

### Assessment in Design and Technology KS3

Assessment	Essential Component Knowledge	Why is this essential knowledge?	Misconceptions Often Addressed	What are the essential skills?	Why is this an essential skill?
<b>Year 7</b>					
<b>Baseline</b>	<ul style="list-style-type: none"> <li>- Designing skills</li> <li>- Making skills (Tools and equipment)</li> <li>- Technical knowledge (Materials and processes)</li> <li>- Application of Maths knowledge</li> </ul>	<ul style="list-style-type: none"> <li>- Being able to design in 3D using a given grid (Isometric) (AO2)</li> <li>- Knowing what the different tools and equipment are and how they can be used)</li> <li>- What different materials are, their categories and what they can be used for</li> <li>- Maths skills used for conversion and calculating area / material use</li> </ul>	<ul style="list-style-type: none"> <li>- Designing in 3D and its advantages</li> <li>- What tools are used for. Why it is not just a "saw"</li> <li>- Understanding the correct names.</li> <li>- Specific material names getting away from wood, metal and plastic.</li> <li>- How to calculate area and how to convert units / measurements</li> </ul>	<ul style="list-style-type: none"> <li>- Use of pencil and ruler for designing neatly</li> <li>- Writing neatly</li> <li>- Use of calculator for maths-based questions</li> </ul>	<ul style="list-style-type: none"> <li>- Essential skill when in Design Technology to help with drawing ideas.</li> <li>- Knowledge is understood</li> <li>- Able to calculate materials and avoid wasting</li> </ul>
<b>Block Bot make</b>	<ul style="list-style-type: none"> <li>- Select and use correct tools and equipment.</li> <li>- Accuracy when marking, measuring and cutting materials.</li> <li>- Quality of finished work</li> </ul>	<ul style="list-style-type: none"> <li>- Ability to use the tools and equipment accurately and safely.</li> <li>- Understanding what different tools are used for.</li> <li>- Able to mark out accurately to avoid</li> </ul>	<ul style="list-style-type: none"> <li>- How to correctly use a ruler and a try square</li> <li>- How to read a ruler and mark out on to a piece of timber</li> <li>- How to convert mm to cm</li> <li>- How to use a saw correctly</li> </ul>	<ul style="list-style-type: none"> <li>- Hand eye coordination</li> <li>- Being able to physically hold and grip the saw.</li> <li>- Ability to read numbers on a ruler.</li> <li>- Can follow sequence of instructions</li> </ul>	<ul style="list-style-type: none"> <li>- So that they can place the saw / tool in the correct place and follow a line using their hands with the saw</li> <li>- So that they can keep hold of the saw and not drop it while</li> </ul>

		<p>waste and apply tolerance.</p> <ul style="list-style-type: none"> <li>- Pride in work completed and finished products can be used / taken home</li> </ul>	<ul style="list-style-type: none"> <li>- How to use a drill correctly</li> <li>- How to sand / finish work correctly</li> </ul>		<p>cutting. Ability to cut through a piece of timber.</p> <ul style="list-style-type: none"> <li>- So that they mark the correct measurement</li> <li>- So that they can complete the finished piece in the correct order</li> </ul>
<b>Design skills</b>	<ul style="list-style-type: none"> <li>- Rendering and design skills - shading / isometric and perspective drawing</li> </ul>	<ul style="list-style-type: none"> <li>- Able to present work neatly.</li> <li>- Able to generate design ideas in 2 and 3 dimensions.</li> <li>- Able to recognise drawing techniques used in designing of products.</li> </ul>	<ul style="list-style-type: none"> <li>- Shading and rendering – the use of light, medium and dark tone. How to hold a pencil correctly when shading</li> <li>- The difference between 3D and 2D drawings (Advantages and disadvantages)</li> <li>- How to use isometric grid paper correctly</li> <li>- Why designs need to be rendered.</li> </ul>	<ul style="list-style-type: none"> <li>- Use of pencil and ruler for designing neatly</li> <li>- Basic creativity – the ability to generate ideas</li> </ul>	<ul style="list-style-type: none"> <li>- So that they can generate ideas for assessment tasks</li> <li>- So that they can design in 3D which will give their drawings more depth and detail</li> </ul>
<b>Product Evaluation – Phone</b>	<ul style="list-style-type: none"> <li>- Analysing skills – being able to evaluate products.</li> <li>- Technical knowledge. Understanding</li> </ul>	<ul style="list-style-type: none"> <li>- Able to recognise products and how they have changed over time.</li> <li>- Able to evaluate a product and</li> </ul>	<ul style="list-style-type: none"> <li>- What is technology?</li> <li>- Why do products change?</li> <li>- What products are made from?</li> </ul>	<ul style="list-style-type: none"> <li>- Evaluation and having an opinion on a product.</li> <li>- Being able to justify choices</li> </ul>	<ul style="list-style-type: none"> <li>- Essential for buying or understanding why products are designed the way they are.</li> </ul>

	<p>developments in technology and over time.</p> <ul style="list-style-type: none"> <li>- What products do and how they have changed</li> </ul>	<p>justifying thoughts with reasons</p> <ul style="list-style-type: none"> <li>- Able to recognise how technology has changed and the impact it has had</li> </ul>	<ul style="list-style-type: none"> <li>- What older products were used for and how they have developed</li> <li>- How to structure full sentences using key words and phrases</li> </ul>	<p>made about opinions.</p> <ul style="list-style-type: none"> <li>-</li> </ul>	<ul style="list-style-type: none"> <li>- So that they can justify any products and their opinions are relevant to the products they are analysing</li> </ul>
<b>EoY Test</b>	<ul style="list-style-type: none"> <li>- Designing skills</li> <li>- Making skills (Tools and equipment)</li> <li>- Technical knowledge (Materials and processes)</li> <li>- Application of Maths knowledge</li> </ul>	<ul style="list-style-type: none"> <li>- Being able to design in 3D using a given grid (Isometric) (AO2)</li> <li>- Knowing what the different tools and equipment are and how they can be used)</li> <li>- What different materials are, their categories and what they can be used for</li> <li>- Maths skills used for conversion and calculating area / material use</li> </ul>	<ul style="list-style-type: none"> <li>- Designing in 3D and its advantages</li> <li>- What tools are used for. Why it is not just a "saw"</li> <li>- Understanding the correct names</li> <li>- Specific material names getting away from wood, metal and plastic.</li> <li>- How to calculate area and how to convert units / measurements</li> </ul>	<ul style="list-style-type: none"> <li>- Use of pencil and ruler for designing neatly</li> <li>- Writing neatly</li> <li>- Use of calculator for maths based questions</li> </ul>	<ul style="list-style-type: none"> <li>- Essential skill when in Design Technology to help with drawing ideas</li> <li>- Knowledge is understood</li> <li>- Able to calculate materials and avoid wasting</li> </ul>
<b>Year 8</b>					
<b>Baseline</b>	<ul style="list-style-type: none"> <li>- Designing skills</li> <li>- Making skills (Tools and equipment)</li> <li>- Technical knowledge (Materials and processes)</li> </ul>	<ul style="list-style-type: none"> <li>- Being able to design in 3D using a given grid (Isometric) (AO2)</li> <li>- Knowing what the different tools and equipment are and</li> </ul>	<ul style="list-style-type: none"> <li>- Designing in 3D and its advantages</li> <li>- What tools are used for. Why it is not just a "saw"</li> <li>- Understanding the correct names and</li> </ul>	<ul style="list-style-type: none"> <li>- Use of pencil and ruler for designing neatly</li> <li>- Writing neatly</li> <li>- Use of calculator for maths based questions</li> </ul>	<ul style="list-style-type: none"> <li>- Essential skill when in Design Technology to help with drawing ideas</li> <li>- Knowledge is understood</li> </ul>

	<ul style="list-style-type: none"> <li>- Application of Maths knowledge</li> </ul>	<p>how they can be used)</p> <ul style="list-style-type: none"> <li>- What different materials are, their categories and what they can be used for?</li> <li>- Maths skills used for conversion and calculating area / material use</li> </ul>	<p>functions – different tools for different materials.</p> <ul style="list-style-type: none"> <li>- Specific material names getting away from wood, metal, and plastic.</li> <li>- How to calculate area and how to convert units / measurements</li> </ul>		<ul style="list-style-type: none"> <li>- Able to calculate materials and avoid wasting</li> </ul>
<b>Desk tidy make</b>	<ul style="list-style-type: none"> <li>- Select and use correct tools and equipment.</li> <li>- Accuracy when marking, measuring, and cutting materials.</li> <li>- Quality of finished work</li> </ul>	<ul style="list-style-type: none"> <li>- Ability to use the tools and equipment accurately and safely.</li> <li>- Understanding what different tools are used for.</li> <li>- Able to mark out accurately to avoid waste and apply tolerance.</li> <li>- Pride in work completed and finished products can be used / taken home</li> </ul>	<ul style="list-style-type: none"> <li>- How to correctly use a ruler and a try square</li> <li>- How to read a ruler and mark out on to a piece of timber</li> <li>- How to convert mm to cm</li> <li>- How to use a saw correctly</li> <li>- How to use a drill correctly</li> <li>- How to sand / finish work correctly</li> </ul>	<ul style="list-style-type: none"> <li>- Hand eye coordination</li> <li>- Being able to physically hold and grip the saw.</li> <li>- Ability to read numbers on a ruler.</li> <li>- Can follow sequence of instructions</li> </ul>	<ul style="list-style-type: none"> <li>- So that they can place the saw / tool in the correct place and follow a line using their hands with the saw</li> <li>- So that they can keep hold of the saw and not drop it while cutting. Ability to cut through a piece of timber.</li> <li>- So that they mark the correct measurement</li> <li>- So that they can complete the finished piece in the correct order</li> </ul>

<b>User design</b>	<ul style="list-style-type: none"> <li>- Designing in 3D to develop ideas based on a given design brief / clients' needs.</li> <li>- Rendering designs</li> <li>- Isometric drawings skills</li> <li>- Understanding the needs of others</li> <li>- Inclusive design strategies (The Big Life Fix)</li> </ul>	<ul style="list-style-type: none"> <li>- Able to design realistic ideas in 3 dimensions.</li> <li>- Able to recognise a client brief and write a specification linked to needs and wants</li> </ul>	<ul style="list-style-type: none"> <li>- Shading and rendering – the use of light, medium and dark tone.</li> <li>- How to hold a pencil correctly when shading</li> <li>- Use of markers and fine line pens for thick and thin lines</li> <li>- The difference between 3D and 2D drawings (Advantages and disadvantages)</li> <li>- How to use isometric grid paper correctly</li> <li>- Why designs need to be rendered.</li> <li>- What is user design?</li> <li>- What is inclusion / inclusive design?</li> </ul>	<ul style="list-style-type: none"> <li>- Use of pencil and ruler for designing neatly</li> <li>- Developing creativity – the ability to generate ideas.</li> <li>- Can emphasise with a client and their needs.</li> <li>- Understanding why designing for others is important.</li> <li>- Can read and understand what a specification is and how that enables designs to progress</li> </ul>	<ul style="list-style-type: none"> <li>- So that they can generate ideas for assessment tasks</li> <li>- So that they can design in 3D which will give their drawings more depth and detail</li> </ul>
<b>Product Evaluation - Cars</b>	<ul style="list-style-type: none"> <li>- Analysing skills – being able to evaluate products.</li> <li>- Justification techniques – giving reasons for answers.</li> <li>- Technical knowledge. Understanding</li> </ul>	<ul style="list-style-type: none"> <li>- Able to recognise products and how they have changed over time.</li> <li>- Able to evaluate a product and key words / phrases to use.</li> <li>- Be able to justify their answers with</li> </ul>	<ul style="list-style-type: none"> <li>- What is technology?</li> <li>- Why do products change?</li> <li>- What is product evolution?</li> <li>- What products are made from?</li> <li>- What older products were used for and</li> </ul>	<ul style="list-style-type: none"> <li>- Evaluation and having an opinion on a product.</li> <li>- Being able to justify choices made about opinions.</li> </ul>	<ul style="list-style-type: none"> <li>- Essential for buying or understanding why products are designed the way they are.</li> <li>- So that they can justify any products and their opinions</li> </ul>

	<p>developments in technology and over time.</p> <ul style="list-style-type: none"> <li>- What products do and how they have changed</li> </ul>	<p>reasons linked to key words.</p> <ul style="list-style-type: none"> <li>- Able to recognise how technology has changed and the impact it has had</li> </ul>	<p>how they have developed?</p> <ul style="list-style-type: none"> <li>- How to structure full sentences using key words and phrases</li> </ul>		<p>are relevant to the products they are analysing</p>
<b>EoY Test</b>	<ul style="list-style-type: none"> <li>- Designing skills</li> <li>- Making skills (Tools and equipment)</li> <li>- Technical knowledge (Materials and processes)</li> <li>- Application of Maths knowledge</li> </ul>	<ul style="list-style-type: none"> <li>- Being able to design in 3D using a given grid (Isometric) (AO2)</li> <li>- Knowing what the different tools and equipment are and how they can be used)</li> <li>- What different materials are, their categories and what they can be used for</li> <li>- Maths skills used for conversion and calculating area / material use</li> </ul>	<ul style="list-style-type: none"> <li>- Designing in 3D and its advantages</li> <li>- What tools are used for. Why it is not just a “saw”</li> <li>- Understanding the correct names.</li> <li>- Specific material names getting away from wood, metal and plastic.</li> <li>- How to calculate area and how to convert units / measurements</li> </ul>	<ul style="list-style-type: none"> <li>- Use of pencil and ruler for designing neatly</li> <li>- Writing neatly</li> <li>- Use of calculator for maths-based questions</li> </ul>	<ul style="list-style-type: none"> <li>- Essential skill when in Design Technology to help with drawing ideas.</li> <li>- Knowledge is understood.</li> <li>- Able to calculate materials and avoid wasting</li> </ul>
<b>Year 9</b>					
<b>Baseline</b>	<ul style="list-style-type: none"> <li>- Designing skills</li> <li>- Making skills (Tools and equipment)</li> <li>- Technical knowledge (Materials and processes)</li> <li>- Application of Maths knowledge</li> </ul>	<ul style="list-style-type: none"> <li>- Being able to design in 3D using a given grid (Isometric) (AO2)</li> <li>- Knowing what the different tools and equipment are and how they can be used)</li> </ul>	<ul style="list-style-type: none"> <li>- Designing in 3D and its advantages</li> <li>- What tools are used for. Why it is not just a “saw”</li> <li>- Understanding the correct names and functions – different</li> </ul>	<ul style="list-style-type: none"> <li>- Use of pencil and ruler for designing neatly</li> <li>- Writing neatly</li> <li>- Use of calculator for maths-based questions.</li> </ul>	<ul style="list-style-type: none"> <li>- Essential skill when in Design Technology to help with drawing ideas.</li> <li>- Knowledge is understood.</li> </ul>

		<ul style="list-style-type: none"> <li>- What different materials are, their categories and what they can be used for?</li> <li>- Maths skills used for conversion and calculating area / material use</li> </ul>	<ul style="list-style-type: none"> <li>tools for different materials.</li> <li>- Specific material names getting away from wood, metal, and plastic.</li> <li>- How to calculate area and how to convert units / measurements</li> </ul>		<ul style="list-style-type: none"> <li>- Able to calculate materials and avoid wasting</li> </ul>
<b>Picture frame make</b>	<ul style="list-style-type: none"> <li>- Select and use correct tools and equipment.</li> <li>- Accuracy when marking, measuring, and cutting materials.</li> <li>- Quality of finished work</li> </ul>	<ul style="list-style-type: none"> <li>- Ability to use the tools and equipment accurately and safely.</li> <li>- Understanding what different tools are used for.</li> <li>- Able to mark out accurately to avoid waste and apply tolerance.</li> <li>- Pride in work completed and finished products can be used / taken home</li> </ul>	<ul style="list-style-type: none"> <li>- How to correctly use a ruler and a try square</li> <li>- How to read a ruler and mark out on to a piece of timber</li> <li>- How to convert mm to cm</li> <li>- How to use a saw correctly</li> <li>- How to use a drill correctly</li> <li>- How to sand / finish work correctly</li> </ul>	<ul style="list-style-type: none"> <li>- Hand eye coordination</li> <li>- Being able to physically hold and grip the saw.</li> <li>- Ability to read numbers on a ruler.</li> <li>- Can follow sequence of instructions</li> </ul>	<ul style="list-style-type: none"> <li>- So that they can place the saw / tool in the correct place and follow a line using their hands with the saw</li> <li>- So that they can keep hold of the saw and not drop it while cutting. Ability to cut through a piece of timber.</li> <li>- So that they mark the correct measurement</li> <li>- So that they can complete the finished piece in the correct order</li> </ul>
<b>CAD Design</b>	<ul style="list-style-type: none"> <li>- Designing skills using computer</li> </ul>	<ul style="list-style-type: none"> <li>- Able to use the computers</li> </ul>	<ul style="list-style-type: none"> <li>- What CAD means.</li> <li>- What CAM means.</li> </ul>	<ul style="list-style-type: none"> <li>- Use of the computer</li> </ul>	<ul style="list-style-type: none"> <li>- So they are able to access the</li> </ul>

	<p>aided design software.</p> <ul style="list-style-type: none"> <li>- What is CAD?</li> <li>- Why is CAD used?</li> <li>- Advantages and Disadvantages of CAD</li> <li>- Programmes and features</li> <li>- Responding to a client brief and specification</li> </ul>	<p>effectively to help aid design work at KS3 and KS4 level.</p> <ul style="list-style-type: none"> <li>- Understanding key terminology and the role that CAD has played on our everyday life.</li> <li>- Ability to follow a sequence of instructions to complete the project effectively.</li> <li>- Able to meet the needs and wants of a client and meet a specification.</li> </ul>	<ul style="list-style-type: none"> <li>- Why designing on a computer has advantages and disadvantages.</li> <li>- The word specification.</li> <li>- How to use the software efficiently.</li> </ul>	<p>(Mouse / keyboard etc)</p> <ul style="list-style-type: none"> <li>- Ability to read and follow a sequence of instructions.</li> <li>- Hand eye coordination</li> <li>- Ability to see and use a computer to a basic level.</li> </ul>	<p>computer programmes effectively.</p> <ul style="list-style-type: none"> <li>- So that they are able to complete a range of different activities and tasks which will help them to progress with the subject content</li> <li>- Ability to reference points on the screen and move towards them.</li> </ul>
<b>Product Evaluation - Robotics</b>	<ul style="list-style-type: none"> <li>- Analysing skills – being able to evaluate products.</li> <li>- Justification techniques – giving reasons for answers.</li> <li>- Technical knowledge. Understanding developments in technology and over time.</li> </ul>	<ul style="list-style-type: none"> <li>- Able to recognise products and how they have changed over time.</li> <li>- Able to evaluate a product and key words / phrases to use.</li> <li>- Be able to justify their answers with reasons linked to key words.</li> <li>- Able to recognise how technology has</li> </ul>	<ul style="list-style-type: none"> <li>- What is technology?</li> <li>- Why do products change?</li> <li>- What is product evolution?</li> <li>- What products are made from?</li> <li>- What older products were used for and how they have developed?</li> <li>- How to structure full sentences using key words and phrases</li> </ul>	<ul style="list-style-type: none"> <li>- Evaluation and having an opinion on a product.</li> <li>- Being able to justify choices made about opinions.</li> </ul>	<ul style="list-style-type: none"> <li>- Essential for buying or understanding why products are designed the way they are.</li> <li>- So that they can justify any products and their opinions are relevant to the products they are analysing</li> </ul>



	<ul style="list-style-type: none"> <li>- What products do and how they have changed</li> </ul>	<ul style="list-style-type: none"> <li>changed and the impact it has had</li> </ul>			
<b>EoY Test</b>	<ul style="list-style-type: none"> <li>- Designing skills</li> <li>- Making skills (Tools and equipment)</li> <li>- Technical knowledge (Materials and processes)</li> <li>- Application of Maths knowledge</li> </ul>	<ul style="list-style-type: none"> <li>- Being able to design in 3D using a given grid (Isometric) (AO2)</li> <li>- Knowing what the different tools and equipment are and how they can be used)</li> <li>- What different materials are, their categories and what they can be used for</li> <li>- Maths skills used for conversion and calculating area / material use</li> </ul>	<ul style="list-style-type: none"> <li>- Designing in 3D and its advantages</li> <li>- What tools are used for. Why it is not just a "saw"</li> <li>Understanding the correct names.</li> <li>- Specific material names getting away from wood, metal and plastic.</li> <li>- How to calculate area and how to convert units / measurements</li> </ul>	<ul style="list-style-type: none"> <li>- Use of pencil and ruler for designing neatly</li> <li>- Writing neatly</li> <li>- Use of calculator for maths-based questions</li> </ul>	<ul style="list-style-type: none"> <li>- Essential skill when in Design Technology to help with drawing ideas.</li> <li>- Knowledge is understood.</li> <li>- Able to calculate materials and avoid wasting</li> </ul>

**Assessment in Design and Technology KS4**

Assessment	Essential Component Knowledge	Why is this essential knowledge?	Misconceptions Often Addressed	What are the essential skills?	Why is this an essential skill?
<b>Year 10</b>					
<b>DT Mock Baseline – Technical Knowledge</b>	<ul style="list-style-type: none"> <li>- Designing skills</li> <li>- Making skills (Tools and equipment)</li> <li>- Technical knowledge (Materials and processes)</li> <li>- Specialist technical principles</li> <li>- Application of Maths knowledge</li> </ul>	<ul style="list-style-type: none"> <li>- Being able to design in 3D using a given grid (Isometric) (AO2)</li> <li>- Knowing what the different tools and equipment are and how they can be used)</li> <li>- What different materials are, their categories and what they can be used for</li> <li>- Maths skills used for conversion and calculating area / material use</li> <li>- What tools and processes are used within DT and what they are used for</li> </ul>	<ul style="list-style-type: none"> <li>- Designing in 3D and its advantages</li> <li>- What tools are used for. Why it is not just a “saw”</li> <li>- What specific tools are used for different materials and that all tools cannot just be used for any material</li> <li>- Understanding the correct names.</li> <li>- Specific material names getting away from wood, metal and plastic.</li> <li>- How to calculate area and how to convert units / measurements</li> </ul>	<ul style="list-style-type: none"> <li>- Use of pencil and ruler for designing neatly</li> <li>- Writing neatly</li> <li>- Use of calculator for maths-based questions</li> <li>- Ability to read and answer technical questions linked to DT specification</li> </ul>	<ul style="list-style-type: none"> <li>- Essential skill when in Design Technology to help with drawing ideas.</li> <li>- Knowledge is understood and recalled</li> <li>- Able to calculate materials and avoid wasting</li> <li>- Understanding the DT specification and elements that are required to answering key knowledge questions</li> </ul>
<b>Phone stand - Make</b>	<ul style="list-style-type: none"> <li>- Select and use correct tools and equipment to manufacture a product</li> <li>- Accuracy when marking,</li> </ul>	<ul style="list-style-type: none"> <li>- Ability to use the tools and equipment accurately and safely.</li> <li>- Understanding what different tools are used for.</li> </ul>	<ul style="list-style-type: none"> <li>- How to correctly use a ruler and a try square</li> <li>- How to read a ruler and mark out on to a piece of timber</li> <li>- How to use CAD and CAM to</li> </ul>	<ul style="list-style-type: none"> <li>- Hand eye coordination</li> <li>- Being able to physically use a range of tools safely and accurately.</li> </ul>	<ul style="list-style-type: none"> <li>- So that they can place the saw / tool in the correct place and follow a line using their hands with the</li> </ul>

	<ul style="list-style-type: none"> <li>- measuring and cutting materials.</li> <li>- Quality of finished work</li> <li>- Use of specialist equipment</li> <li>- Writing a production plan for creating a product and the key steps taken</li> </ul>	<ul style="list-style-type: none"> <li>- Able to mark out accurately to avoid waste and apply tolerance.</li> <li>- Pride in work completed and finished products can be used / taken home.</li> <li>- Understanding more complex tools and what they are used for – specialist tools and equipment</li> <li>- Understanding how to record steps taken to manufacture a product</li> </ul>	<ul style="list-style-type: none"> <li>- develop plastic phone stand</li> <li>- How to convert mm to cm</li> <li>- How to use a saw correctly</li> <li>- How to use a drill correctly</li> <li>- How to sand / finish work correctly</li> <li>- How to create a mortise and tenon joint</li> <li>- How to use a vacuum former</li> <li>- How to use the laser cutter</li> <li>- How to write a production plan</li> </ul>	<ul style="list-style-type: none"> <li>- Ability to read numbers on a ruler and work to tolerances</li> <li>- Ability to recognise specialist tools and equipment and what they can be used for</li> <li>- How to follow sequence of instructions</li> <li>- How to record information for a production plan</li> </ul>	<ul style="list-style-type: none"> <li>- saw / other tools</li> <li>- Ability to cut through a piece of timber.</li> <li>- So that they mark the correct measurement</li> <li>- So students can understand what equipment is used for an can later apply this knowledge to</li> <li>- So that they can complete the finished piece in the correct order</li> <li>- So that students can create an accurate production plan for others to follow</li> </ul>
<p><b>Designing for others – Prototyping – Design and Make</b></p>	<ul style="list-style-type: none"> <li>- Rendering and design skills - shading / isometric and perspective drawing - how to develop ideas to 3D and realist sketches</li> </ul>	<ul style="list-style-type: none"> <li>- Ability to present work neatly.</li> <li>- Ability to generate design ideas in 2 and 3 dimensions.</li> <li>- Ability to recognise drawing techniques used in</li> </ul>	<ul style="list-style-type: none"> <li>- Shading and rendering – the use of light, medium and dark tone.</li> <li>- How to hold a pencil correctly when shading</li> <li>- The difference between 3D and</li> </ul>	<ul style="list-style-type: none"> <li>- Use of pencil and ruler for designing neatly</li> <li>- Basic creativity – the ability to generate ideas</li> <li>- Being able to read a design</li> </ul>	<ul style="list-style-type: none"> <li>- So that they can generate ideas for assessment tasks independently</li> <li>- So that they can design in 3D which will</li> </ul>

	<ul style="list-style-type: none"> <li>- Designing for a design brief</li> <li>- Development of ideas through iterative process</li> <li>- Modelling techniques used to develop ideas from sketch to physical model</li> </ul>	<p>designing of products.</p> <ul style="list-style-type: none"> <li>- Understanding how to develop ideas from a given design brief</li> </ul>	<p>2D drawings and the names of different techniques used (Advantages and disadvantages of each)</p> <ul style="list-style-type: none"> <li>- How to use isometric grid paper correctly</li> <li>- Why designs need to be rendered.</li> <li>- What is modelling and prototyping?</li> <li>- The iterative design process</li> </ul>	<p>brief and highlight key words</p> <ul style="list-style-type: none"> <li>- How to model ideas using card and other prototyping mediums and the advantages of physical modelling</li> </ul>	<p>give their drawings more depth and detail</p> <ul style="list-style-type: none"> <li>- So they can understand what to design to effectively meet the design brief needs</li> </ul>
<p><b>New and emerging technologies evaluation and development – Technical Knowledge</b></p>	<ul style="list-style-type: none"> <li>- Analysing skills – being able to evaluate products from different technology use areas</li> <li>- Technical knowledge. Understanding developments in technology over time.</li> <li>- What products do and how they have changed</li> <li>- The impact of technology on the environment</li> </ul>	<ul style="list-style-type: none"> <li>- Able to recognise products and how they have changed over time.</li> <li>- Able to evaluate a product and justifying thoughts with reasons</li> <li>- Able to recognise how technology has changed and the impact it has had</li> <li>- Developing ideas for a product linked to the key areas of emerging</li> </ul>	<ul style="list-style-type: none"> <li>- What is technology? - not just what we see and use today</li> <li>- Why do products change?</li> <li>- What products are made from?</li> <li>- Planned obsolescence</li> <li>- Market pull and technology push</li> <li>- What older products were used for and how they have developed</li> <li>- How to structure full sentences using</li> </ul>	<ul style="list-style-type: none"> <li>- Evaluation and having an opinion on a product.</li> <li>- Being able to justify choices made about opinions.</li> <li>- Using key knowledge on new and emerging technologies and applying this in to development of own ideas</li> </ul>	<ul style="list-style-type: none"> <li>- Essential for buying or understanding why products are designed the way they are.</li> <li>- So that they can justify any products and their opinions are relevant to the products they are analysing</li> <li>- So that their products are designed with</li> </ul>

	<ul style="list-style-type: none"> <li>- Critical evaluation in informing design decisions</li> <li>- Development of ideas linked to new technologies – using information to create a “perfect” product and what this may look like</li> </ul>	and new technologies	key words and phrases		key factors analysed
<b>Mock exam – GCSE specification</b>	<ul style="list-style-type: none"> <li>- Designing skills</li> <li>- Making skills (Tools and equipment)</li> <li>- Technical knowledge (Materials and processes)</li> <li>- Specialist technical principles</li> <li>- Application of Maths knowledge</li> </ul>	<ul style="list-style-type: none"> <li>- Being able to design in 3D using a given grid (Isometric) (AO2)</li> <li>- Knowing what the different tools and equipment are and how they can be used)</li> <li>- What different materials are, their categories and what they can be used for</li> <li>- Maths skills used for conversion and calculating area / material use</li> <li>- What tools and processes are used within DT and what they are used for</li> </ul>	<ul style="list-style-type: none"> <li>- Designing in 3D and its advantages</li> <li>- What tools are used for. Why it is not just a “saw”</li> <li>- What specific tools are used for different materials and that all tools cannot just be used for any material</li> <li>- Understanding the correct names.</li> <li>- Specific material names getting away from wood, metal and plastic.</li> <li>- How to calculate area and how to convert units / measurements</li> </ul>	<ul style="list-style-type: none"> <li>- Use of pencil and ruler for designing neatly</li> <li>- Writing neatly</li> <li>- Use of calculator for maths-based questions</li> <li>- Ability to read and answer technical questions linked to DT specification</li> </ul>	<ul style="list-style-type: none"> <li>- Essential skill when in Design Technology to help with drawing ideas.</li> <li>- Knowledge is understood and recalled</li> <li>- Able to calculate materials and avoid wasting</li> <li>- Understanding the DT specification and elements that are required to answering key knowledge questions</li> </ul>

Year 11					
<b>Mock exam – GCSE specification (Done at 2 points in the year)</b>	<ul style="list-style-type: none"> <li>- Designing skills</li> <li>- Making skills (Tools and equipment)</li> <li>- Technical knowledge (Materials and processes)</li> <li>- Specialist technical principles</li> <li>- Application of Maths knowledge</li> </ul>	<ul style="list-style-type: none"> <li>- Being able to design in 3D using a given grid (Isometric) (AO2)</li> <li>- Knowing what the different tools and equipment are and how they can be used)</li> <li>- What different materials are, their categories and what they can be used for</li> <li>- Maths skills used for conversion and calculating area / material use</li> <li>- What tools and processes are used within DT and what they are used for</li> </ul>	<ul style="list-style-type: none"> <li>- Designing in 3D and its advantages</li> <li>- What tools are used for. Why it is not just a “saw”</li> <li>- What specific tools are used for different materials and that all tools cannot just be used for any material</li> <li>- Understanding the correct names.</li> <li>- Specific material names getting away from wood, metal and plastic.</li> <li>- How to calculate area and how to convert units / measurements</li> </ul>	<ul style="list-style-type: none"> <li>- Use of pencil and ruler for designing neatly</li> <li>- Writing neatly</li> <li>- Use of calculator for maths-based questions</li> <li>- Ability to read and answer technical questions linked to DT specification</li> </ul>	<ul style="list-style-type: none"> <li>- Essential skill when in Design Technology to help with drawing ideas.</li> <li>- Knowledge is understood and recalled</li> <li>- Able to calculate materials and avoid wasting</li> <li>- Understanding the DT specification and elements that are required to answering key knowledge questions</li> </ul>
<b>GCSE NEA – 50% overall grade</b>	<ul style="list-style-type: none"> <li>- Identifying and investigating design possibilities</li> <li>- Producing a design brief and specification</li> </ul>	<ul style="list-style-type: none"> <li>- Design possibilities identified and thoroughly explored</li> <li>- A user/client has been clearly identified and is entirely relevant in</li> </ul>	<ul style="list-style-type: none"> <li>- How to begin to develop ideas</li> <li>- Avoiding design fixation</li> <li>- Use of range of materials</li> </ul>	<ul style="list-style-type: none"> <li>- Being able to physically use a range of tools safely and accurately.</li> </ul>	<ul style="list-style-type: none"> <li>- Ability to cut through a piece of material</li> <li>- So that they mark the</li> </ul>

	<ul style="list-style-type: none"> <li>- Generating design ideas Developing design ideas</li> <li>- Realising design ideas</li> <li>- Analysing &amp; evaluating</li> </ul>	<p>all aspects to the contextual challenge with investigation of their needs and wants</p> <ul style="list-style-type: none"> <li>- Comprehensive investigation into the work of others.</li> <li>- Excellent design focus and full understanding of the impact on society including; economic and social effects.</li> <li>- Comprehensive design specification</li> <li>- Imaginative, creative and innovative ideas have been generated</li> <li>- Ideas have been generated with imaginative use of different design strategies</li> <li>- Very detailed development work is evident, using a wide range of 2D/3D techniques to develop a prototype.</li> <li>- Excellent modelling, using a wide variety of methods to test their design ideas. Fully appropriate</li> </ul>	<ul style="list-style-type: none"> <li>- Developing ideas within reason and not too complex</li> <li>- Needs and wants of a user</li> <li>- The iterative design process</li> </ul>	<ul style="list-style-type: none"> <li>- Ability to work to tolerances</li> <li>- Ability to recognise specialist tools and equipment and what they can be used for</li> <li>- How to follow sequence of instructions</li> <li>- How to record information for a production plan</li> <li>- Evaluation and having an opinion on a product.</li> <li>- Being able to justify choices made about opinions.</li> <li>- Using key knowledge on new and emerging technologies and applying this in to development of own ideas</li> <li>- Creativity – the ability to generate ideas</li> </ul>	<p>correct measurement</p> <ul style="list-style-type: none"> <li>- So students can understand what equipment is used for an can later apply this knowledge to</li> <li>- So that they can complete the finished piece in the correct order</li> <li>- So that students can create an accurate production plan for others to follow</li> <li>- So that they can justify any products and their opinions are relevant to the products they are analysing</li> <li>- So that their products are designed with key factors analysed</li> <li>- So that they can generate ideas for</li> </ul>
--	---	---	---	--	--

		<p>materials/components selected with extensive research</p> <ul style="list-style-type: none"> <li>- Prototype shows an exceptionally high level of making/finishing skills that are fully consistent and appropriate to the desired outcome.</li> <li>- Detailed evaluation of all aspects of the project and what has been undertaken with justifications</li> </ul>		<ul style="list-style-type: none"> <li>- Being able to read a design brief and highlight key words</li> <li>- How to model ideas using card and other prototyping mediums and the advantages of physical modelling</li> <li>-</li> </ul>	<p>assessment tasks independently</p> <ul style="list-style-type: none"> <li>- So that they can design in 3D which will give their drawings more depth and detail</li> <li>- So they can understand what to design to effectively meet the design brief needs</li> <li>-</li> </ul>
--	--	---	--	--	---

**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**

- 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 – mid point / starters of the lesson
- Retrieval starters



- End of topic quizzes

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

After each assessment at KS4 there is an opportunity in class for the teacher to go over the test / work 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.

Continuous questioning throughout practical lessons and live verbal feedback is given all the time to help the students practical work develop