

## Design and Technology – Year 5

### Content- Textiles- Combining different fabrics

#### Big Question: Can an eco-friendly product be authentic?

NC objectives - areas of study	End point of area of study	Vocabulary		
		Basic	Adventurous	Technical
<p>Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts.</p> <p>When designing and making, pupils should be taught to:</p> <ul style="list-style-type: none"> <li>-Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups.</li> <li>-Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design.</li> <li>-Select from and use a wider range of tools and equipment to perform practical tasks accurately.</li> <li>-Select from and use a wider range of materials and components. Including construction materials and textiles. Investigate and analyse a range of existing products.</li> <li>-Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.</li> </ul>	<p><b>Textiles</b></p> <p>Children will have made a 3-D textile product using a combination of accurately made pattern pieces, fabric shapes and different fabrics.</p> <p>Children will know and understand how fabrics can be strengthened, stiffened and reinforced where appropriate.</p> <p>Children can use additional finishing techniques- fasteners and stitches- zips, toggles, ties, press studs, Velcro, buttons (Retrieval year 3). Children will explore and use stem stitch and lazy daisy stitch. Other stitches will include retrieval of running, backstitch and blanket stitch.</p> <p>Children can identify and have explored tie-dye, applique and embroidery on products.</p> <p>Children will explore and use applique and embroidery on their products.</p> <p>Children can use the correct technical vocabulary when describing and creating their product. (See Tier 3 Vocabulary)</p> <p><b>Significance</b></p> <p>A range of designers - Eco friendly and reusing materials. Explore the impact with the children of how reusing materials is better for the environment and reduces waste.</p> <p>Explore some of their creations when it comes to recycling materials to make clothing or furniture. How can you reuse materials to design a product?</p>	<p>Seam, template, pattern piece, name of textiles, fastenings, pins, needles, thread.</p>	<p>Functionality, innovation, authentic, trend,</p>	<p>stem stitch, lazy daisy stitch, embroidery,</p>

-Understand how key events and individuals in design and technology have helped shape the world.

## Knowledge

### Substantive Knowledge

Textiles- concepts- Authenticity and Significance

#### Lesson 1:

LO: To know a designer and their impact on fabrics and products.

(Significance concept)

Vocabulary: functionality, authentic, trend

Children to explore existing products by the designer.... and how they have used recyclable materials to create new products. Discuss the impact on the environment and how many clothes are wasted each year due to the cost of making processes, trends changing, poor quality (fast fashion). Explain to the children that we are going to design and make a new bag using recycled materials and fabrics that make the product authentic. Users and design criteria to be shared with the children and children to be set a homework task to explore materials/fabric at home that they would like to use in their product and the types of bags family members/friends may want. Children to explore properties that may need to be included in their designs such as user wants a football shoe carrier, this will need to be wiped clean etc.

Appreciate the effect eco-friendly products have on the environment.

### Disciplinary Knowledge

**Each lesson: Tell chn-** Explain to the children that today they are going to be designers that will create a product that is authentic but also include eco-friendly elements to support the environment. Children will need to research fashion designers who have had an impact on society but also think about creating a product that is meaningful to themselves or their users. Children will use research to find out about the users preference and needs in a variety of ways to support their design but also look at themes, patterns, needs, wants and fabrics that are currently on trend or needed to create a successful and purposeful product.

Throughout the unit, children will draw upon other subject disciplines such as Mathematics, Art and Computing. E.g. Apply knowledge of how 2-D nets can be formed into 3-D shapes; apply skills of accurate measuring using standard units i.e. cm/mm. Investigate methods of adding colour, pattern and texture on to textiles and how to make their own textiles through weaving or felt making. In computing, children express themselves and develop ideas using a range of information and communication technology resources.

Children to follow the four aspects of Design and Technology- research, design, make and evaluate whilst building upon technical knowledge to make their finished product.

**Lesson 2: LO: To understand the properties of fabrics and understand a 3D textile product can be made from a combination of accurately made pattern pieces, fabric shapes and different fabrics.**

**Vocabulary: authentic, pattern piece, fastenings.**

Children to investigate, evaluate and analyse a range of existing products which have been produced combining fabric shapes. They will know how products have been constructed and disassemble some products to find out the number of fabric shapes have been used and what they look like.

Throughout lesson, children will understand and draw upon previous knowledge of joining and know how existing products have been joined and the decorative elements.

**Key questions-**

*Is the product functional or decorative?*

*Who would use this product?*

*What is its purpose? What design decisions have been made?*

*Do the textiles used match the intended purpose? What components have been used to enhance the appearance? To what extent is the design innovative?*

**Lesson 3:**

**LO: To know how to strengthen, stiffen and reinforce fabrics where appropriate. (Retrieval from year 3- the importance of strengthening, stiffening and reinforcing materials)**

**To know embroidery stitches such as lazy daisy stitch and stem stitch.**

**Vocabulary: embroidery, stem stitch, daisy stitch**

Children to develop skills of threading needles and joining textiles using a range of stitches. This activity must build upon children's earlier experiences of stitches e.g. improving appearance and consistency of stitches and introducing new stitches. If available, demonstrate and allow children to use sewing machines to join fabric with close adult supervision.

They will be given opportunities to skills of sewing textiles by joining right side together and making seams. Children should investigate how to sew and shape curved edges by snipping seams, how to tack or attach wadding or stiffening and learn how to start and finish off a row of stitches.

Accuracy of using 2-D paper pattern making using grid or tracing paper to create a 3-D dipryl mock-up of a chosen product. Remind/teach how to pin a pattern on to fabric ensuring limited wastage, how to leave a seam allowance and different cutting techniques.

Children to be given the opportunity to practice strengthening, stiffen and reinforcing fabrics using stitching, wadding or interfacing. They can then be taught by the class teacher how to use the following stitches- lazy daisy stitch and stem stitch. Ensure children understand the differences between embroidery stitches and joining stitches that they have learnt before (Retrieval- running stitch year 2, blanket stitch and backward stitch (year 3))



#### Lesson 4:

**LO: To understand the importance of authenticity when designing a textile product.**

**Vocabulary: authentic, innovation**

Children to be given the design criteria in order to create an authentic bag using recycled material. Children to be given opportunities to research and create designs by using questionnaires. Questionnaires could be set as a homework project that children could ask a family member to aid the design process. Encourage children to draw annotated sketches using technical vocabulary but to also drawings should indicate design decisions made, the methods of strengthening, the type of fabrics to be used and the types of stitching that will be incorporated.

#### Lesson 5:

**LO: To know how to make a textile product using recycled materials.**

**Vocabulary: template, seam, pins, needles, thread**

Children to make high quality products applying knowledge, understanding and skills from previous lessons. Children use a range of decorating techniques taught previously to ensure a well-finished final product that matches the intended user and purpose.

Some fasteners will have been used in years 3 and 2.

Reflect on how this can help the world.

**Lesson 6:**

**LO: To know how to evaluate a finished product through the use of testing, feedback from the intended user and discuss quality of design and the manufacturing process.**

**Vocabulary: recap all**

Evaluate both as the children proceed with their work and the final product in use, comparing the final product to the original design specification. Critically evaluate the quality of the design, the manufacture, functionality, innovation shown and fitness for intended user and purpose, considering others' opinions. Communicate the evaluation in various forms e.g. writing for a particular purpose, giving a well-structured oral evaluation, speaking clearly and fluently.

#### Teaching aids – fasteners

Children may want to use a fastener which should be appropriate for the purpose for the product.



## Concepts

### Functionality

### Authenticity

Carry out projects that are real and meaningful to them and others.

Work within a range of relevant contexts, ranging from domestic to industrial.

Work towards realistic and credible outcomes that can be evaluated in use.

Engage in activity that mirrors design and technology in the wider world.

Create products with a genuine purpose and for a real user.

Create products which need to work in some way in order to be successful.

### Innovation

### Significance

## ASSESSMENT

### KNOW MORE, REMEMBER MORE, DO MORE...

In this unit of learning, progress has been made when a learner knows more. This 'distance travelled' from the starting point is evidenced through them remembering more and doing more: in books, low stakes quizzes, retrieval, use of mind maps, answering the big question and being able to feel more confident about this unit.