



Bishop Bridgeman C.E. Primary School

Part of Archbishop Temple Multi Academy Trust

We Work, We Play, We Care, We Pray

“Love God, Love Yourself, Love Your Neighbour” Luke 10:27

An essential guide to teaching Design and Technology

Each sequence of DT lessons should follow this outline:

1. Research and Context
 - Existing products (photographs as a last resort)
 - Learn skills needed during product.
 - Context based in previous unit.
 - Context of product.
2. Design - Design criteria, diagrams, labels
3. Make - Assemble using knowledge and skills learnt.
4. Evaluate
 - Opportunities to test product against success criteria.
 - Strengths/limitations of product
 - Adaptations






Higher order thinking questions in DT

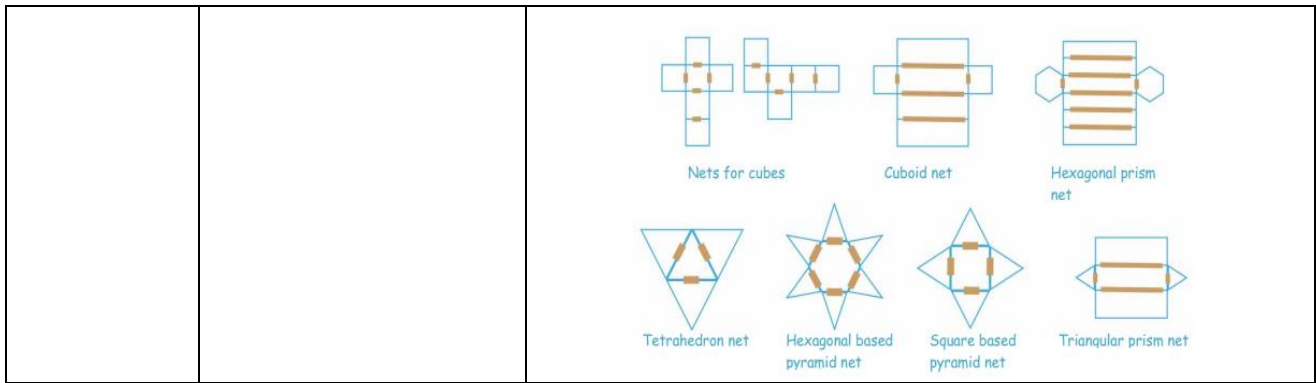
- What changes would you make?
- Can you think of an alternative to?
- How could you modify your design?
- Can you predict the outcome if?
- What would happen if?
- How could you test your product?
- What would you recommend?
- What judgements would you make about?

Curriculum areas

- Textiles
- Structures
- Cooking and nutrition
- Mechanisms
- Computing and Electrical systems.

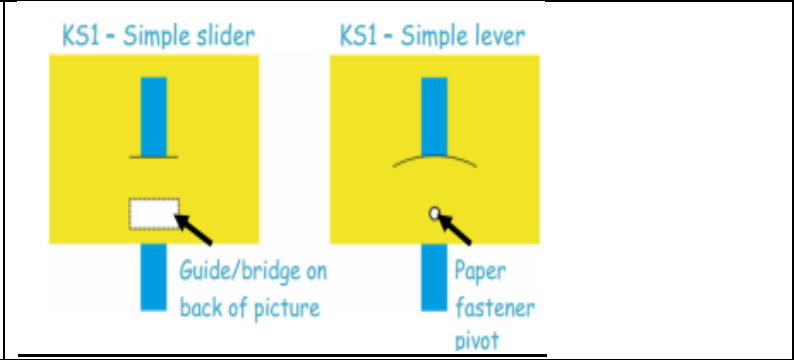
Examples of skills

<p>Year 1 - Textiles</p>	<ul style="list-style-type: none"> • Stapling • Gluing • Safety Pins • Pinning • Sewing 	 <p>Instant CPD</p>  <p>Tips for teachers</p> <ul style="list-style-type: none"> ✓ It is helpful if each child has a named plastic envelope, zip wallet or folder in which to keep their work safe. ✓ Give children the opportunity to join fabrics in a variety of ways through focused tasks and compare the outcomes. ✓ In order for children to thread their own needle start by using a needle with a large eye and a sharp point. ✓ Children's stitching skills may be in their infancy and fabrics need to be chosen with this in mind. Start with felt as it doesn't fray and progress to other fabrics. ✓ Fabrics used for children's products could be reclaimed. ✓ Children should be taught to place their templates and pattern pieces economically on the fabric. ✓ Children could be reminded of sustainability issues, and of the need to reduce, reuse and recycle. ✓ Demonstrate sewing techniques, joining two pieces of fabric e.g. running stitch. ✓ Demonstrate other ways of joining, not sewing, to the class e.g. sticking, stapling, lacing. ✓ Encourage the children to make a mock-up from dipyrl (disposable cloth fabric). ✓ Put technical vocabulary onto flash cards.
<p>Year 1 – Cooking and Nutrition</p>	<ul style="list-style-type: none"> • Peeling • Cutting • Slicing • Grating • Squeezing 	 <p>Peeling Cutting Slicing</p> <p>Grating Squeezing</p>
<p>Year 2 – Structures</p>	<ul style="list-style-type: none"> • Joining using tab technique • Nets • Assembling techniques • Joins using tape • Gluing 	<p>Techniques for assembling freestanding structures</p>  <p>Show children how to join sheet materials and reclaimed boxes together using different tapes and glues.</p>  <p>Masking tape Cut and glued</p>



Year 2 –
Mechanisms

- Sliders
- Axles
- Fastening
- Cutting



Year 3 -
Textiles

- Back Stitch
- Backward Running Stitch
- Over Sew Stitch
- Blanket Stitch
- Running Stitch

Back stitch

Backward running stitch

Over sew stitch

Blanket stitch

Running stitch

Teaching aids – joining techniques

Back stitch

Backwards running stitch

Over sew stitch

Blanket stitch

Running stitch

Cutting out techniques

Ensure template is secured to fabric to allow for accuracy. Double sided tape can be used instead of pins to do this.

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 a product that meets the needs of user and is fit for purpose.

Bonded Woven

Knitted Felted

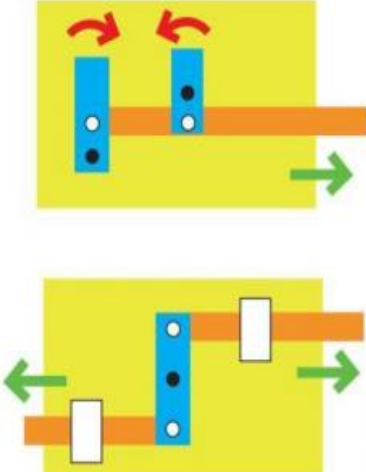
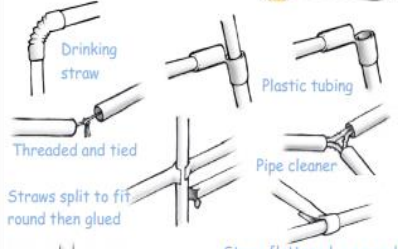
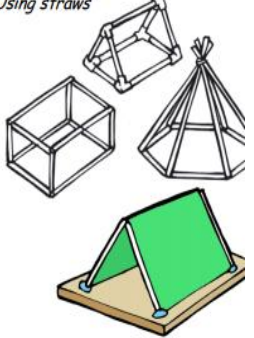

Decorative Techniques


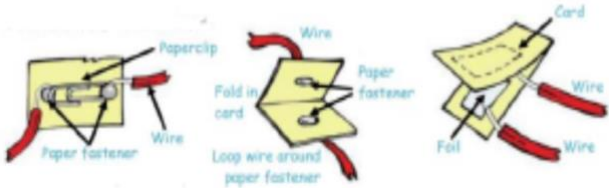
Embroidery stitches e.g. cross-stitch

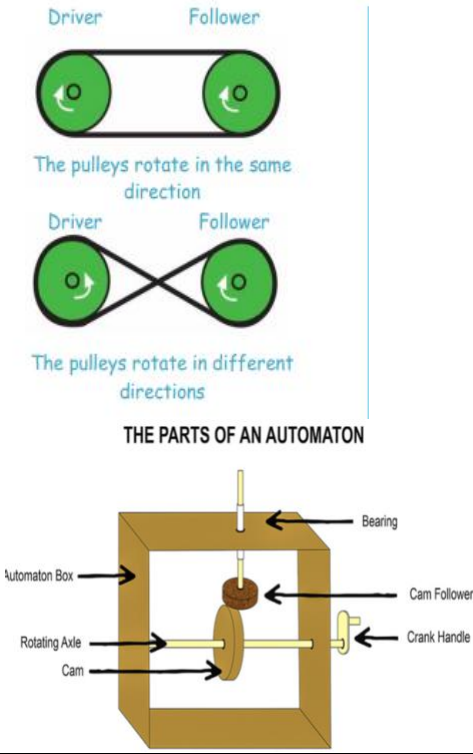
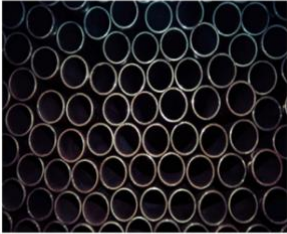

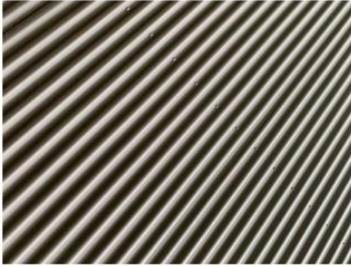

Appliqué by gluing or stitching

Possible fastenings

Buttons Velcro

<p>Year 3 - Mechanisms</p>	<ul style="list-style-type: none"> • Pivots • Wheels • Axles • Sliders 	<p>Teaching aids to demonstrate levers and linkages</p> <ul style="list-style-type: none"> ● Fixed pivot ○ Loose pivot 
<p>Year 4 - Structures</p>	<ul style="list-style-type: none"> • Joining using flange technique • Creating tubes • Tape/Glue/Pins for joining 	<p>Techniques for building frame structures</p> <p>Roll paper to make tubes for construction</p> <p><i>Joining straws</i></p>  <p>Making small-scale frame structures</p> <p><i>Using straws</i></p> 
<p>Year 4 – Cooking and Nutrition</p>	<ul style="list-style-type: none"> • Grating • Spreading • Cutting using bridge technique • Cutting using claw technique 	 <p>Grating cheese</p> <p>Spreading butter on bread</p> <p>Cutting using the bridge technique</p> <p>Cutting using the claw technique</p>

<p>Year 5 – Cooking and Nutrition</p>	<ul style="list-style-type: none"> • Cutting using dicing technique • Cutting using julienne technique • Cutting using claw technique 	
<p>Year 5 – Computing and Electrical Systems</p>	<ul style="list-style-type: none"> • Using electrical systems i.e. series circuits incorporating switches, bulbs, buzzers and motors. • Use input device to control product i.e. a toggle switch or push-to-make switch 	<p style="text-align: center;">Making Electrical Systems</p> <ul style="list-style-type: none"> -In order to ensure that your circuit is closed, it is hugely important that your connections are secure. -Connecting blocks and bulb holders are useful pieces of equipment for ensuring this. -Twisting strands of wire and taping wire are also useful strategies for creating a secure connection. <p style="text-align: center;">Switches</p> <p>-Homemade switches can be made using this equipment:</p> 

<p>Year 6 – Mechanisms</p>	<ul style="list-style-type: none"> • CAM mechanisms • Variety – round, snail, egg. • Follow CAM • Pulleys 	
<p>Year 6 – Structures</p>	<ul style="list-style-type: none"> • Strengthening • Folding and tubing • Using geometry • Layering 	<p>https://www.bbc.co.uk/teach/class-clips-video/design-and-technology-ks2-making-structures-stronger/z626hbk?scrllybrkr=78e2baab</p>  <p>Tubing</p> <p>When a material is shaped into a square, triangle, u-shape or round tube, the strength of the material is increased. This tubing is often used to support large weights, such as roofs.</p>  <p>Folding</p> <p>Folding is another way of strengthening a material. Things like corrugated cardboard and corrugated iron are examples of strength from folding.</p>  

Helpful websites

<https://www.data.org.uk/>

<https://www.bbc.co.uk/bitesize/subjects/zykw2hv>

<https://www.kapowprimary.com/subjects/design-technology/>