



## Highsted Knowledge Organiser

### Year 7 Term 3: Design & Technology

What I need to know	Key Vocabulary
<p>Define properties of materials and give examples of materials that have that property. How to write a detailed specification with each point justified using research.</p>	<p>Strength Durability Hardness Toughness Ductility Analysis Properties Malleability</p>
<p>Student reference point</p> <p><b>Material properties:</b></p> <ul style="list-style-type: none"><li>• Elasticity: The ability of a material to absorb force and flex in different directions, returning to its original position.</li><li>• Strength: The ability of a material to stand up to forces being applied without it bending, breaking, shattering or deforming in any way.</li><li>• Plasticity: The ability of a material to be change in shape permanently.</li><li>• Ductility: The ability of a material to change shape (deform) usually by stretching along its length.</li><li>• Tensile strength: The ability of a material to stretch without breaking or snapping.</li></ul> <p><b>How to write a specification.</b></p> <ul style="list-style-type: none"><li>◇ Aesthetics: What does the product look like?</li><li>◇ Cost: How much does the product cost to buy?</li><li>◇ Customer: Who will buy your product?</li><li>◇ Environment: Will the product affect the environment?</li><li>◇ Size: How big or small is the product?</li><li>◇ Safety: How safe is the product when it is used?</li><li>◇ Function: How does the product work?</li><li>◇ Material: What is the product made out of?</li></ul>	
<p>Challenge question:</p> <p>Have a look at some of the products in your home, how would you describe the properties? Link these to the product functionality.</p> <p>Research into manufacturing techniques for timber.</p>	
<p>Suggested reading:</p> <p><a href="http://www.technologystudent.com">www.technologystudent.com</a></p> <p><a href="http://www.bbc.co.uk/bitesize">www.bbc.co.uk/bitesize</a> - Design Technology</p>	



## Highsted Knowledge Organiser

### Year 7 Term 4: Design & Technology

<p><b>What I need to know:</b></p> <p>To understand timber categories:</p> <p>*Tools</p> <p>*Health and safety</p>	<p><b>Key Vocabulary</b></p> <table border="0"> <tr> <td>Hard wood</td> <td>Soft wood</td> </tr> <tr> <td>Manufacture boards</td> <td>Sourcing</td> </tr> <tr> <td>Properties</td> <td></td> </tr> <tr> <td>Product analysis</td> <td></td> </tr> </table>		Hard wood	Soft wood	Manufacture boards	Sourcing	Properties		Product analysis	
Hard wood	Soft wood									
Manufacture boards	Sourcing									
Properties										
Product analysis										
<p>Student reference point</p> <ul style="list-style-type: none"> <li>• <b>Tools to use when working with wood:</b></li> <li>• Ruler/pencil</li> <li>• Sandpaper</li> <li>• Safety goggles</li> <li>• Tenon Saw</li> <li>• Coping Saw</li> <li>• Try Square</li> </ul>										
<p><b>Hardwood</b></p> <p>Comes from deciduous trees. Grow slowly (80+ years). Have wide broad leaves. More difficult to sustain than soft wood. More expensive. <i>Examples of: oak; mahogany and teak.</i></p>	<p><b>Soft wood</b></p> <p>Come from evergreen trees. Grow thin, needle like leaves. Grow relatively quickly (30 years). Are easier to sustain than hard woods. <i>Examples of: pine; spruce and European Redwood.</i></p>	<p><b>Manufactured board</b></p> <p>Are made from waste sections of felled trees. Come in sheet form. Very stable and uniform thickness. Can be covered with veneers. <i>Examples of: MDF; ply board and chip board.</i></p>								
<ul style="list-style-type: none"> <li>• <b>Health and safety:</b> Remember to take care and use common sense.</li> <li>• <b>NEVER TOUCH A PIECE OF MACHINERY UNLESS YOU HAVE BEEN TRAINED ON IT.</b></li> <li>• <b>Before you start:</b> Tie your hair back, wear an apron, tidy your work area. Stools away.</li> <li>• Blazers, coats, bags all on the hooks.</li> <li>• Make sure the tools are in good working condition.</li> <li>• Wear goggles when necessary.</li> <li>• Remind yourself how to use the tools safely before you start.</li> <li>• <b>When using tools:</b> Make sure no one is close by.</li> <li>• Remember to keep your hands safe.</li> <li>• Check good ventilation of the room.</li> <li>• <b>Once you've finished:</b> Tidy tools away, put your work in a safe place.</li> <li>• Sweep away any sawdust.</li> <li>• Put any unused materials back that can be reused.</li> </ul>										
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