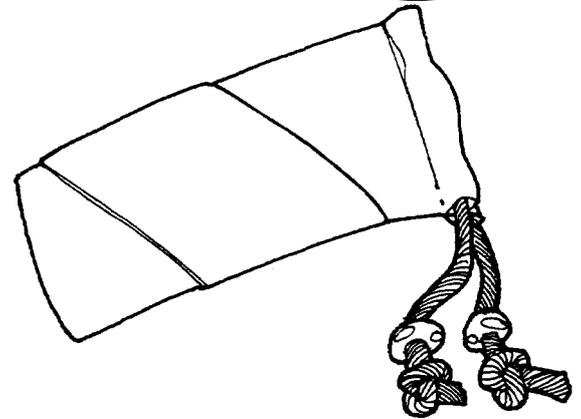
The machining team stitch the elastic into the pocket hem; they stitch on the pocket and stitch the sides of the bag and make the top channels – with the cords in place. (In some companies some of this stitching is automated)

- 4 Consider the manufacturing methods already used to produce the draw-string soap-bag shown on page 1.

This soap-bag is mass manufactured. The workers work in teams as shown below.



A further team makes final quality checks and packs the soap-bags



The cords are knotted

At each stage in manufacturing the soap-bag the team responsible for the work is responsible for ensuring quality

- 5 Choose one or two of the product ideas that you listed in number 3. For each idea work out what you would need in terms of:
- materials;
 - equipment;
 - quality checks and controls.
 - processes;
 - skills of workers;
- 6 Which of your ideas would be suitable for development by the company making the product shown in the illustration?

Further/homework

- 1 Draw up an attribute analysis table for a family tent.
- 2 What headings will you need?
- 3 Fill in some different attributes in each column.
- 4 Sketch one example of a different family tent suggested by your table.