## 1. Year Groups <br> Years

2. Aspect of D\&T

## Textiles

Focus
2-D shape to 3-D product
3. Key learning in design and technology

## Prior learning

Have joined fabric in simple ways by gluing and stitching.

- Have used simple patterns and templates for marking out.
Have evaluated a range of textile products.


## Designing

-Generate realistic ideas through discussion and design criteria for an appealing, functional produc design criteria for an appealing, funct.
fit for purpose and specific user/s.

- Produce annotated sketches, prototypes, final product sketches and pattern pieces.


## Making

Plan the main stages of making.

- Select and use a range of appropriate tools with some accuracy e.g. cutting, joining and finishing Select fabrics and fastenings according to their
functional characteristics e.g. strength, and aesthetic qualities e.g. pattern.


## Evaluating

- Investigate a range of 3-D textile products relevan to the project.
- Test their product against the original design criteria and with the intended user.
Take into account others' views.
Understand how a key eventindividual has influenced the development of the chosen product and/or fabric.


## Technical knowledge and understanding

 Know how to strengthen, stiffen and reinforce existing fabrics.Understand how to securely join two pieces of fabric together.
Understand the need for patterns and seam allowances.
Know and use technical vocabulary relevant to the project.

## 4. What could children design,

 make and evaluate?purse/wallet soft toy/mascot apron fashion accessory beach bag shoe bag pencil case story sack other - specify
7. Links to topics and themes Celebrations Festivals Make Do and Mend Holidays Sustainability Containers other - specify

## 5. Intended users

 themselves friends family teachers children parents other adults other - specify
## 8. Possible contexts

 school home leisure enterprise sustainability outdoor environment other - specify6. Purpose of products entertainment hobbies protection celebration pleasure carrying things other - specify

## 9. Project title

Design, make and evaluate a for (user) for__ (purpose) To be completed by the teacher. Use the project title to set the scene for children's learning prior to activities in 10,12 and 14

## 10. Investigative and Evaluative Activities (IEAs)

- Children investigate a range of textile products that have a selection of stitches, joins, fabrics, finishing techniques, fastenings and purposes, linked to the product they will design, make and evaluate. Think about products from the past and what changes have been made in textile production and products e.g. the invention of zips and Velcro.
- Give children the opportunity to disassemble appropriate textiles products to gain an understanding of 3-D shape, patterns and seam allowances.
- Use questioning to develop understanding e.g. What is its purpose? Which one is most suited to its purpose? What properties/characteristics does the fabric have? Why has this fabric been chosen? How Does its decoration have a purpose? What would the 2-D pattern piece look like? What are its measurements? How might you change the product?


## 12. Focused Tasks (FTs)

Demonstrate a range of stitching techniques and allow children to practise sewing two small pieces of fabric together, demonstrating the use of, and need for, seam allowances.

- Allow children to use a textile product they have taken apart to create a paper pattern using 2-D shapes.
- Provide a range of fabrics - children to consider whether fabrics are suitable for the chosen purpose and user. The fabrics also can be used for demonstrating and testing out a range of decorative finishing techniques e.g. appliqué, embroidery, fabric pens/paints, printing.
Use questioning to develop understanding e.g. Which joining technique makes the strongest seam? Why? Which stitch is appropriate for the purpose? Which joining techniques are suitable for the fabric most suited to the purpose and user? What decorative techniques have been used? What effect do they have?


## 14. Design, Make and Evaluate Assignment (DMEA)

- Children to create a design brief, supported by the teacher, set within a context which is authentic and meaningful. Discuss the intended user, purpose and appeal of their product. Create a set of design criteria.
- Ask children to sketch and annotate a range of possible ideas, constantly encouraging creative
thinking. Produce mock-ups and prototypes of their chosen product thinking. Produce mock-ups and prototypes of their chosen product.
- Plan the main stages of making e.g. using a flowchart or storyboard.
- Children to assemble their product using their existing knowledge, skills and understanding from IEAs and FTs. Encourage children to think about the aesthetics and quality finish of their product.
- Evaluate as the process is undertaken and the final product in relation to the design brief and criteria. The product should be tested by the intended user and for its purpose and others' views sought to help with identifying possible improvements.

11. Related learning in other subjects

- Science - physical properties of fabrics. - Spoken language - asking and answering questions to develop understanding. Through
discussion, participate actively initiating and responding to comments.
- Mathematics - nets of shapes and accurate measurements $\mathrm{mm} / \mathrm{cm}$.
History - investigating textiles and textile products from age being studied.


## 13. Related learning in other subjects

- Computing - opportunity to create pattern
pieces using a computer program.
- Mathematics - nets of shapes and accurate
measurement $\mathrm{mm} / \mathrm{cm}$.
- Science - identify and compare the suitability of a variety of fabrics for particular uses.
- Art and design - investigating visual and tactile qualities of fabrics and using colour and pattern appropriately
Spoken language - develop technical vocab finishing well-structured descriptions of e.g. finishing techniques.


## 15. Related learning in other subjects

Art and design - using a range of tools and decorative techniques. Develop sketching techniques.

- Computing - using software to produce pattern pieces and possible use for decorative techniques.
Mathematics - accurate measurements $\mathrm{mm} / \mathrm{cm}$.
Spoken language - consideration and evaluation of others' viewpoint.
Writing - written evaluation of their product, organising it und
subheadings.


## 16. Possible

 resources collection of textile products linked to the chosen product to be madeselection of fabrics and fastenings
left/right handed scissors, needles, thread, tape, fabric glue, pins measuring tape
items to use for finishing e.g. fabric paints, threads, appliqué pieces, paints for printing, thin paint brushes
17. Key vocabulary fabric, names of fabrics, fastening, compartment, zip, button, structure, finishing technique, strength, weakness, stiffening, templates, stitch, seam, seam allowance
user, purpose design, model, evaluate, prototype, annotated sketch, functional, innovative, investigate, label, drawing, aesthetics, function, pattern pieces

## 18. Key competencies

problem-solving teamwork negotiation
consumer awareness organisation motivation persuasion leadership perseverance
other - specify

## 19. Health and safety

Pupils should be taught to work safely, using tools, equipment, materials, components and techniques appropriate to the task. Risk assessments should be carried out prior to undertaking this project.


## Years 3/4 <br> Textiles <br> 2-D shape to 3-D product

## Instant CPD



## Tips for teachers

Have simple patterns available for children who may find it difficult to create their own.
Demonstrate stitching techniques and have help sheets showing stitch instructions for the children to practise independently.
Complete sewing practice in small groups. Use adult helpers to provide additional support. Possibly set up a rotation of activities.
Demonstrate finishing techniques; let the children practise on small pieces of fabric.
Have a limited range of fasteners.
Use recycled fabrics e.g. old clothing, ensuring they are easy to work with.
$\checkmark$ Use dipryl or J-cloth type fabric for prototypes.
Have a range of products and pictures for children to investigate. Try to use at least one product that can be disassembled so children can see all the parts.
Games could be made with technical vocabulary cards e.g. pairs.

## Useful resources at www.data.org.uk

- Aprons
- Fancy a bac?
- Designing with textiles
- Bendy bags (Years 1/2)
- A to Z of D\&I
- Working with Materials


## Teaching aids joining techniques



Place pattern pieces carefully to avoid wastage.

To move children's learning on, as enhancement activities, children could research into different types of fabrics and how they are constructed. They could carry out tests to check e.g. strength, waterproofness or flexibility to ensure their chosen fabric can be used to create o product that meets the needs of user and is fit for purpose.


## Decorative Techniques



Embroidery stitches e.g. cross-stitch


Appliqué by gluing or stitching

## Possible fastenings

Buttons
Velcro


Designing, making and evaluating a
holder/purse/wallet for a friend or relative An iterative process is the relationship between a pupil's ideas and how they are communicated and clarified through activity. This is an example of how the iterative design and make process might be experienced by an individual pupil during this project:

THOUGHT
Who is it for? What will it hold? e.g. phone, money, plastic
cards, pencils.

What shape will the holder be? How will it fasten?

What fabric should I usea
Which joining techniques would be the best for the fabric and pattern?

How can I make my holder aesthetically pleasing for the
user? How long will it take to make? What tools will I need? What
order should I do it in? Reflection and refining What isn't working very well? What could I improve on? Wullill tis function? Is it suitable for the user?

## ACTION

Discuss ideas; create a list of likes and dislikes of the user Generate design criteria Investigate a range of templates/patterns and choose the most appropriate one for purpose Create initial design ideas Discuss and explore different fabrics suitable for purpose Possibly test fabrics for strength/waterproofness Discuss and test out different joining techniques on mock ups Evaluate these against the design criteria
Test out a range of decorative fechniques and decide on the one/s which are appropriate Create the holder following the design

Make suitable adjustment during the making process Develop the plan during the making
Test out the product Make an evaluation with the user against the initial design criteria and design ideas

## Glossary

- Appliqué - means 'applied' - describes method of stitching/gluing patches onto fabric (originally to mend holes in worn clothes) to provide decoration.
- Pattern/Template - a shape drawn to exact shape and size and used to assist cutting out.
- Seam - a line of stitching that joins pieces of fabrics together.
- Seam Allowance - extra fabric allowed for joining together usually 1.5 cm .
- Prototype - a model that is made to test whether a design will work.
- Aesthetics - the way in which the product looks with the nature and expression of beauty.

