Year 8 Workshop Skills 2022-23

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Topics	Curriculum Overview
	WORKSHOP
1	**Health and Safety (EMBEDDING)** ● Students complete a summary of health and safety expectations in the workshop. ● Students tour the machinery and see why being safe is so important. ● Students learn about the basic rules of the workshop when completing practical work. ● Students complete a 'spot the problem page' where they apply what they have learnt. ○ ***What is a hazard?*** ○ ***Why do we need to be safe in a workshop?*** ○ ***Do we need to be safe in order to be successful practically?*** ○ ***Why do we need to prepare for practical lessons?*** ○ ***What is dangerous in the workshop?*** ○ ***What are the expectations?***
2	**Initial Design Work** ● Students will be introduced to the project and begin to outline the designs for the Light Box. ● Students will use existing skills to plan out their ideas. ● Students will use existing skills to annotate their design work. ● Students will use existing skills present their work like a designer. ○ ***Why do we need to design things before deciding on our final design?*** ○ ***Why should we design before making?*** ○ ***What are the ways we need to annotate our work?***
3	**Final Design Work** ● Students refer to feedback and complete final design work for their chosen idea for the light design. ● Students will use their annotation skills to describe their idea in detail, applying what they have learnt in Year 7. ○ ***What is a working drawing?*** ○ ***Do plans need to be detailed or concise?*** ○ ***What details should we include?*** ○ ***Who is your design for?***
4	**Practical Part 1** ● Students will measure the Timber for the bottom part of the Light Box using steel rules and try squares. ● Students will use tenon saws to cut the finger joints out for comb joints of the box. ● Students will glue the parts together ensuring side are as equal as possible, making adjustments where necessary. ○ ***How do we get ready for practicals?*** ○ ***What tools are we using for each process?*** ○ ***Why can practical work take time to get a high-quality finish?***
5	**Practical Part 2** ● Students will use files, sander, sandpaper blocks and sandpaper to begin the shaping process. ○ ***Would this job be easier if we had templates?*** ○ ***What techniques do you use when working with tools?*** ○ ***Why do we need to be resilient when making?***
6	**Practical Part 3** ● Students will continue to shape their boxes, learning about how the process works to get a high-quality outcome. ● Some students will move on to adding the decoration in their design, using their previous Final Designs to assist them. ○ ***Why do we need to use different techniques when working with Timber?*** ○ ***Why do we start with the lowest grade of sandpaper?*** ○ ***What standard of finish is the best type of finish?***
7	**Polymers and Electronics Theory Knowledge** ● Students will complete a Polymers Knowledge organiser with guidance from a teacher. ● Students will learn about the two key areas of Polymers – thermoforming and thermosetting. ● Students will also learn about examples of each of the two key areas. ● Students will learn key circuit symbols used in both Design Technology and Science. ○ ***What types of Polymers are there?*** ○ ***What circuit symbols are there?*** ○ ***Which circuit symbols will we need to know?***

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	○ ***What tools can we use when we use Polymer materials?*** ○ ***Why do we need to know the difference between all two types?*** ○ ***What environmental concerns are there?***
8	**Finishing** ● Students will complete the personalisation of their Light Box using a mixture of media, including painting, paint pens or the laser cutter for more detailed design work. ● Students will consider the finishes we can apply to timber to make them more aesthetically pleasing. ● Students will evaluate their work and compare it to the working drawings given to them in their exercise books. ○ ***Why are finishes important on materials?*** ○ ***Why do we need a finish on our Light Box?*** ○ ***What is the best type of finish for Timber?***
9	**Evaluation** ● Students that complete their work will evaluate their practical work in their booklets. ● Students will complete some self-evaluation against the marking criteria to see where they think they are. ○ ***What were the stages of manufacture?*** ○ ***Why is it important to reflect on the skills we have learnt?*** ○ ***Do we need to be resilient if things go wrong?***
	GRAPHICS AND ELECTRONICS
10	**Electronics Health and Safety** ● Students complete a re-cap of health and safety expectations. ● Students look at the equipment we use and see why being safe is so important. ● Students complete a 'spot the problem page' where they apply what they have learnt. ○ ***What is an electrical hazard?*** ○ ***Why do we need to be safe with electrical equipment?*** ○ ***What are the expectations?***
11	**Electronics Initial Design Work** ● Students will be introduced to the project and begin to outline the designs for the Mini Light Keyring. ● Students will apply their prior knowledge on to plan out their ideas. ● Students will apply their prior knowledge to annotate their design work. ● Students will present their work like a designer. ○ ***Why do we need to design things before deciding on our final design?*** ○ ***Why should we design before making?*** ○ ***What are the ways we need to annotate our work?***
12	**Electronics Final Design Work** ● Students refer to feedback and complete final design work for their chosen idea. ● Students will apply their annotation skills to describe their idea in detail. ○ ***Why do we need to have a cutting pattern?*** ○ ***What details should we include?*** ○ ***Who is your design for?***
13	**Electronics Practical 1** ● Students cut out their shapes and begin the making process. ● Students will learn how to construct the parts so that the light will flash when pressed. ● Students begin to test their Mini Light Keyring. ○ ***Why do we need to have a template or diagram to follow?*** ○ ***Why should we put layers together first before completing the final shaping?***
15	**Electronics Practical 2** ● Students continue to work on shaping the parts needed for their Mini Light Keyring together. ● Some students will use the laser cutter to personalise their keyring with their initials. ● Students will test their ideas using a series of go-no-go gauges. ● Students will complete their practical work. ○ ***Why do we need to work methodically?*** ○ ***Why should we not always rely on digital technology to complete work for us?***
16	**Electronics Evaluation** ● Students that complete their work will evaluate their practical work in their booklets. ● Students will complete some self-evaluation against the marking criteria to see where they think they are. ○ ***What were the stages of manufacture?*** ○ ***Why is it important to reflect on the skills we have learnt?*** ○ ***Do we need to be resilient if things go wrong?***

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ADDITIONAL TIME MINI PROJECT	
EXTRA	**<u>Drawing Skill - Isometric</u>** ● Students will practice their sketching skills by performing tasks under time challenges, specifically with an isometric focus. ● Students will learn how to draw 3D shapes using Isometric drawing techniques. ○ ***Why is precise drawing an important part of design?***