Year 7 – Design and technology – Knowledge Map

Year 7 Knowledge Concepts:
Design Make evaluate Technical knowledge

Design Technology	**Topic(s):** Block Bot -Timbers	**Key Concepts Explored:** Design Make evaluate Technical knowledge	
Explicit Knowledge (Working knowledge to be explicitly taught within the topic) **<u>Design</u>** • How different contexts provide different opportunities for design solutions- Understand how to start a project in terms of research, Primary and secondary, client, design brief and specification. • The importance of the primary users' needs to achieve a successful marketable product. How to conduct interviews, questionnaires, focus groups and use the information in their work. • To understand design fixation and how to avoid it. • How to generate different ideas- 2D and 3D design • How to present ideas to an audience- annotation as well as presentation of ideas.		**Remembered Knowledge** (knowledge that must be retained and remembered over time) • The difference between primary and secondary research. • How to write a design brief and specification for their context. • What a client is and why you need to have one in mind. • How to design in different perspectives and why we do this. • How to use ACCESSFM • How to use existing products to guide your work • How to use a steel ruler	Ref.

Year 8 – Design and technology – Knowledge Map

Textiles (Yr8)	**Topic(s): Soft fabric - Under the sea**	**Key Concepts Explored:** Design Make Evaluate Technical Knowledge	
	Explicit Knowledge (Working knowledge to be explicitly taught within the topic) **Design** • How design can impact the world we live in. • How different contexts provide different opportunities for design solutions- What is a design context and how do we use it to create a project. • How to complete research – product analysis, questionnaire etc. • what primary and secondary research is and when best to use it. • How to generate different ideas and How to present ideas to an audience. **Make** • Production aids and how they help you when starting a soft material project- paper patterns • How to use the sewing machine effectively • Seam allowance and tolerance when working with soft materials • Textile decoration- How to add decoration to fabric using different techniques • The measuring tools and equipment that you would use with soft fabrics. **Evaluate** •	**Remembered Knowledge** (knowledge that must be retained and remembered over time) • How our material choices impacts the wider world. • How to create a project through research. • The difference between primary and secondary research. • How to write a design brief and specification for their context. • What a client is and why you need to have one in mind. • How materials impact the world • Product life cycle • How to create free hand designs • How to create a template/pattern • How to measure fabric out properly • What a seam allowance is and why we use one. • How to cut out fabric properly	Ref.

Year 9 – Design Technology – Knowledge Map

Explicit Knowledge (Working knowledge to be explicitly taught within the topic)	**Remembered Knowledge** (knowledge that must be retained and remembered over time)	Ref.
Design • How different contexts provide different opportunities for design solutions- Understand how to start a project in terms of research, Primary and secondary, client, design brief and specification. • How to consider materials based on sustainability • How design can solve problems – Understand the importance of design and how to improve on existing products- links to research when completing a product analysis. • The importance of the primary users' needs to achieve a successful marketable product. How to conduct interviews, questionnaires, focus groups and use the information in their work. • How to present ideas to an audience- annotation as well as presentation of ideas. • The importance of the primary users' needs to achieve a successful marketable product. How to conduct interviews, questionnaires, focus groups and use the information in their work. • How types of production impact the outcome of your design. Links to industry. **Make** • Categorisation of timbers, source and origins, characteristics and properties. Be able to compare the different timbers and the categories they are from. Understand what products would be made from the different timbers and how the properties impact on the outcome. • Categorisation of Polymers, source and origins, characteristics and properties. Be able to compare the different polymers. Understand what products would be made from the different Polymers and how the properties impact on the outcome • How materials impact the world we live in. • How to measure materials correctly – Understand what tools can be used to do this. Steel ruler, Try square. Understand why this is important and other strategies to assist with these, such as templates.	• The difference between primary and secondary research. • The importance of being a responsible designer • How to write a design brief and specification for their context. • What a client is and why you need to have one in mind. • How to design in different perspectives and why we do this. • How to use ACCESSFM • How to use existing products to guide your work- Specifically design movements and designers • What the different types of production are and when they will be used in industry. • Timbers- categories, properties and products. • Polymers- what they are and how can we use them. • Categories of polymers- Thermoforming and thermoset. • How to measure out correctly • How to use the disk sander/sand paper • How to use the pillar drill	

Year 10 — Knowledge Map

Year 10 Knowledge Concepts:

1. **Identifying requirements**
2. **Learning from existing products and practice**
3. **Implications of wider issues**
4. **Design thinking and communication**
5. **Material considerations**
6. **Technical understanding**
7. **Manufacturing processes and techniques**
8. **Viability of design solutions.**

Autumn 1 (Yr10)	**Topic(s): Lamp project**	**Key Concepts Explored:** **1. Identifying requirements** **2. Learning from existing products and practice** **3. Implications of wider issues** **4. Design thinking and communication** **5. Material considerations** **7. Manufacturing processes and techniques**

Explicit Knowledge (Working knowledge to be explicitly taught within the topic)

1. Identifying Requirements

    - Considerations for exploring a context
    - Primary and secondary research.
    - Product analysis