

Year 10 Curriculum Overview [2019-2020] – Planning for Progression
Subject – Construction

Schedule	Term	Knowledge & Understanding	Literacy Skills Building vocabulary Developing oral skills Developing reading skills Developing writing skills	Key Skills Subject Skills Numeracy Skills 21 st Century Skills Employability Skills	Assessment Formative Interim Summative
Autumn Term	Half Term 1	<p>Understand carpentry and joinery tools equipment and materials</p> <p>Tools:</p> <ul style="list-style-type: none"> • Setting out tools • Hand Tools <p>Equipment:</p> <ul style="list-style-type: none"> • Vices • Clamps • Bench hooks <p>Materials:</p> <ul style="list-style-type: none"> • Wood and wood composites • Glue • Fixings • Finishing materials 	<p>Keywords: mortice, tenon, chisel, bradawl, fixings</p> <p>Research and skim reading – to investigate tools, equipment and materials</p>	<p>Subject: To use Hand tools effectively.</p> <p>Numeracy: Measuring</p> <p>Employability: Independence</p> <p>21st century: Critical thinking</p>	<p>Pupils will be assessed using the BTEC marking criteria on the coursework that they produce.</p> <p>This unit is assessed in three parts:</p> <ol style="list-style-type: none"> 1. Description of tools 2. Justification of tool choice 3. Evaluation of alternatives
	Half Term 2	<ul style="list-style-type: none"> • Justify the use of tools and evaluate alternative tools for a specific task • Safe use of tools • Good practice in tool use: <ul style="list-style-type: none"> ○ Cleaning ○ Storage ○ Working environment 	<p>Evaluative writing – justifying why tools are fit for purpose</p> <p>Verbal response to questions – tool cleaning and storage</p>	<p>Subject: Research</p> <p>Employability: Initiative</p> <p>21st Century: Communication</p>	

Spring Term	Half Term 3	<p>Understand the effects of forces and temperature changes on materials used in construction:</p> <ul style="list-style-type: none"> • Properties: <ul style="list-style-type: none"> ○ Strength ○ ductility ○ density • Stresses: <ul style="list-style-type: none"> ○ Compressive ○ tensile ○ shear ○ bending • Changes of State • Cooling effect of evaporation • Expansion of water on freezing 	<p>Keywords: Compression, tension, shear, strain, elasticity.</p> <p>Following logical instructions – to determine correct formula and calculate a solution</p>	<p>Subject: Understand properties of materials</p> <p>Numeracy – Use of formulae</p> <p>Employability: Research</p> <p>21st Century: Critical Thinking</p>	<p>Pupils will be assessed using the BTEC marking criteria on the coursework that they produce.</p> <p>This unit is assessed in two parts:</p> <ol style="list-style-type: none"> 1. The effects of forces and temperatures on Construction material 2. Using mathematical techniques to solve construction problems.
	Half Term 4	<p>Use mathematical techniques to solve construction problems.</p> <ul style="list-style-type: none"> • Determining forces: <ul style="list-style-type: none"> ○ Hooke’s Law ○ Tensile and Compressive stresses ○ Strain ○ Modulus of elasticity • Mensuration: <ul style="list-style-type: none"> ○ Area of 2D shapes ○ Surface area of 3D shapes ○ Volume of 3D Shapes 	<p>Explanatory writing</p> <p>Verbal explanations to justify use of formula and relate solutions back to questions</p>	<p>Numeracy – rearranging formulae</p> <p>Subject: Understand limits of materials</p> <p>Employability: Decisions Making</p> <p>21st Century: Communication</p>	

Summer Term	Half Term 5	<p>Understand the work of the construction industry including:</p> <ul style="list-style-type: none"> ○ Civil Engineering ○ Industrial ○ Residential ○ Commercial ○ Retail ○ Health ○ Education ○ Leisure <p>Understand a client's needs to develop a design brief for a low-rise building including:</p> <ul style="list-style-type: none"> ○ Sustainability ○ Building Use ○ Style and aesthetics <p>Needs and Constraints including:</p> <ul style="list-style-type: none"> ○ Budget ○ Site ○ Materials ○ Sustainability ○ Planning permissions ○ Timescales 	<p>Keywords: aesthetics, sustainability, infrastructure</p> <p>Reading and understanding a brief and writing analysis of needs and constraints.</p>	<p>Subject: Understand a range of construction processes and materials</p> <p>Employability: Decision-making</p> <p>21st Century: creativity</p>	<p>Pupils will be assessed using the BTEC marking criteria on the coursework that they produce.</p> <p>This unit will be assessed in three parts:</p> <ol style="list-style-type: none"> 1. Understanding the work of the construction industry 2. Understand a client's needs and creating a brief 3. Sketching design ideas to meet the needs of a brief.
	Half Term 6	<p>Produce a range of initial sketch ideas to meet the requirements of a client brief for a low-rise building:</p> <ul style="list-style-type: none"> ● Initial sketches ● Client Feedback ● Response to feedback ● Final design 	<p>Writing to persuade – justification of ideas</p> <p>Verbal explanations - annotations on designs</p>	<p>Subject: Design skills – drawing in 2-point perspective</p> <p>Employability: Innovation in the design ideas</p> <p>21st Century: Creativity in the aesthetics of the building design.</p>	