

Programmes of study for Design Technology Yr7 rotation

Learning summary of each lesson	
Lesson 1	<p>Introduction to the project Hand Held Puzzle using Cad Cam. How to show shape and form using pencil sketching. Pupils will complete a worksheet related to realistic drawing in Technology</p>
Lesson 2	<p>Research and materials in design technology. The difference between hardwoods and softwoods. Pupils to complete questions in work book related to woods. Introduction to 60's design as a theme for the project. Pupils to complete a worksheet related to 60's design as homework.</p>
Lesson 3	<p>Design brief and Initial ideas. What is a design brief and why do we use them in design technology? Discuss the correct method of producing initial ideas: <ul style="list-style-type: none"> • 3D sketches • Colour • Annotation Pupils to complete 2 initial ideas with accompanying annotation.</p>
Lesson 4	<p>Modelling in Technology / using CAD/CAM Why do we use models in Technology? The role of computer modelling and testing. How will CAD/CAM be used to produce the hand held puzzle? Pupils will complete a practical task using Nets. They will complete a card model at 1:1 scale of their design</p>
Lesson 5	<p>Workshop rules / Health and Safety The importance of Health and Safety in the workshop. What kind of accidents could occur in the workshop? Understanding how to use the machines safely - guards, PPE, floor tape, emergency stops, correct clothing and emergency procedures. Workshop rules. Pupils will complete a worksheet about workshop safety and design a safety poster of their own. Distribute materials.</p>
Lesson 6	<p>Practical Lesson-Measuring and marking Materials distributed to pupils. Teacher demo on the correct way to mark and measure the material <ul style="list-style-type: none"> • Use of rulers – using mm • Using Tri squares • Indicating the waste. Pupils to proceed with practical, show awareness of Health and Safety and follow the rules of the workshop.</p>
Lesson 7	<p>Practical Lesson Continuation of practical lessons. Recap important Health and Safety issues from last lesson and discuss good examples of work.</p>
Lesson 8	<p>Practical Lesson- Cutting tools and techniques. Teacher demo on the correct way to use cutting and shaping tools such as saws, drills and files. <ul style="list-style-type: none"> • Correct techniques – how to begin a cut, sawing in a straight line, where to place hands • Common mistakes – using the tool incorrectly, using the wrong tool for the job • Correct methods of drilling – stepping up, work piece holding using hand vices and using correct technical terms. Pupils to proceed with practical, show awareness of Health and Safety and follow the rules of the workshop.</p>
Lesson 9	<p>Practical lesson – CAD/CAM Demo the Vac forming and CAD router machine. Reinforce health and safety rules when using the machines. Pupils to use both machines to vacuum form an outer shell and inscribe a pattern onto their piece of hardwood. <ul style="list-style-type: none"> • Follow correct procedure • Be aware of specific safety rules when using the machines • Be able to apply basic quality control checks after both processes are finished </p>

Lesson 10	<p>Practical lesson – Applying the design / Adding a finish</p> <p>Pupils will apply their design using stains and coloured pencils. Discussion about finishes:</p> <ul style="list-style-type: none"> • Why are they used • Different types for different materials <p>Pupils will be shown how to apply a wax finish to seal in their design once it is completed</p> <p>Pupils to proceed with practical, show awareness of Health and Safety and follow the rules of the workshop.</p>
Lesson 11	<p>Practical – Final assembly</p> <p>Final assembly lesson for all aspects of the project to be completed.</p> <p>Reminder about Quality Control – Modifications that may have occurred need to be noted.</p>
Lesson 12	<p>Evaluation</p> <p>Review the project with the pupils. Class discussion with all the completed projects on view.</p> <p>Good examples and why. What improvements could others have made?</p> <p>All pupils to complete an evaluation work sheet to review their product.</p>
Lesson 13	<p>Project 2 – Graphics – Shop identity</p> <p>Pupils will be introduced to the principles of Graphic Design:</p> <ul style="list-style-type: none"> • What do we mean by the term Graphics? • What are the key elements of Graphic design – Combining Colour/Shape/Text /Image • How do we apply the key elements to solve specific design problems?
Lesson 14	<p>Design brief and Initial ideas – Shop identity</p> <p>What is a design brief and why do we use them in design technology?</p> <p>Discuss the correct method of producing initial ideas:</p> <ul style="list-style-type: none"> • 3D sketches • Colour • Annotation <p>Pupils to complete 2 initial ideas with accompanying annotation.</p>
Lesson 15	<p>Packaging</p> <p>Pupils will be introduced to the principles of Packaging:</p> <ul style="list-style-type: none"> • Why do products need to be packaged? – Preserve / Protect / Promote / Transport • Common materials for packaging including Paper and Board • Environmental issues associated with packaging production and disposal
Lesson 16	<p>Modelling in Technology / using CAD/CAM</p> <p>Why do we use models in Technology?</p> <p>The role of computer modelling and testing.</p> <p>How will CAD/CAM be used to produce the Shop identity packaging?</p> <p>Introducing the Cad Cam plotter for developing prototypes</p>

Lesson 17	Workshop rules / Health and Safety The importance of Health and Safety in the workshop. What kind of accidents could occur in the workshop? Understanding how to use the machines safely - guards, PPE, floor tape, emergency stops, correct clothing and emergency procedures. Workshop rules. Pupils will complete a worksheet about workshop safety and design a safety poster of their own. Practical lesson Pupils will work towards practical realisation of their design ideas.
Lesson 18	Practical lesson Pupils will work towards practical realisation of their design ideas.
Lesson 19	Practical lesson Pupils will work towards practical realisation of their design ideas.
Lesson 20	Evaluation Review the project with the pupils. Class discussion with all the completed projects on view. Good examples and why. What improvements could others have made? All pupils to complete an evaluation work sheet to review their product.