

Design & Technology Unit Plan Year 6- Spring 2

Year 5 Spr 2	Concept	Subject Skill (Learning Objective)	Subject Knowledge	Pedagogical Content (how you will teach)
Day 1	Investigate	<p>I am learning use research to inform and develop detailed design criteria to inform the design of innovative, functional and appealing products that are fit for purpose and aimed at a target market</p> <p>I am learning use analysis of existing products supported by accurate , factual information to inform my own work</p>	<p>I know some different types of buildings and can explain how their design supports free-standing capacity</p>	<p>KQ: What famous buildings were created during the industrial revolution? How were they constructed?</p> <p>Explain to the children that during the industrial revolution that the Eiffel Tower was built in Paris as a celebration of the 100th Year anniversary of the French revolution to be one of the main attractions and was a huge industrial advancement at the time. Explain to the children that they have been tasked to create a feature landmark for the Lace market in Nottingham to celebrate the advancements in Nottingham during the industrial revolution. <i>What famous structures have they heard of? What kind of structure would be suitable as a landmark in the Lace market? (height rather than width due to existing buildings etc)</i></p> <p>What does our structure need to be? Share ideas and talk about load bearing design and length. As a class, refine the design brief to add further detailed criteria in regards to a specific length and free-standing.</p> <p>Explain that there Children to look at examples of famous landmarks. Children to look at the design of these. How are they structurally secure? Children to experiment using techniques of different famous landmarks. Children to evaluate existing landmarks using <u>the evaluation of existing products sheet (add in photos of their own models)</u>.</p> <p>https://www.bbc.co.uk/teach/class-clips-video/design-and-technology-ks2-making-structures-stronger/z626hbk This might be useful to remind the children of ways to strengthen structures.</p> <p>Plenary- Share findings and discuss how these will inform their own designs.</p>
Day 2	<p>Design</p> <p>Focused Practical task</p>	<p>I am learning use annotated sketches, cross-sectional drawings and exploded diagrams (possibly including computer-aided design) to develop and communicate ideas.</p> <p>I am learning explain how particular parts of my product works</p> <p>I am learning select the most appropriate methods to strengthen 3D structures and frames</p> <p>I am learning make use of specialist equipment to mark out and cut materials with accuracy</p>	<p>I know how to design a landmark</p> <p>I know how to measure, mark and cut wood safely and accurately</p> <p>I know how to use simple butt joints</p> <p>I know how to use lashing to join two pieces of wood</p>	<p>KQ: Can you design a landmark for the Lace Market?</p> <p>Recap design brief and design criteria. Discuss with children their findings from yesterday. <i>What were the successes from your explorations? What were the challenges? What type of landmark was the most structurally secure? Would you combine a mixture of techniques?</i></p> <p>Feedback ideas. <i>What materials should we use for our landmark?</i></p> <p>Children to design their landmark, annotating their designs with the methods they will use to support their structure eg foundations, triangles, cross bracing.</p> <p>KQ: How do we mark, measure, cut and join materials?</p> <p>What tools and materials are we going to need to create our landmark? Show the materials: wooden dowel, glue, saws etc. How do I cut the wood? What do I need to do? Model measuring, marking and cutting the wood safely using the brace and saw. Talk through the safely rules and let children practise measuring, marking and cutting wood.</p> <p>With these cuttings, model and talk through different methods of joining wood for different elements of the landmark. e.g. butt joints for main structure, lashing for cross-bracing etc.</p> <p>Children to practise joining materials using the different methods modelled.</p> <p>Plenary- Discuss with the children their reflections on how these explorations have gone. Then, ask the children if they feel they need to refine their designs in any way.</p> <p>Children to use green pen to annotate their designs with any refinements they want to make based on their investigations.</p>

Day 3	Make	<p>I am learning select the most appropriate methods to strengthen 3D structures and frames</p> <p>I am learning make use of specialist equipment to mark out and cut materials with accuracy</p> <p>I am learning apply a range of finishing techniques.</p>	<p>I know how to use tools to cut, shape and join materials safely and accurately</p> <p>I can use a variety of methods to strengthen my 3D structure (landmark)</p> <p>I can use different methods to join my materials</p>	<p>KQ: Can you construct a landmark?</p> <p>Revisit criteria, and safety rules for working with the tools and materials.</p> <p>Children to make their landmarks.</p> <p>Plenary- <i>What went well? What challenges did you face? How did you overcome these?</i></p>
Day 4	Evaluate	<p>I am learning test, evaluate & refine ideas & products against a design brief and that of others using the language of DT</p>		<p>KQ: How well did your structure meet the design brief?</p> <p>Revisit design brief and criteria. What went well? What challenges did you face? How did you overcome these?</p> <p>Test each landmarks against the design brief criteria. What was successful? How could you develop this further?</p> <p>Children to evaluate their landmarks <u>using the evaluation forms.</u></p>

Resources

Powerpoint, existing product evaluation, straws, lollipop sticks, masking tape, string, card, wooden dowel, saws, brace, evaluation of own work sheet

Vocabulary

Disassemble, Structure, annotated sketches & cross sectional, Exploded diagrams, prototypes, Stable, Stiffer, Tension, compression, design, Product, finish, Evaluate, landmark,