

### Assessment in Design and Technology

Assessment	Essential Component Knowledge	Why is this essential knowledge?	Misconceptions Often Addressed	What are the essential skills?	Why is this an essential skill?
Year 7 – 9	<p>Research</p> <p>Specification</p> <p>Design Ideas</p>	<p>This is an iterative design process which flows throughout KS3 and KS4.</p> <p>Essential for understanding how to produce high quality DT Projects at KS3 and developing the ability to work independently at KS4.</p>	<p>Pupils often think they can skip sections as they already 'know' what they want to make. This is known as Design Fixation. Completing all sections helps to avoid this.</p> <p>What is research?</p> <p>What is a specification?</p> <p>Why do we need to produce more than 1 idea?</p>	<p>Evaluation of products/ideas.</p> <p>Ability to work independently.</p> <p>Understanding why research is important. Conducting relevant research.</p> <p>Being able to decide what constitutes a relevant specification point.</p> <p>Understand that the first idea they have is not always the best and being able to</p>	<p>In order to be able to design better products.</p> <p>Essential for understanding how to produce high quality DT Projects at KS3.</p> <p>Essential skill for developing the ability to work independently at KS4.</p> <p>To know what a design needs to meet the specified criteria.</p> <p>To avoid design fixation.</p>

	Sketching and Rendering		That rendering is just 'colouring in'.	develop their ideas to improve them.	
	Health & Safety		Younger pupils, especially, may not know the dangers in a workshop environment because they haven't worked in one before.	Being able to realise that rendering is important to show detail and development, material and surface finish, to their idea.	It's a presentation skill needed to convey ideas well.
	Cad & Cam		What is CAD & CAM?	Understand the need to follow safety rules, for the safety of themselves and others.	Good practice in all walks of life.
				Understand what they are and how they are used in DT and the real world.	To keep pace with latest technology.

<b>Assessment</b>	<b>Essential Component Knowledge</b>	<b>Why is this essential knowledge?</b>	<b>Misconceptions Often Addressed</b>	<b>What are the essential skills?</b>	<b>Why is this an essential skill?</b>
Year 10 & 11	The Design Process which includes the following;	This is an iterative design process which flows throughout KS3 and KS4.	Pupils often think they can skip sections as they already 'know' what they want to make. This is	Evaluation of products/ideas.	In order to be able to design better products.

			known as Design Fixation. Completing all sections helps to avoid this.	Ability to work independently.  Evaluation of products/ideas.	Essential for understanding how to produce high quality DT Projects at KS3.
	Research	Essential for understanding how to produce high quality DT Projects at KS3 and developing the ability to work independently at KS4.	What is research?	Understanding why research is important. Conducting relevant research.	Essential skill for developing the ability to work independently at KS4.
	Specification	As above.	What is a specification?	Being able to decide what constitutes a relevant specification point. Understand that the first idea they have is not always the best and being able to develop their ideas to improve them.	To know what a design needs to meet the specified criteria. To avoid design fixation.
	Design Ideas	As above	Why do we need to produce more than 1 idea?		
	Sketching and Rendering	As above	That rendering is just 'colouring in'.	Being able to realise that rendering is important to show detail and development,	It's a presentation skill needed to convey ideas well.

<p>Use of bought package from PG Online which contains Powerpoint presentations, worksheets, homework sheets &amp; assessments for each topic.</p>	<p>Health &amp; Safety</p>	<p>As above</p>	<p>Younger pupils, especially, may not know the dangers in a workshop environment because they haven't worked in one before.</p>	<p>material and surface finish, to their idea.</p> <p>Understand the need to follow safety rules, for the safety of themselves and others.</p>	<p>Good practice in all walks of life.</p>
	<p>Cad &amp; Cam</p>	<p>As above</p>	<p>What is CAD &amp; CAM</p>	<p>Understand what they are and how they are used in DT and the real world.</p>	<p>To keep pace with latest technology.</p>
	<p><b>Industry and enterprise</b>  <b>Papers and boards</b>  <b>Timbers</b>  <b>Metals</b>  <b>Polymers</b>  <b>Textiles</b>  <b>Forces and stresses</b>  <b>Ecological and social footprint</b>  <b>Scales of production</b>  <b>Commercial manufacturing.</b>  <b>Electronics</b>  <b>Communication of design ideas</b>  <b>Tolerances</b></p>	<p>Essential for understanding how to produce high quality DT Projects at KS3 and developing the ability to work independently at KS4.</p>	<p>Pupils often ask 'Why do we need to know all this?' They do not realise how much work goes into designing new products and that the different units of work are linked in the iterative design process.</p>	<p>To be able to recognise the important features of each unit of work.</p>	<p>Able to identify how and where they would fit with their own GCSE project.</p>

	<p><b>Material management</b></p> <p><b>Tools, equipment, techniques and finishes</b></p> <p>(See Scheme of Learning for extensive details.)</p>				
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**What happens following an assessment to address pupil misconceptions and reteaching of essential knowledge?**

- Retrieval aspect of common misconceptions brought into the following assessment.
- Teacher expected to go through the assessment in dedicated time. Key words are reidentified and retaught.
- Teacher’s assessment of key knowledge that is missed and key skills that are not evident are retaught and practised.

**Formative Assessment in DT**

- Cold questioning throughout the topic to check knowledge is secured
- Questioning to make comparisons with new content. For example: Now that we know what a specification is, pupils in year 11 should also be able to bring prior knowledge from the KS3 curriculum and use the specification to produce a detailed production plan/manufacturing specification.
- Creating a mind map as a starter on a particular topic. These are interleaved and planned for. This can inform which topics need more attention for revisiting.
- Low stakes or no stakes quizzes
- Retrieval grids/ meta grids

**Feedback and Acting on Feedback (should be on the most valuable thing)**

After each assessment at both KS3 and KS4 there is an opportunity in class for the teacher to go over the test and address any misconceptions. For the keyword section of the test pupils will go back to their booklets and make any relevant corrections. Pupils will make corrections in green pen as the teacher goes through the assessment. In the next assessment if there was a common mistake or insecure knowledge, the question will be repeated next half term and until knowledge is secure.