

# Unit 2: We are bag designers

## Design, make and evaluate a bag for a fictional character

### 1 About this unit

**Aspect of D&T:** Textiles

**Learning focus:** Learning about the origin of fibres, using fabrics to make a bag and simple ways to join and decorate fabrics

**Project outcomes:** A bag for a fictional character for a specified purpose

**Possible contexts:** Home, school (e.g. World Book Day), leisure, business, travel

**Themes:** School, e.g. reading folder; leisure, e.g. carrier for a sports kit; local business, e.g. bag to carry shopping; travel, e.g. bag for a trip; other subjects such as science and English – key stories



### OVERVIEW

In this project, children will learn to design and make a bag for a fictional character with a specific purpose such as to carry a reading book, a sports kit or a picnic.

First, children will learn about the origin of fibres used to make selected common fabrics and how some are constructed. Next, they will evaluate a variety of existing bags to learn about different types and styles, as well as ways that fabrics can be joined and fastened.

Children will also learn how to use a given template or a simple paper pattern, and to pin and cut fabric, as well as ways to join fabric (stitching, gluing, stapling, etc.). This will prepare them for designing a bag for a fictional character. Using labelled drawings they share their design ideas and select fabric to make their product.

Next, the children make a mock-up of their design and consider ways to make and join handles. Then they create their bag using their chosen fabric(s) and join using simple stitches and other techniques. Children can add a pocket or fastening to their bag and/or decorate it. To develop awareness of sustainability, recycled fabrics can be used.

### D&T CURRICULUM LINKS

Children should engage in an iterative process of designing and making in the context of the project.

- **Design** – design a purposeful, functional and appealing bag for a specified user based on the design criteria. Generate, develop, model and communicate ideas through talking, drawing, templates, paper patterns, mock-ups and computer-aided design.

- **Make** – select and use tools and equipment to cut, shape, join and finish. Select and use textiles according to their characteristics.
- **Evaluate** – explore and evaluate existing bags, evaluate own ideas and products against simple design criteria.

### CROSS-CURRICULAR LINKS

#### Science

- ✓ Working scientifically – asking simple questions, identifying and classifying. (Key Stage 1)
- ✓ Describe simple properties of materials of everyday materials. (Year 1)

#### Art and Design

- ✓ Use drawings to develop and share ideas. (Key Stage 1)
- ✓ Develop art and design techniques using colour, pattern and texture when decorating surfaces. (Key Stage 1)

#### Computing

- ✓ Use technology purposefully to create digital content, e.g. to create an image using a paint package. (Key Stage 1)

#### English

- ✓ Develop pleasure in reading and motivation to read by becoming very familiar with key stories. (Year 1)

#### Mathematics

- ✓ Use appropriate standard units to measure height/length in any direction (cm). (Year 2)

## 2

# Getting ready

### THINGS TO DO

- Think about how you will link this work with other areas of the curriculum (see *Cross-curricular links* and the Rising Stars Switched on Curriculum via the link on the CD-ROM).
- Make a board to show the children examples of ways to join fabrics such as pins, staples, safety pins, paper fasteners and with running stitches.
- Find out if there are any parents with knowledge of textiles and sewing who would be willing to help in the design and make sessions.
- To ensure the children will be solving a real and relevant problem, consider if the fictional character's bag could link to stories written about the chosen character.
- Decide what fictional book you would like to use to introduce this unit to the children, e.g. *Barnaby Bear* books by Elaine Jackson, *Shopping with Dad* by Matt Harvey or *Don't Forget the Bacon* by Pat Hutchins.

### THINGS YOU NEED

- Various fabrics (natural/synthetic) constructed in different ways
- A range of bags
- A selection of favourite stories and characters
- Board showing ways to join fabric (pre-prepared)
- Thin card and paper

- Template outline and paper patterns for bags (see the CD-ROM)
- Staplers and staples
- Selection of fabric glue, paper fasteners and safety pins
- Pins and pin cushions
- Needles
- Cotton or embroidery thread
- Rectangles of card to store thread
- A selection of fabrics including all-purpose cleaning cloths (e.g. J-cloths), Binca (cross-stitch fabric), felt, hessian, cotton or synthetic fleece
- Recycled fabric (old bags and clothes)
- Rulers
- Buttons, poppers, Velcro, etc.
- Ribbons, laces, etc. for handles
- Children's scissors (if possible, keep a set that are only used for fabric so they remain sharp)
- Digital camera

#### Optional:

- Tailor's chalk
- Fabric pens and paints, transfer paint, sequins, buttons

#### Teacher use only:

- Fabric scissors
- Seam rippers
- Pinking shears (to cut edges of fabric to prevent fraying)



### HEALTH AND SAFETY

- Risk assessments should be carried out before undertaking D&T projects. Follow your school risk assessment policy.
- Provide pin cushions to ensure pins are stored safely.
- Store needles on a strip of hessian or felt. Write numbers down the side next to each needle to check the children return their needles when they have finished using them.
- Magnets can be used to pick up stray pins and needles.
- Children should be shown how to use sharp equipment (such as staplers) safely. Supervise the children when using sharp equipment and tools.
- Fabric scissors, seam rippers and pinking shears are for teacher use only.



### USEFUL WEBSITES

- Background information on types of fibre/fabrics [www.fabrics.net/](http://www.fabrics.net/)
- Fibre history [www.fabriclink.com/university/history.cfm](http://www.fabriclink.com/university/history.cfm)
- Patterns for bags, hats, footwear and other accessories [www.wildginger.com/products/wildthings.htm#](http://www.wildginger.com/products/wildthings.htm#)
- Information on wool processing [www.bbc.co.uk/learningzone/clips/how-wool-is-made-the-process-from-sheeps-fleece-to-woollen-scarf/13440.html](http://www.bbc.co.uk/learningzone/clips/how-wool-is-made-the-process-from-sheeps-fleece-to-woollen-scarf/13440.html)

### 3

## Running the project – We are bag designers

Design, make and evaluate a bag for a fictional character

# Project pathway

## Step 1: Set the scene

- Read a related story about the use of bags (see *Tip*). Ask the children to talk about bags they use and what they use them for.
- Provide the children with a collection of bags and ask them to think about what they are for (purpose) and who they think they are designed for (user).
- Explain to the children that in this D&T project they are going to be bag designers.
- Talk about types of bags the children know and what types of fabrics and other materials designers use to make bags.
- Ask the children to think about bags needed by different user groups such as shoppers, athletes, musicians and explorers.

*What do they need to carry?*

*How are their bags designed to carry these things?*

## TIP

- Some good books to introduce this unit include the *Barnaby Bear* books by Elaine Jackson, *Shopping with Dad* by Matt Harvey or *Don't Forget the Bacon* by Pat Hutchins.

## Step 2: First thoughts

- Present the children with the design challenge: **Can you design a bag to help a fictional character carry something that he/she needs?** The bag must be mainly made of fabric.
- Ask the children to discuss in pairs who the bag will be for and what it will be used for.
- Children can refer to a story featuring their fictional character to consider possible purposes.
- Ask the children to talk about their design ideas, considering the needs of their chosen character.

### Step 3: Learning from existing products

- Provide the children with a range of fabrics. Include some the children may know, e.g. denim, fleece, felt, leather and cotton, and others that may be new to them, e.g. linen, nylon, hessian and wool. Ask them to label or match labels to fabrics.
- Pull out a thread from a piece of woven fabric to demonstrate how it is constructed from fibres. Ask questions to encourage the children to consider sources of fibres, then classify the fabrics into two sets – natural (plant or animal) or synthetic (man-made).
- Discuss how fibres are made into fabrics. Show stages from source to garment, e.g. wool from a sheep's fleece to a knitted scarf (see *Useful websites*). You could also show an example of a woven fabric and ask how it is made.
- Evaluate a range of fabric bags. Ask questions about the fabrics used and the ways pieces are joined and fastened. If there is a pocket or surface decoration, discuss how it has been created. Children can photograph or draw one bag, then add labels to show fabrics (and other materials) used, joining methods, fastenings, pockets, handles, etc. They could measure the bag and add dimensions to their drawings.
- Using a simple cotton tote bag, discuss how many pieces of fabric were used to make the bag and how they were joined.
- If possible, disassemble the bag using a seam ripper (teacher tool) and show the children the pieces. Explain that they were cut using a paper pattern and show an example (see the CD-ROM).

#### SUPPORT

- Cards naming types of fabric are available on the CD-ROM for children who may need extra support labelling fabrics.

#### CHALLENGE

- Children could research sources of fibres further using books or the internet (see *Useful websites*).
- Provide a more extensive range of bags for the children to evaluate.

## Step 4: New knowledge and skills

- Show the children how to sew using simple stitches – running stitch, backwards running stitch, laced running stitch and over stitch (see *Techniques* and skills slideshows on the CD-ROM). Provide Binca (cross-stitch fabric), tapestry needles (blunt with a large eye) and embroidery thread. Start by teaching the children how to thread a needle and how to tie a knot in the thread (you could use a simple overhand knot), before moving on to sewing the stitches.
- Next, teach them how to sew on a fabric with a closer weave without holes, e.g. felt, using a sharper needle with a large eye, such as a crewel needle.
- Provide the children with an example of a paper pattern for making a simple bag (see the CD-ROM). Handles can be part of the main design or added on later.
- Show the children how to pin the pattern pieces onto a double layer of J-cloth, so two pieces of each shape are made when cut out using sharp children's scissors. Show the children how to remove the pattern pieces, ensuring pins are stored safely.
- Using the joining board prepared earlier, discuss different methods of joining that the children have seen being used and what they joined. Teach the children how to use some of these methods (pins, safety pins, staples, stitches, fabric glue) to join small pieces of fabric.
- With the pieces of J-cloth cut using the paper pattern, show the children how to use pins to temporarily join the pieces of cloth to make a bag.
- Demonstrate how to use a stapler safely as a way to join the pieces of J-cloth together more permanently. Alternatively, the children could either sew or use fabric glue to join the pieces.
- Discuss what else could be added to the basic bag structure, e.g. handles or pockets, and how they could attach them. Allow the children time to try joining these pieces in different ways.

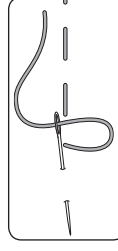
### SUPPORT

- As an alternative to using a paper pattern, provide card shapes of the pattern pieces (templates) for the children to place on fabric, draw around using tailor's chalk and then cut out from the fabric.

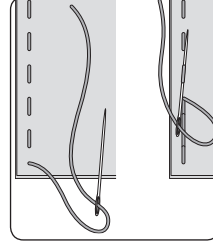
### CHALLENGE

- Ask the children to write instructions for other children to teach them how to pin patterns on fabrics (cotton or felt).

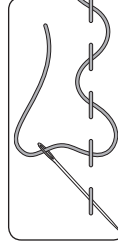
### TECHNIQUES (SEE THE CD-ROM FOR SKILL SLIDESHOWS)



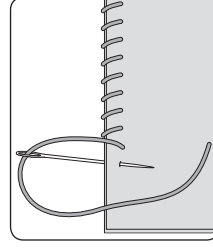
Running stitch



Backwards running stitch



Laced running stitch



Over stitch

### TIPS

- To avoid tangling, wind embroidery thread onto rectangular pieces of card, with a slit to store the loose end.
- Consider using a double thread knotted at the end to avoid unthreading.

## Step 5: Design

- *What must your character's bag be like to be successful?*

Provide simple design criteria to help the children generate their ideas and make sure the bag is suitable for the intended user and purpose, e.g. it looks nice (visually appealing), it is able to hold things your character needs to carry, it is made of fabric, the seams are joined well, it has comfortable handles, etc. Refer back to the discussion in Step 2.

- Using the design criteria, help the children to develop and communicate their initial designs for their character's bag by talking and drawing. Encourage the children to keep their design simple and to design a bag that is based on what they have learned in the previous step. They should explain and discuss their ideas with others and use this feedback to make necessary changes. The following can be used as discussion prompts:

*What type of fabric(s) will you use to make the bag?*

*How will you join the pieces together?*

*Are you going to decorate the fabric? If so, how will you do this?*

*What other features would you like the bag to have?*

- Ask the children to draw a picture of their bag design and add simple labels. Children could do this freehand or using a paint program on a computer. If the designs are too complicated and require knowledge and skills they do not yet have, help the children to simplify their designs.
- Help the children to select a template or simple paper pattern for their bag (see the CD-ROM), cut it out and pin it to the J-cloth.

## SUPPORT

- Children can use the template from Step 4.

## CHALLENGE

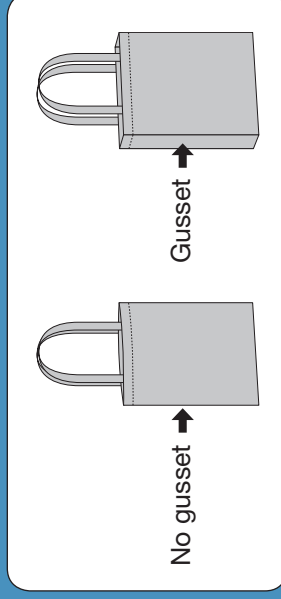
- Children can adapt a pattern used in Step 4 by changing the size and/or shape.
- Provide the children with a pattern that includes a simple pocket. If using sewing to join, they must sew this on before joining the bag pieces.
- Challenge more able children to draw more detailed annotated sketches of their designs.

## Step 6: Make and evaluate

- Children can create a mock-up of their bag using a J-cloth and staples, following the process taught in Step 4.
- Help the children to check that everything joins correctly and give them time to modify their mock-up if necessary.
- Provide a selection of suitable fabrics for the children to choose from to make their bag.
- Help the children to pin the pattern pieces onto some fabric, or draw around a template, then cut around the lines to create the different elements of the bag. Next, ask the children to remove the paper pattern pieces and decide how the parts will fit together, referring back to the mock-up if necessary.
- Children are then ready to pin the fabric pieces together and join the seams using a simple running stitch.
- Ask the children to decide how they will join the handles. Remind them of the joining methods taught in Step 4.
- Discuss how the children could decorate the bag, e.g. by sticking on felt pieces with fabric glue, sewing on fabric shapes, drawing using fabric pens or printing using fabric paints. Give the children time to consider and then apply their chosen decoration.
- Encourage the children to take photographs of their finished product to share with parents and display in school or on the school website.
- When finished, ask the children to evaluate their product, referring back to the design criteria (see pupil booklet on the CD-ROM).
- Learning could be extended by asking the children to add a fastening to the bag. This could be a simple fastening such as a safety pin or a fastening that requires sewing or threading such as a large button or a lace. Loops of ribbon or braid can be used to make buttonholes.

## CHALLENGE

- If using a thin fabric such as cotton, the children can include a seam allowance on their patterns which will allow them to hide the stitches on the bag by turning it inside out.
- Children could add a gusset to their bag (making it more 3-D) to give it a larger capacity than a simple bag made up of two pieces of fabric.



- To encourage the children to consider the needs of a wider range of users, and to make larger bags, they could design and make a bag for a family member or a friend.

## TIP

- If the children decide to use stitches to decorate their bag, they will need to sew this decoration before joining the pieces of the bag together.

## 4

## Taking it further

- **Art and design** – children could use techniques such as tie and dye to add pattern and colour to fabrics before bag construction.
- **Computing** – children could design surface decoration for their bags using a computer paint program, then transfer it to fabric using an iron-on transfer paper.
- **Geography/science/D&T** – children could consider suitable fabrics to use to make clothes for a toy bear to wear in different climates, e.g. waterproof, cool, warm, etc.
- **History** – children could research the history of fibres and fabrics, and find out when different fibres were first used (see *Useful websites*).
- **Sustainability** – children could re-use an old garment, such as a T-shirt, and consider how this can be re-designed to make a bag.

## 5

## Key words and definitions

<b>Binca</b>	a fabric with an open weave that is used for cross-stitch
<b>crewel needle</b>	a sharp needle with a large eye suitable for sewing thread through fabrics such as felt or cotton
<b>design criteria</b>	a set of features a product should include if it is to be successful
<b>fabric</b>	constructed from fibres or yarns using techniques such as weaving, knitting, crocheting or bonding
<b>fibre</b>	a natural or synthetic thread that can be spun into yarn, e.g. cotton or wool
<b>mock-up</b>	a model used to test and evaluate a design or show design ideas to other people
<b>paper pattern</b>	shapes drawn of the exact size and shape of all the pieces needed to make a bag or garment
<b>seam</b>	a line where pieces of fabric are joined together
<b>seam allowance</b>	extra fabric to provide space for stitches when joining pieces of fabric together
<b>tapestry needle</b>	blunt needle with a large eye suitable for sewing thread through open weave fabrics such as Binca
<b>template</b>	a card cut to the shape of the pieces required to make a textile product
<b>woven fabrics</b>	constructed with warp and weft threads: the warp thread is wound around a loom and weft threads are woven in and out to create a criss-cross pattern



## 6 Assessment guidance

Use this page to assess children's knowledge, understanding and skills in design and technology. You may wish to use these statements in conjunction with your own school policy for assessing work.

### ALL CHILDREN SHOULD BE ABLE TO:

- Design a simple, functional bag for a fictional character
- Draw a picture of their bag and talk about who it is for
- Make a simple bag using templates and tools provided
- Make a simple bag using textiles and other decorating materials provided
- Describe key features of some existing bags
- Talk about what they like about their bag and what they could improve

### MOST CHILDREN WILL BE ABLE TO:

- Design an original, functional, appealing bag for a fictional character based on simple design criteria
- Draw labelled pictures of their bag
- Create a mock-up of their bag
- Make a bag by selecting and using an appropriate pattern, tools and equipment
- Select from fabric and other materials to decorate the surface of their bag
- Identify key features of a range of existing bags and discuss materials used to make them
- Evaluate their bags against simple design criteria

### SOME CHILDREN WILL BE ABLE TO:

- Design an original, functional, appealing bag with additional features based on design criteria
- Use a graphics program to draw labelled diagrams of their bag
- Make a bag by adapting patterns and selecting and using a range of appropriate tools and equipment
- Add additional features to their bag

### D&T PoS REFERENCE

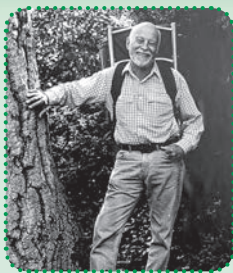
- Design purposeful, functional products for other users
- Generate and communicate their ideas through talking and drawing
- Use tools and equipment to perform practical tasks
- Use materials including textiles
- Explore and evaluate existing products
- Evaluate their products
- Design purposeful, functional, appealing products for other users based on design criteria
- Generate, develop and communicate their ideas through drawing
- Generate, develop and communicate their ideas through mock-ups
- Select and use tools and equipment to perform practical tasks
- Select from and use materials according to their characteristics
- Explore and evaluate a range of existing products
- Evaluate their ideas and products against design criteria
- Design purposeful, functional, appealing products for other users based on design criteria
- Generate, develop and communicate their ideas through drawing and ICT
- Select from and use a range of tools and equipment to perform practical tasks
- Select from and use a wide range of materials, including textiles, according to their characteristics

## 7 D&T inspiration

Here are two ways you could put this project into a broader D&T context.

Children can find out about the history of different types of bag, especially ones that they use themselves such as the rucksack. Although children are designers in this project, it is important that they learn that historically there have been many designers who have created and improved different types of bags over the years.

Children can also learn about how contemporary designers have designed reusable bags to reduce the waste associated with plastic bags. There are many examples of companies who produce such bags that children could research. Children will learn that some designers are influenced by environmental concerns when they design new products.



### DICK KELTY – Rucksack designer

Rucksacks (or backpacks) are bags carried on a person's back with straps which go over the shoulders. Historically, rucksacks used to be used by hunters to carry equipment and animals they had killed. The bags were made of animal skins sewn together using animal intestines! Nowadays they are used for many different purposes such as carrying things when hiking or on school trips.

In the 1950s, people used backpacks which were very uncomfortable as they dug into the user's back. In 1951, an American called Dick Kelty decided he wanted to design a backpack that was more comfortable to wear when he went hiking. Kelty tested different designs and changed the materials so they were lighter to carry. He used nylon to make the pack and aluminium instead of wood to make the frame. He added padded shoulder straps, waist straps and pockets with zips. Soon friends wanted to buy these rucksacks so Kelty and his wife started their own business.

By the 1970s, as outdoor activities became more popular, Dick Kelty's backpacks became better known. Today, the Kelty company still sells backpacks in a wide range of styles and colours.

[www.kelty.com](http://www.kelty.com)

HISTORICAL RESEARCH

### WE ARE WHAT WE DO – Not-for-profit company

Five hundred billion plastic bags are used in the world every year. People often only use them once or twice then throw them away. This is a big problem because the bags litter the streets, block drains and can even kill marine animals if they get into the sea. They also take a very, very long time to decompose.

In 2007, a not-for profit company called We Are What We Do started working with the UK's leading accessories designer Anya Hindmarch, who designed a strong, simple beautiful bag made of unbleached cotton with an important logo: 'I'm not a plastic bag'. They hoped to encourage people to start using re-usable bags instead of plastic carriers to reduce the amount of plastic waste.

The bags were sold in Sainsbury's in the UK and Whole Foods in the US. Celebrities such as Kylie Minogue, Sienna Miller and Lily Allen were all seen using the bags, which helped to promote the brand. Some people queued for five hours to get one of the bags! In the two years following the campaign, Sainsbury's cut the number of plastic bags used by 58%. Since then there have been many other campaigns to reduce people's use of plastic bags and encourage them to shop with bags they can use again and again. Some countries now charge shoppers to buy a plastic bag to try to reduce the number of bags used and there are government plans to make large shops charge 5p for plastic bags in England from October 2015.

[wearewhatwedo.org/portfolio/im-not-a-plastic-bag/](http://wearewhatwedo.org/portfolio/im-not-a-plastic-bag/)



CONTEMPORARY RESEARCH