

Scheme of Learning: Electronics, Timbers and Polymers USB Mood Light

Topic Sequence: Year 8 Design & Technology Rotation		
1	2	3
LED Mood lamp	Textiles – Wearable Modern Textiles	Food Technology

Topic Overview:

This project serves as an introduction to electronics, giving students confidence using tools and equipment to solder and create a working circuit. Students are introduced to a range of polymers. They will find out about the properties of those polymers and common uses. Pupils will produce a working LED colour changing lamp with a decorative vinyl design on the outside.

Lesson Sequence:

The lessons have been sequenced to purposely build pupils' understanding and knowledge of Design & Technology that should have been delivered during Key Stage 2. There needs to be a balance between delivering core knowledge, all of which must be related to the intended practical outcome and also developing students' confidence in using effectively and accurately the equipment and tools.

This topic starts by recapping some basic electronic knowledge and teaching some new knowledge about resistance using the conductive dough. This allows students to test and trail different circuits in a safe manor helping to develop their curiosity for the subject. This basic knowledge will then help them through out the project and allow them to fault find at the end.

The main material group used through this project is polymers. Students are thought how to categorise polymers in to thermoset and thermoforming polymers. They develop knowledge of the different properties of these 2 different categories of polymers. Pupils find out about different types of common polymer and their current uses. This encourages the use of polymer specific vocabulary throughout the project and beyond.

The following sequence of lessons takes the students through a basic project manufacture, including accuracy and skill in measuring and marking out, cutting, shaping, filing and finishing products.

Sequence of Lessons:	
1	Conductive Dough
2	Crumble
3	Soldering
4	Polymers
5	Marking out
6	Cutting
7	Shaping and Filing
8	Timber Finishing
9	Template and shade
10	Designing vinyl
11	Assessment and energy
12	Types of finish
13	Finishing off

Topic Resources:			
Knowledge Map:	LED Mood Light	Prescribed Sources:	None
Assessment:			
Knowledge:	Microsoft Forms Assessment		
Application of Knowledge:	Practical skills – final product		
Supportive Reading:			
Technology Student	technologystudent.com		