

KS3 Project Scheme of Work 2018-19

Unit title	Topic	Year Group	Length	<u>Target levels</u> 4-6
Resistant Materials.	Clock design	8	8 Weeks	

<p><u>Explore</u></p>	<p><u>Generate</u> Level 4- Draw out your ideas using your research to help you. Level 5-Ask other people to give you written feedback on designs. Draw your ideas neatly and use card to make a prototype. Level 6- Write a specification to help you to design a clock that will satisfy the person it is made for.</p>	<p><u>Developing</u> Level 4-Produce a simple development page showing how your clock design has changed/ improved since your first idea. Level 5- Produce a good quality development section which tells the teacher how and why changes have been made on your clock design. Level 6- Produce a detailed section and use card models with written feedback to help develop your clock.</p>	<p><u>Planning</u> Level 4- Produce a simple step by step plan of how the clock will be made. Level 5- Pupils use their own detailed plan and are able to modify them when necessary. The plan incorporates detail about tools and processes. Level 6- Pupils produce plans which incorporate different methods of production and some time predictions.</p>	<p><u>Evaluating</u></p>
-----------------------	---	--	--	--------------------------

ICT SKILLS

Pupils will be taught how to produce drawings which can be processed by the laser cutter.

Making
Pupils will design and make a clock using wood, metal or plastic.

HEALTH AND SAFETY

Pupils to study a risk assessment for the bandsaw. Bandsaw test incorporated into SOW. Record of pupils who are safe to use kept.
An understanding gained through working in the workshop. Demonstrations on all tools and Machinery with supervision throughout.

EXTENSION WORK

Pupils will make wind twisters by bending thin strips of Acrylic on the strip heater.

ACTIVITY

Designing and Making a clock using a variety of Resistant materials.

Learn to use hand tools, machine tools and CAD/ CAM machinery effectively.

SKILLS AND KNOWLEDGE

Extending Design skills when using Resistant Materials.
Building on research skills learnt in y7.
Use of coping saws to cut accurately.
Finishing of various materials.
Developing a knowledge of CAD and laser cutting
Use of ROLAND CAM machine to engrave/ cut thicker materials than the laser will permit.

OPPORTUNITIES FOR LAC

Pupils will be assessed on the following two PLTS:
EFFECTIVE PARTICIPANTS
Discuss ideas, Persuade others, Find solutions, Communicate confidently, Flexibility and Get involved.
CREATIVE THINKERS
Invent, Question ideas, Make Connections, Persevere, Use imagination on clock designs.

Expected Prior Knowledge
Knowledge of shaping and drilling wood and plastic.

Differentiation
Pupils will be guided to produce a design which is feasible for the individual.

Technical Language

Acrylic
Aluminium
Man made boards- MDF, Plywood,
Wood- Softwood, Hardwood.

Laser cutter.
CAM machine. (CNC Router)
Coping saw
Solvent glue
PVA
Epoxy resin.

Lesson	Learning Objectives We are Learning to (WALTs)	Strategy Focus	PLT focus And LAC	Teaching Activity (<i>Including Dyslexia friendly teaching</i>)	Outcomes Plenary (WILFs) (Assessment)	Health and Safety	Resources Inc <i>Dyslexia friendly resources</i>
Wk1	Talk about Design situations and Design Briefs. Learn to analyse a task and use Existing products .	Exploring the task.	Creative thinking.	<ul style="list-style-type: none"> Intro to the open Design Brief. Undertake a task analysis. Undertake an existing products page in groups. Hwk– Collect research for drawing two ideas. 	A well analysed task.		6 photos of example clocks
Wk2	Generating ideas– Develop presentation skills. Learn to use the Bandsaw.	Generating ideas	Creative thinking-Generating ideas, Making prototypes of ideas.	<ul style="list-style-type: none"> <i>Auditory , visual work.</i> Pupils to use computers to add to research already collected for hwk. Begin to generate two ideas using the research. Show pupils how to complete their Bandsaw test. Hwk– Finish off the Gen of ideas sheet with colour. 	Imaginative and feasible ideas. Presented well.	Pupils are shown how to use the Bandsaw and are set a Bandsaw test to complete in register order.	<i>Give pupils time to copy down from board.</i>
Wk3	Learning to develop and model ideas. Learning about scales.	Development and Modelling	Effective Participants - Discuss ideas and persuade others to develop their ideas through peer assessment.	<ul style="list-style-type: none"> Peer assessment of their designs as they progress will be encouraged. Make 1:1 card prototype for chosen design. Once complete produce a cutting list. Hwk– Cutting list. 	Good presentation and an understanding of how the clock will be constructed.	Pupils will be supervised at all times.	Card, scissors, glue.
Wk4	Developing ideas. Learning to use new tools and equipment.	Developing and modelling	Creative thinking.	<ul style="list-style-type: none"> <i>Kinaesthetic learning.</i> Development page. Carry on with practical work. Hwk– Glues sheet. 	Good presentation and an understanding of how the clock will be constructed.		<i>Keyword list used to guide for H/wk. Allow to take photo of keywords.</i>
Wk5	Use of various equipment and processes.	Making high quality products	Effective participants in the workshop environment. Finding solutions and taking part.	<ul style="list-style-type: none"> Production of clocks in remaining lessons. Hwk– Produce a predicted step by step plan for the production of the clock 	Accurate and safe use of equipment and machinery.	Equipment will be demonstrated and supervised at all times	Workshop.
to					Precise making.		
Wk7	Use of various equipment and processes.	Making high quality products		<ul style="list-style-type: none"> <i>Key word sheet.</i> .Production of clocks in remaining lessons. Hwk– Produce a predicted step by step plan for the production of the clock. 	A detailed and well considered evaluation.	Equipment will be demonstrated and supervised at all times.	
Wk8	Use of various equipment and processes. Develop evaluative ability.	Evaluating	Effective participants-Self evaluation of product.	<ul style="list-style-type: none"> Evaluation of clock when complete. Hwk for each week will be to write up a diary of practical work done. 	Smooth edges, gradual curving of the acrylic.	Strip heater will be demonstrated prior to use.	Acrylic cut to 150mm by 15mm strips.
Wk9	Learning how acrylic reacts to heat and how to use this in products.	Making high quality products.		<ul style="list-style-type: none"> Extension work. 			

Assessment

Level	Exploring Ideas and Task	Generating ideas	Developing and modelling	Planning	Evaluating	Making
4		Level 4- Draw out your ideas using your research to help you.	Level 4-Produce a simple development page showing how your clock design has changed/improved since your first idea.	Level 4- Produce a simple step by step plan of how the clock will be made.		Level 4- Select and work with a range of tools and equipment. Work with materials showing some degree of accuracy.
5		Level 5-Ask other people to give you written feedback on designs. Draw your ideas neatly and use card to make a prototype.	Level 5- Produce a good quality development section which tells the teacher how and why changes have been made on your clock design.	Level 5- Pupils use their own detailed plan and are able to modify them when necessary. The plan incorporates detail about tools and processes.		Level 5- Work Modify/change your clock where necessary. Use tools, equipment and materials with a good level of accuracy.
6		Level 6- Write a specification to help you to design a clock that will satisfy the person it is made for.	Level 6- Produce a detailed section and use card models with written feedback to help develop your clock.	Level 6- Pupils produce plans which incorporate different methods of production and some time predictions.		Level 6- Work with a range of tools, materials and processes and show that they understand how to get the best results when using them.

Additional assessment

Examples of Year 8 Work



