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

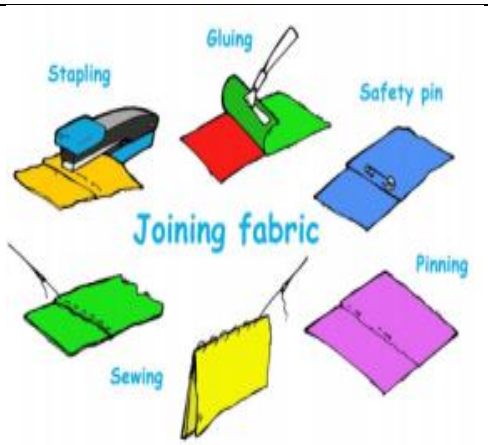
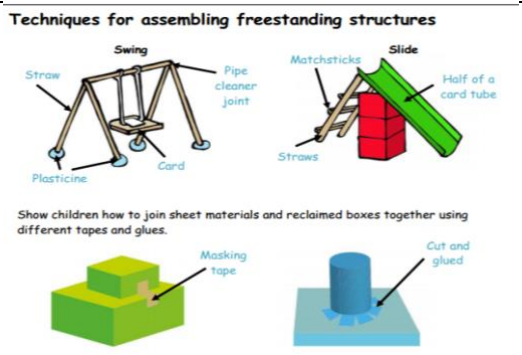
Higher order thinking questions in DT

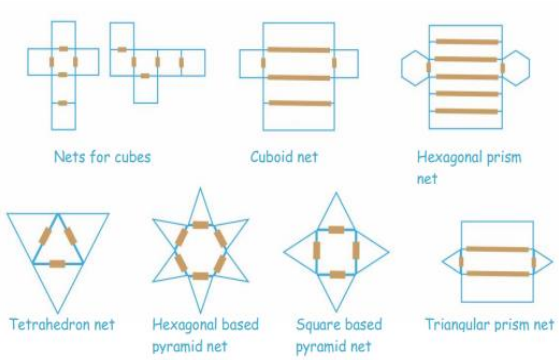
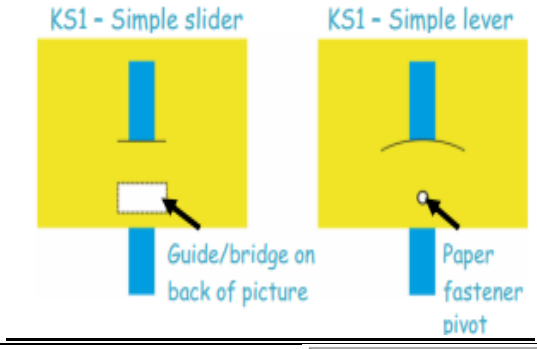
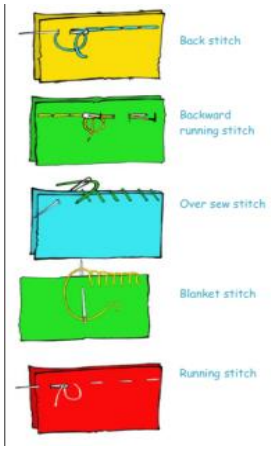
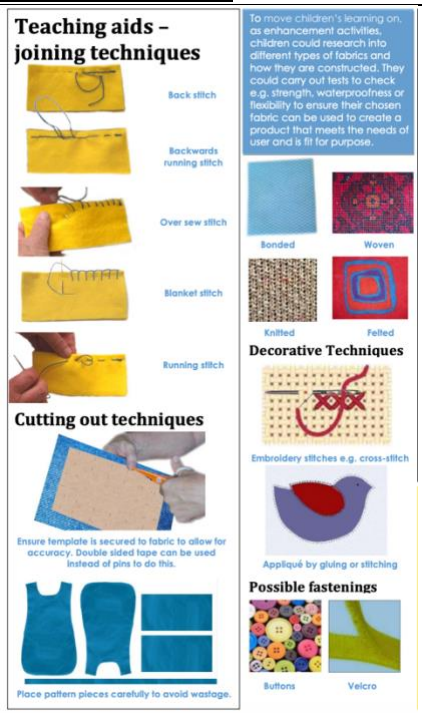
- What changes would you make?
- Can you think of an alternative to?
- How could you modify your design?
- Can you predict the outcome if?
- What would happen if?
- How could you test your product?
- What would you recommend?
- What judgements would you make about?

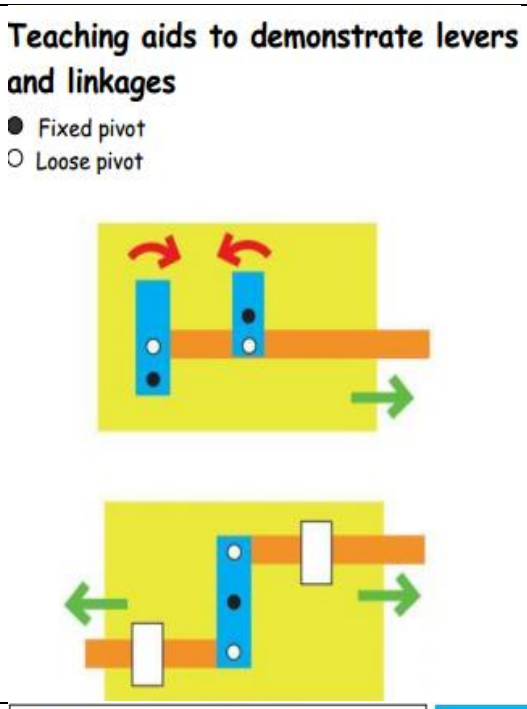
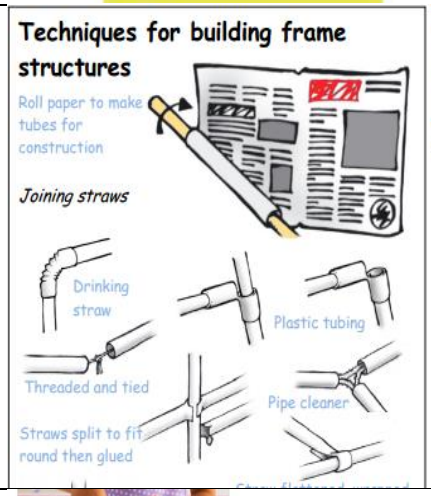
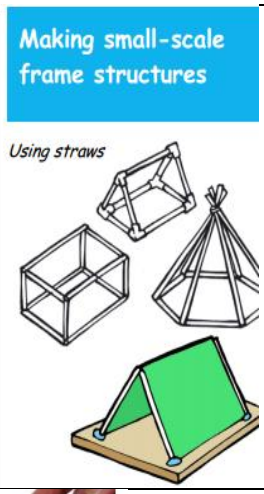
Curriculum areas

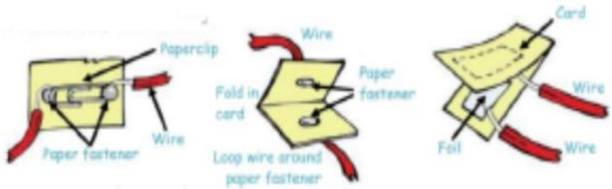
- Textiles
- Structures
- Cooking and nutrition
- Mechanisms
- Computing and Electrical systems.

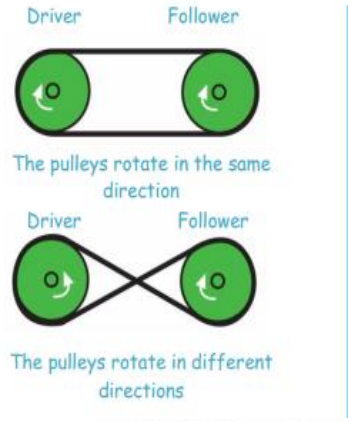
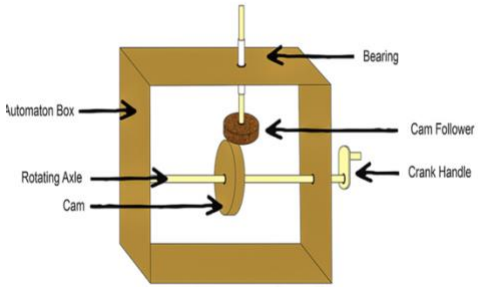
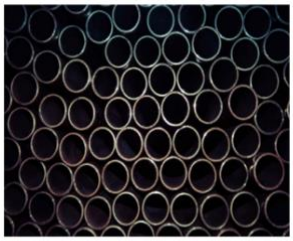
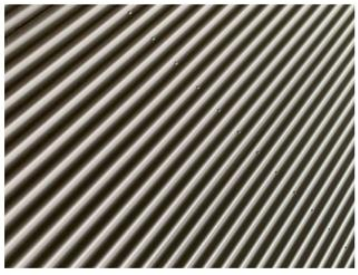
Examples of skills

Year 1 - Textiles	• Stapling • Gluing • Safety Pins • Pinning • Sewing	 **Instant CPD**  **Tips for teachers** ✓ 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 dipryl (disposable cloth fabric). ✓ Put technical vocabulary onto flash cards.
Year 1 – Cooking and Nutrition	• Peeling • Cutting • Slicing • Grating • Squeezing	
Year 2 – Structures	• Joining using tab technique • Nets • Assembling techniques • Joins using tape • Gluing	

		
Year 2 – Mechanisms	• Sliders • Axles • Fastening • Cutting	
Year 3 - Textiles	• Back Stitch • Backward Running Stitch • Over Sew Stitch • Blanket Stitch • Running Stitch	 

Year 3 - Mechanisms	• Pivots • Wheels • Axles • Sliders	
Year 4 - Structures	• Joining using flange technique • Creating tubes • Tape/Glue/Pins for joining	 
Year 4 – Cooking and Nutrition	• Grating • Spreading • Cutting using bridge technique • Cutting using claw technique	 Grating cheese  Spreading butter on bread  Cutting using the bridge technique  Cutting using the claw technique

Year 5 – Cooking and Nutrition	• Cutting using dicing technique • Cutting using julienne technique • Cutting using claw technique	
Year 5 – Computing and Electrical Systems	• 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	**Making Electrical Systems** -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. **Switches** -Homemade switches can be made using this equipment: 

Year 6 – Mechanisms	• CAM mechanisms • Variety – round, snail, egg. • Follow CAM • Pulleys	 THE PARTS OF AN AUTOMATON 
Year 6 – Structures	• Strengthening • Folding and tubing • Using geometry • Layering	https://www.bbc.co.uk/teach/class-clips-video/design-and-technology-ks2-making-structures-stronger/z626hbk?scrlybrkr=78e2baab  **Tubing** 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.  **Folding** Folding is another way of strengthening a material. Things like corrugated cardboard and corrugated iron are examples of strength from folding.  

Helpful websites

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

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

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