

HIGH SCHOOL



## Curriculum Overview for: Year 9 **Resistant Materials**

Key Stage 3 Academic Year Group: 9

Term	Block 1	Block 2
Торіс	Background Theory on Resistant Materials, Plastics, timbers. Manufacture of a Planner Clip. Use of basic hand held tools and equipment. Isometric Sketching. Mark out Acrylic, Cross and draw file acrylic	Styrofoam model making. Salt and Pepper Shakers manufacture. Use of a wide range of tools and equipment to shape Styrofoam models of Salt and Pepper shakers.
	<ul> <li>Polishing acrylic. Strip Heater to bend.</li> <li>Health and Safety Worksheet, use polishing wheels and brasso to finish.</li> <li>Isometric sketching, cubes and cylinders.</li> <li>Design 4 to 6 different sketched ideas, annotate and label all ideas, add colour, shading, render drawings.</li> <li>Specification checks on all ideas.</li> <li>Development of ideas completed.</li> </ul>	Development models used to determine a Final Design Solution. <u>Measuring, marking, drilling and cutting Pine w</u> ood Salt and Pepper shakers. Sanding and cleaning up of materials. Finishes applied to materials used. Use of Laser cutter to add imagery to products.
Content		
		Following on from Middle School Link Project. Following the Design Process which underpins every project from school level right through to Industry.
Rationale/ Linking	Basic Health and Safety and use of Basic Hand tools is imperative. Basic understanding of Material Identification and ways to manipulate these materials.	
Assessment	Self Assessment as well as Peer Assessment. comparing to students work to Succ	Teacher Assessment cess Criteria. <b>Learning</b> <b>Resources</b>





## Curriculum Overview for: Design & Technology (Resistant Materials)

## Key Stage 4 Academic Year Group: 10

Term	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2	
Торіс	Bottle Opener Project	Bottle Opener Project	Metal Key fobs	Traditional Wood Joints	Evaluating, Plan of Productions	NEA investigation	
Content	Looking at a Design Brief, Product Analysis, Survey and Analysis of Results, Influential Designers, Writing a Specification, Isometric Sketching, annotation and Measurements. Card and Styrofoam Modelling. Theory Work links to project.	Development of models leading to the Manufacture of a working Prototype Bottle Opener. Wide variety of tools and equipment to be demonstrated and used by all students. Use of CAD CAM in manufacturing of product. Theory Work links to project.	Basic skills in manipulation of metals, measuring, marking, cutting, filing. Drilling, CNC CAD CAM, polishing.	Basic skills in manipulation of Timber, measuring, marking, cutting, filing. Drilling, CNC CAD CAM. Traditional joints and KD fittings	Learning how to Evaluate own products, Compare to Specification. Improvements and Modifications that could be made. Demonstrated through sketching and modelling. Theory Work links to project.	NEA Pre Released material available. Students to investigate the 3 scenarios, identify considerations and begin research tasks into Possible Projects. Identification of Possible Projects, Considerations, Moodboards, Product Analysis, Survey and Results, Contextual Research, Anthropometrics Design Briefs, Specification.	
Rationale/ Linking	Preparation for Independent NEA Task. This is a dry run of NEA.	Preparation for Independent NEA Task. All students to be able to identify tools and equipment suitable to manipulate each material area.	Preparation for Independent NEA Task. All students to be able to identify tools and equipment suitable to manipulate each material area.	Preparation for Independent NEA Task. All students to be able to identify tools and equipment suitable to manipulate each material area.	Preparation for Independent NEA Task.		
Assessment	Assessment in AFL Booklets, use of Subject Specification used as a success criteria.			Learning Resources	Exemplar Material, Year 10 AFL Booklet. Teams has folders of exemplar work.		



HIGH SCHOOL



Curriculum Overview for: Design and Technology (Resistant Materials)

Key Stage 4 Academic Year Group: 11

Term	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Торіс	NEA	NEA	NEA	NEA	NEA COMPLETION	EXAMS
Content	Research into NEA, All of the below to be completed. Identification of Possible Projects, Considerations, Moodboards, Product Analysis, Survey and Results, Contextual Research, Anthropometrics Design Briefs, Specification.	Design work begins in the form of Rough Sketches, moving onto 4 to 6 Initial Ideas, All ideas Spec checked, materials identified, dimensions and joining methods. Modelling begins and leads onto development of chosen Design Solution.	Final Design is decided through use of model development and client feedback. Practical work on Final Design begins. Workshop is in full use and each student has a bespoke Final Design to complete.	Fully working Prototype should be almost completed with all parts and components ready to be assembled, finished and tested.	Practical completion, Evaluation, Modifications and Improvements. HAND IN AND Moderation of all coursework. Exam Preparation, Revision	Revision, Past Papers.
Rationale/ Linking	All NEA work follows the Design Process. Where possible this work is linked to Theory or compared to how each process would be carried within Industrial and commercial settings.	All NEA work follows the Design Process. Where possible this work is linked to Theory or compared to how each process would be carried within Industrial and commercial settings.	All NEA work follows the Design Process. Where possible this work is linked to Theory or compared to how each process would be carried within Industrial and commercial settings.	All NEA work follows the Design Process. Where possible this work is linked to Theory or compared to how each process would be carried within Industrial and commercial settings.	All NEA work follows the Design Process. Where possible this work is linked to Theory or compared to how each process would be carried within Industrial and commercial settings.	
Assessment	All work is moderated in line with the Specification set out by the exam board. Success criteria is available within the students AFL booklets.			Learning Resources	Exemplar Materials.	