

**Product Outcomes:**

Design, make and evaluate a snack for a picnic eg cheese straws

**National Curriculum Links:**

To develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world, build and apply a repertoire of knowledge, understanding and skills in order, to design and make high-quality prototypes and products for a wide range, of users, critique, evaluate and test their ideas and products and the work of others, understand and apply the principles of nutrition and learn how to cook.

**Prior Learning:**

Experience of common fruit and vegetables, undertaking sensory activities i.e. appearance taste and smell. Experience of cutting soft fruit and vegetables using appropriate utensils.

**Key Essential Skills and Knowledge for this Unit:**

Designing:

- Generate and clarify ideas through discussion with peers and adults to develop design criteria including appearance, taste, texture and aroma for an appealing product for a particular user and purpose.
- Use annotated sketches and appropriate information and communication technology, such as web-based recipes, to develop and communicate ideas.

Making:

- Plan the main stages of a recipe, listing ingredients, utensils and equipment.
- Select and use appropriate utensils and equipment to prepare and combine ingredients.
- Select from a range of ingredients to make appropriate food products, thinking about sensory characteristics.

Evaluating:

- Carry out sensory evaluations of a variety of ingredients and products. Record the evaluations using e.g. tables and simple graphs.
- Evaluate the ongoing work and the final product with reference to the design criteria and the views of others.

Technical knowledge and understanding:

- Know how to use appropriate equipment and utensils to prepare and combine food.
- Know about a range of fresh and processed ingredients appropriate for their product, and whether they are grown, reared or caught.
- Know and use relevant technical and sensory vocabulary appropriately.

**Sticky Knowledge for topic:**

- 'Design criteria' tells you what the purpose and function of a product is.
- Designs should be based on the design criteria.
- A healthy diet has lots of carbohydrate and fruit & veg, some protein, dairy and a smaller amount of fat and sugar.
- Aim to eat at least 5 portions of fruit & vegetables a day.
- Aim to drink 6-8 glasses of water a day.
- Wash your hands before handling food.
- Food can be farmed, caught or grown.
- Wash hands before handling food and ensure the workspace is hygienic.
- Chop – Cut something into pieces. Grip the food with your fingers and cut down through the food. Keep your fingers away from the blade.
- Core – to take out the middle that contains the seeds. Cut the fruit into sections first or use a coring tool.
- Grate - to rub something against a grating machine to make it into small pieces. Push the food away from you along the grating blade.
- The senses should be used to evaluate food.

**Vocabulary:**

Name of products, names of equipment, utensils, techniques, ingredients, texture, taste, sweet, sour, hot, spicy, appearance, chop, core, grate.

**Sequence:**

Investigate and evaluate:

- What is a balanced diet? How essential is it?
- How appealing are existing products?

Design:

- What ingredients could my design contain? How will I make sure it looks appealing as well as tastes and smells good?
- Can a design criterion be generated?
- Can I design a healthy bread-based snack?

Make:

- Can I follow my design and make my product?

Evaluate:

- Has the snack met the needs of the user and achieved its purpose?

**Thinking Deeper:** What might a designer aim to create next? Consider what people like most.

**Possible books/resources:**

- A fruit is a suitcase for seeds - Jean Richards
- Ella's Kitchen
- The Big Baking Book

**Links:**

**Subject Specific links** – Science – food and nutrition

**Personal development** – Know maintaining a healthy balanced diet contributes to wellbeing.

**SMSC** – social – Show that they have worked safely and hygienically in their preparation and finishing to ensure a quality product.

**Cultural Capital** – The food we eat reflects the diversity of the population. Multicultural influences have changed the supply and demand of foodstuffs home grown and imported into the UK.

**Careers** – Understand food production involves chefs, dietitians, quality control.

**British Values** – Respecting others healthy choices

**Equality** – Everyone should pursue healthy diets.

**Independence** – Use of skills at home

**Community** – What food options are there in West Heslerton? Link to farming.

**Outdoor learning** – Forest schools – outdoor cooking on the campfire.

**Product Outcomes:**

Design, make and evaluate a snack for a picnic eg cheese straws

**National Curriculum Links:**

To understand and apply the principles of nutrition and learn how to cook.

**Prior Learning:**

Know some ways to prepare ingredients safely and hygienically. Have some basic knowledge and understanding about healthy eating and 'The Eatwell' plate. Have used some equipment and utensils and prepared and combined ingredients to make a product.

**Key Essential Skills and Knowledge for this Unit:**

Designing:

- Generate and clarify ideas through discussion with peers and adults to develop design criteria including appearance, taste, texture and aroma for an appealing product for a particular user and purpose.
- Use annotated sketches and appropriate information and communication technology, such as web-based recipes, to develop and communicate ideas.

Making:

- Plan the main stages of a recipe, listing ingredients, utensils and equipment.
- Select and use appropriate utensils and equipment to prepare and combine ingredients.
- Select from a range of ingredients to make appropriate food products, thinking about sensory characteristics.

Evaluating:

- Carry out sensory evaluations of a variety of ingredients and products. Record the evaluations using e.g. tables and simple graphs.
- Evaluate the ongoing work and the final product with reference to the design criteria and the views of others.

Technical knowledge and understanding:

- Know how to use appropriate equipment and utensils to prepare and combine food.
- Know about a range of fresh and processed ingredients appropriate for their product, and whether they are grown, reared or caught.
- Know and use relevant technical and sensory vocabulary appropriately.

**Sticky Knowledge for topic:**

- Designers have to know what the purpose for their design is and know who the end user will be.
- Appearance is how the food looks to the eye.
- Texture is how the product feels in the mouth.
- Sensory evaluation is evaluating food products in terms of the taste, smell, texture, and appearance.
- Preference test is trying different foods and deciding which you like best.
- Processed food – ingredients that have been changed in some way to enable them to be eaten or used in food preparation and cooking.
- Design criteria must contain foods from at least 3 of the foods groups referring to the Eat well plate. Challenge the children to design a sandwich which had foods from four groups.
- State the importance of hygienic food preparation and storage.
- Describe why and how tools can be used safely and effectively.
- Explain why combinations of ingredients, preparation and cooking can affect the product.

**Vocabulary: does it match first page and progression plan and assessments?)**

Y3 - Texture, taste, appearance, preference, greasy, moist, fresh, savoury.

Y4 - hygienic, edible, grown, reared, caught, frozen, tinned, processed, seasonal, harvested

**Sequence:**

Investigate and evaluate:

- What is a balanced diet? How essential is it?
- How appealing are existing products?

Design:

- What ingredients could my design contain? How will I make sure it looks appealing as well as tastes and smells good?
- Can a design criterion be generated?
- Can I design a healthy bread-based snack?

Make:

- Can I follow my design and make my product?

Evaluate:

- Has the snack met the needs of the user and achieved its purpose?
- 

**Thinking Deeper:**

How might a designer aim to create next? Consider what people like most.

**Possible books/resources:**

- Ella's Kitchen
- The Big Baking Book

**Links:**

**Subject Specific links** – Science – food and nutrition

**Personal development** – Know maintaining a healthy balanced diet contributes to wellbeing.

**SMSC** – social – Show that they have worked safely and hygienically in their preparation and finishing to ensure a quality product.

**Cultural Capital** – The food we eat reflects the diversity of the population. Multicultural influences have changed the supply and demand of foodstuffs home grown and imported into the UK.

**Careers** – Understand food production involves chefs, dietitians, quality control.

**British Values** – Respecting others healthy choices

**Equality** – Everyone should pursue healthy diets.

**Independence** – Use of skills at home

**Community** – What food options are there in West Heselton? Link to farming.

**Outdoor learning** – Forest schools – outdoor cooking on the campfire.

**Product Outcomes:**

Design, make and evaluate a greetings card with moving mechanisms for someone at home.

**National Curriculum Links:**

To develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world, build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users, critique, evaluate and test their ideas and products and the work of others.

**Prior Learning:**

Early experiences of working with paper and card to make simple flaps and hinges. Experience of simple cutting, shaping and joining skills using scissors, glue, paper fasteners and masking tape.

**Key Essential Skills and Knowledge for this Unit: (from front page)****Designing:**

- Generate realistic ideas and their own design criteria through discussion, focusing on the needs of the user.
- Use annotated sketches and prototypes to develop, model and communicate ideas.

**Making:**

- Order the main stages of making.
- Select from and use appropriate tools with some accuracy to cut, shape and join paper and card.
- Select from and use finishing techniques suitable for the product they are creating.

**Evaluating:**

- Investigate and analyse books and, where available, other products with lever and linkage mechanisms.
- Evaluate their own products and ideas against criteria and user needs, as they design and make.

**Technical knowledge and understanding:**

- Understand and use lever and linkage mechanisms.
- Know and use technical vocabulary relevant to the project.

**Sticky Knowledge for topic:**

- 'Design criteria' tells you what the purpose and function of a product is.
- Designs should be based on the design criteria.
- Designs focus on the function and appearance of a product.
- Designs consider how the purpose of the object will be met.
- Planning involves drawing and discussion.
- Designs change as you practice making skills.
- Recognise how levers are used in everyday products.
- Know a lever is a rigid bar which moves around a pivot.
- A linkage joins one or more levers to produce the type of movement required.
- The 'output movement' is where one or more parts of the picture move.
- Evaluation means to test your product to see if it is effective and meets the design criteria.

- Evaluate means to think what you would do differently next time to make your product even better.
- Evaluating includes thinking about how well you have applied the making skills.

**Vocabulary:**

Loose pivot, fixed pivot, system, input, process

**Sequence:**

Investigate and evaluate:

- How do levers work?

Design:

- How might I create levers and linkages to inform my design?
- How can my research help me?
- Which prototype will result in the best movement for my design?

Make:

- How can I ensure my finished product looks appealing?

Evaluate:

- Does my product meet my design criteria?

**Thinking Deeper:**

How might the prototype mechanism be developed and applied in another situation?

**Possible books/resources:**

- The Colour Monster;
- A Pop Up Book About Feelings - Anna Llenas

**Links:**

**Subject Specific links** – RE – the card will be a Mothers Day card it may have a secular/non-secular design.

**Personal development** – resilience – to persevere with creation of different mechanisms

**SMSC** – social – Valuing others’ ideas and efforts in the process

**Cultural Capital** – gaining an understanding into how everyday products are designed and produced.

**Careers** – market research, designers

**British Values** – Tolerance of our faiths.

**Equality** – considering marketing to an inclusive audience. We are making Easter cards, but these can be secular in nature.

**Independence** – use of own ideas to experiment with various linkages and levers.

**Community** – when would we need to use linkages or levers in our locality?

**Outdoor learning** – Forest schools – could a linkage or lever be useful outdoors?



**Product Outcomes:**

Design, make and evaluate a greetings card with moving mechanisms for someone at home.

**National Curriculum Links:**

To develop the creative, technical, and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world, build and apply a repertoire of knowledge, understanding and skills to design and make high-quality prototypes and products for a wide range of users, critique, evaluate and test their ideas and products and the work of others.

**Prior Learning:**

Explored and used mechanisms such as flaps, sliders, and levers. Gained experience of basic cutting, joining, and finishing techniques with paper and card.

**Key Essential Skills and Knowledge for this Unit:**

Designing:

- Generate realistic ideas and their own design criteria through discussion, focusing on the needs of the user.
- Use annotated sketches and prototypes to develop, model and communicate ideas.

Making:

- Order the main stages of making.
- Select from and use appropriate tools with some accuracy to cut, shape and join paper and card.
- Select from and use finishing techniques suitable for the product they are creating.

Evaluating:

- Investigate and analyse books and, where available, other products with lever and linkage mechanisms.
- Evaluate their own products and ideas against criteria and user needs, as they design and make.

Technical knowledge and understanding:

- Understand and use lever and linkage mechanisms.
- Distinguish between fixed and loose pivots.
- Know and use technical vocabulary relevant to the project.

**Sticky Knowledge for topic:**

- Designers have to know where their product will be used.
- A mechanism is a device used to create movement in a product.
- A lever is a rigid bar which moves around a pivot.
- Name at least 3 everyday products that use levers.
- A linkage joins one or more levers to produce the type of movement required.
- Systems have an input, process, and an output.
- In a lever and linkage mechanism, the 'input movement' is where the user pushes or pulls a card strip.
- The 'output movement' is where one or more parts of the picture move.

**Vocabulary:**

Y3 - output, linear, rotary, reciprocating,

Y4 - innovative, appealing, linkage, oscillating

**Sequence:**

Investigate and evaluate:

- How do levers work?

Design:

- How might I create levers and linkages to inform my design?
- How can my research help me?
- Which prototype will result in the best movement for my design?

Make:

- How can I ensure my finished product looks appealing?

Evaluate:

- Does my product meet my design criteria?

**Thinking Deeper:**

How might the prototype mechanism be developed and applied in another situation?

**Possible books/resources:**

- The Colour Monster;
- A Pop Up Book About Feelings - Anna Llenas

**Links:**

**Subject Specific links** – RE – the card will be a Mothers Day card it may have a secular/non-secular design.

**Personal development** – resilience – to persevere with creation of different mechanisms.

**SMSC** – social – Valuing others' ideas and efforts in the process

**Cultural Capital** – gaining an understanding into how everyday products are designed and produced.

**Careers** – market research, designers

**British Values** – Tolerance of our faiths.

**Equality** – considering marketing to an inclusive audience. We are making Easter cards, but these can be secular in nature.

**Independence** – use of own ideas to experiment with various linkages and levers.

**Community** – when would we need to use linkages or levers in our locality?

**Outdoor learning** – Forest schools – could a linkage or lever be useful outdoors?

**Product Outcomes:**

Design, make and evaluate a gift box using computer aided design.

**National Curriculum Links:**

To develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world, build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users, critique, evaluate and test their ideas and products and the work of others.

**Prior Learning:**

Experience of using construction kits to build walls, towers and frameworks. Experience of using of basic tools e.g. scissors or hole punches with construction materials e.g. plastic, card. Experience of different methods of joining card and paper

**Key Essential Skills and Knowledge for this Unit:**

Designing:

- Generate realistic ideas and design criteria collaboratively through discussion, focusing on the needs of the user and the functional and aesthetic purposes of the product.
- Develop ideas through the analysis of existing shell structures and use computer-aided design to model and communicate ideas.

Making:

- Plan the order of the main stages of making.
- Select and use appropriate tools and software to measure, mark out, cut, score, shape and assemble with some accuracy.
- Explain their choice of materials according to functional properties and aesthetic qualities.
- Use computer-generated finishing techniques suitable for the product they are creating.

Evaluating:

- Investigate and evaluate a range of shell structures including the materials, components and techniques that have been used.
- Test and evaluate their own products against design criteria and the intended user and purpose.

Technical knowledge and understanding:

- Develop and use knowledge of nets of cubes and cuboids and, where appropriate, more complex 3D shapes.
- Develop and use knowledge of how to construct strong, stiff shell structures.
- Know and use technical vocabulary relevant to the project.

**Sticky Knowledge for topic:**

- 'Design criteria' tells you what the purpose and function of a product is.
- Designs should be based on the design criteria.  
Designs focus on the function and appearance of a product.  
Designs consider how the purpose of the object will be met.
- Planning involves drawing and discussion.
- Designs change as you practice making skills.
- Structures can be made more stable by ensuring the base is longer and wider than the height and that the weight of decorations is easily balanced. (Great fire of London)
- Name and explain at least three joining/attachment techniques (tabs, flange, slot, L-brace)
- Create nets of simple 3D shapes, referencing how best to join edges.
- Evaluation means to test your product to see if it is effective and meets the design criteria.
- Evaluate means to think what you would do differently next time to make your product even better.
- Evaluating includes thinking about how well you have applied the making skills.

**Vocabulary:**

shell structure, three-dimensional (3-D) shape, net, cube, cuboid, prism, vertex

**Sequence:**

Investigate and evaluate:

- What is the purpose of a shell structure – protecting, containing, presenting?
- How is a shell structure strengthened?
- What is a net?
- What is CAD – computer aided design?

Design:

- What CAD has been used on packaging?
- What shape net will I need for my design?
- Which graphics will I use on my net?

Make:

- Do I need to rotate my CAD designs to fit?

Evaluate:

- Is my product sturdy?
- How would I improve the CAD next time?

**Thinking Deeper:**

Would it be possible to use CAD for other products – more complicated nets?

**Possible books/resources:**

- A Box Story' Kenneth Kit Lamug

**Links:**

**Subject Specific links** – Science – discuss the properties and suitability of materials for particular purposes. Mathematics – compare and sort common 2-D and 3-D shapes in everyday objects. Recognise 3-D shapes in different orientations and describe them. Spoken language – ask relevant questions to extend knowledge and understanding. Build their technical vocabulary.

**Personal development** – resilience.

**SMSC** – social – working with others, offering and receiving feedback on designs and products.

**Cultural Capital** – gaining an understanding into how everyday products are designed and produced.

**Careers** – designers

**British Values** – tolerance for different cultures

**Equality** – considering equality of access.

**Independence** – can I create other structures?

**Community** – evidence structural reinforcement in our locality.

**Outdoor learning** – village walks.

**Year 3 & 4 – D&T – Structures – Shell Structures using computer aided design** Year A - Summer Term

**Product Outcomes:**

Design, make and evaluate a gift box using computer aided design.

**National Curriculum Links:**

To develop the creative, technical and practical expertise needed to perform, everyday tasks confidently and to participate successfully in an increasingly technological world, build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users, critique, evaluate and test their ideas and products and the work of other.

**Prior Learning:**

Experience of using different joining, cutting and finishing techniques with paper and card. A basic understanding of 2-D and 3-D shapes in mathematics and the physical properties and everyday uses of materials in science.

**Key Essential Skills and Knowledge for this Unit:**

Designing:

- Generate realistic ideas and design criteria collaboratively through discussion, focusing on the needs of the user and the functional and aesthetic purposes of the product.
- Develop ideas through the analysis of existing shell structures and use computer-aided design to model and communicate ideas.

Making:

- Plan the order of the main stages of making.
- Select and use appropriate tools and software to measure, mark out, cut, score, shape and assemble with some accuracy.
- Explain their choice of materials according to functional properties and aesthetic qualities.
- Use computer-generated finishing techniques suitable for the product they are creating.

Evaluating:

- Investigate and evaluate a range of shell structures including the materials, components and techniques that have been used.
- Test and evaluate their own products against design criteria and the intended user and purpose.

Technical knowledge and understanding:

- Develop and use knowledge of nets of cubes and cuboids and, where appropriate, more complex 3D shapes.
- Develop and use knowledge of how to construct strong, stiff shell structures.
- Know and use technical vocabulary relevant to the project.

**Sticky Knowledge for topic:**

- Designs need to know the manufacturing process for their product.
- Create nets of simple 3D shapes, referencing how best to join edges.
- Make informed choices of materials to give strength and durability in a design.
- Use simple CAD process to create designs, using 2D shape tools

**Vocabulary:**

Y3 - edge, face, length, width, breadth, capacity, marking out, scoring, shaping, tabs, adhesives, joining, assemble.

Y4 - joining, assemble, accuracy, material, strong, reduce, reuse, recycle, corrugating, ribbing, laminating

**Sequence:**

Investigate and evaluate:

- What is the purpose of a shell structure – protecting, containing, presenting?
- How is a shell structure strengthened?
- What is a net?
- What is CAD – computer aided design?

Design:

- What CAD has been used on packaging?
- What shape net will I need for my design?
- Which graphics will I use on my net?

Make:

- Do I need to rotate my CAD designs to fit?

Evaluate:

- Is my product sturdy?
- How would I improve the CAD next time?

**Thinking Deeper:**

Would it be possible to use CAD for other products – more complicated nets?

**Possible books/resources:**

- A Box Story' Kenneth Kit Lamug

**Links:**

**Subject Specific links** – Science – discuss the properties and suitability of materials for particular purposes. Mathematics – compare and sort common 2-D and 3-D shapes in everyday objects. Recognise 3-D shapes in different orientations and describe them. Spoken language – ask relevant questions to extend knowledge and understanding. Build their technical vocabulary.

**Personal development** – resilience.

**SMSC** – social – working with others, offering and receiving feedback on designs and products.

**Cultural Capital** – gaining an understanding into how everyday products are designed and produced.

**Careers** – designers

**British Values** – tolerance for different cultures

**Equality** – considering equality of access.

**Independence** – can I create other structures?

**Community** – evidence structural reinforcement in our locality.

**Outdoor learning** – village walks.

**Product Outcomes:**

Design, make and evaluate a bookmark using various stitches and patterns.

**National Curriculum Links:**

To develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world, build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users, critique, evaluate and test their ideas and products and the work of others.

**Prior Learning:**

Experience of paper weaving

**Key Essential Skills and Knowledge for this Unit:**

Designing:

- Generate realistic ideas through discussion and design criteria for an appealing, functional product 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 relevant 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 event/individual 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.



**Sticky Knowledge for topic:**

- 'Design criteria' tells you what the purpose and function of a product is.
- Designs should be based on the design criteria.  
Designs focus on the function and appearance of a product.  
Designs consider how the purpose of the object will be met.
- Planning involves drawing and discussion.  
Designs change as you practice making skills.
- Understand designers use a design-make- evaluate process for creating products.
- Plan a design and follow the design to create a product.
- Know what a running stitch is and use a needle to develop the 'under, over' stitch.
- Know how to thread a needle.
- Stitches that are taut (the thread is pulled tight), even (the same size) and closer together make fabric products more stable.
- Evaluation means to test your product to see if it is effective and meets the design criteria.
- Evaluate means to think what you would do differently next time to make your product even better.
- Evaluating includes thinking about how well you have applied the making skills.

**Vocabulary:**

Template, quality, suitable, features, dye, overstitch, design, fray, mock-up, seam.

**Sequence:**

Investigate and evaluate:

- What do fabric bookmarks look like?

Design:

- How do designers know what will appeal to their audience?

Make:

- How can I use blanket stitch to join the front and back of my bookmark?
- How can the decorative and fastening features be applied or added?

Evaluate:

- Does my product meet my design criteria?

**Thinking Deeper:**

Can I attach an applique design to my bookmark?

**Possible books/resources:**

- My first sewing book

**Links:**

**Subject Specific links** – Science – discuss the properties and suitability of materials for particular purposes. Mathematics – compare and sort common 2-D and 3-D shapes in everyday objects. Recognise 3-D shapes in different orientations and describe them. • Spoken language – ask relevant questions to extend knowledge and understanding. Build their technical vocabulary.

**Personal development** – resilience when ideas do not work straight away.

**SMSC** – Opportunity for stimulating a sense of enjoyment and fascination in learning about others (what their recipient values and admires and to use their imagination and creativity in their design formulation.

**Cultural Capital** – gaining an understanding into how everyday products are designed and produced.

**Careers** – market research, designers

**British Values** – Respecting difference in terms of what is included on the decorative design.

**Equality** – considering marketing to an inclusive audience.

**Independence** – can use stitches on other items.

**Community** – admire the tapestry in church made locally.

**Outdoor learning** – Forest schools, village walks.

**Product Outcomes:**

Design, make and evaluate a bookmark using various stitches and patterns.

**National Curriculum Links:**

To develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world, build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users, critique, evaluate and test their ideas and products and the work of others.

**Prior Learning:**

Paper weaving, puppets – involving sewing using pre-punched holes, explored different fabrics.

**Key Essential Skills and Knowledge for this Unit:**

Designing:

- Generate realistic ideas through discussion and design criteria for an appealing, functional product 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 relevant 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 event/individual 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.

**Sticky Knowledge for topic:**

- Thread needles and use simple stitches e.g. running stitch, back stitch, cross stitch.
- Use a pattern to cut fabric of appropriate size allowing for seams.
- Know the purpose of a stitch (as a fastening, decorative.)
- Can name types of fabric e.g. cotton, linen, felt, polyester, silk, wool.

**Vocabulary:**

Y3 - Fastening, compartment, zip, finishing technique, function, prototype, back stitch, felted, woven, knitted, bonded.

Y4 - Aesthetics, seam allowance, pinning, embroidery, back stitch, blanket stitch, cross stitch

**Sequence:**

Investigate and evaluate:

- What do fabric bookmarks look like?

Design:

- How do designers know what will appeal to their audience?

Make:

- How can I use blanket stitch to join the front and back of my bookmark?
- How can the decorative and fastening features be applied or added?

Evaluate:

- Does my product meet my design criteria?

**Thinking Deeper:**

Can I attach an applique design to my bookmark?

**Possible books/resources:**

- My first sewing book

**Links:**

**Subject Specific links** – Science – discuss the properties and suitability of materials for particular purposes. Mathematics – compare and sort common 2-D and 3-D shapes in everyday objects. Recognise 3-D shapes in different orientations and describe them. • Spoken language – ask relevant questions to extend knowledge and understanding. Build their technical vocabulary.

**Personal development** – resilience when ideas do not work straight away.

**SMSC** – Opportunity for stimulating a sense of enjoyment and fascination in learning about others (what their recipient values and admires and to use their imagination and creativity in their design formulation.

**Cultural Capital** – gaining an understanding into how everyday products are designed and produced.

**Careers** – market research, designers

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**Independence** – can use stitches on other items.

**Community** – admire the tapestry in church made locally.

**Outdoor learning** – Forest schools, village walks.