

## KS3 Design and Technology Long Term Planning Curriculum Overview

Currently the KS3 Design and Technology curriculum is delivered using a 'rotational curriculum'.

Throughout each year group pupils spend approximately one term in each area of D&T (Product design, CAD/systems/Textiles and Food)

	Year 7	Year 8	Year 9
Rotation A	Pencil Place	Stylish Storage	Sustainable Lamp
<b>Rotation A: Knowledge</b>	<p>Students should know:</p> <ul style="list-style-type: none"> <li>What timbers are specifically manufactured boards (e.g. MDF, plywood, chipboard).</li> <li>Health and Safety within the workshop. This includes how to use the tools and equipment correctly as well as what behaviour is expected in these conditions.</li> <li>What are different types of plastics?</li> <li>What processes can we use with plastic? (main focus is on line bending)</li> </ul>	<p>Students should know:</p> <ul style="list-style-type: none"> <li>What are methods of joining materials with fixing fastening, corner joints and adhesives?</li> <li>How and why do we joint similar and dissimilar materials together?</li> <li>What are corner joints and why do we use them to join timbers? (Focus: Lapped joints, comb joints, mitred joints)</li> <li>What are fixings and fastenings and how do we use them?</li> <li>How can we use the work of others or existing ideas to shape and form our own?</li> </ul>	<p>Students should know:</p> <ul style="list-style-type: none"> <li>What are the 6Rs of sustainable designing and manufacturing?</li> <li>Why is it important to use recycled/recyclable materials when designing and making new products?</li> <li>What are the different classifications of levers and where are they used?</li> <li>What are cams and gears and where are they used?</li> <li>What are the different electronic components and how/where are they used?</li> </ul>
<b>Rotation A: Skills</b>	<ul style="list-style-type: none"> <li>Using hand tools safely and accurately with a focus on using the coping saw correctly.</li> <li>Accurately drawing and marking out the design.</li> <li>Demonstrating an understanding of what types of sanding tools and techniques should be used.</li> <li>Using the strip heater to line bend a piece of plastic at the correct angle.</li> <li>Applying an accurate and precise finish to the pencil place shape.</li> </ul>	<ul style="list-style-type: none"> <li>Using hand tools safely and accurately including the introduction of more complex tools (plane and chisel)</li> <li>Accurate measuring and marking out of the corner joints.</li> <li>Demonstrate cutting and shaping of timber, to create accurate and functional corner joints.</li> <li>Demonstrate accurate marking and cutting to create an accurate and functioning lid to the stylish storage box.</li> </ul>	<ul style="list-style-type: none"> <li>Using Electronics tools safely and accurately to complete a circuit with different components (soldering iron, wire cutters, wire strippers)</li> <li>Working with a range of recycled and reusable materials to create a product.</li> <li>Using a plan to transfer marking and measurements to materials.</li> <li>Using hand tools accurately to cut the base and the adjustable arms for the lamp components.</li> <li>Using appropriate materials/equipment to create a suitable finish.</li> </ul>

	<ul style="list-style-type: none"> <li>• Correctly assembling the pieces to create the final product.</li> </ul>	<ul style="list-style-type: none"> <li>• Select the correct fastening and tools to make the lid functioning (countersink screw and screwdriver)</li> <li>• Demonstrate finishing of timber, to create accurate a smooth and functional product.</li> </ul>	<ul style="list-style-type: none"> <li>• Use of assembly skills with nuts and bolts to create a working product.</li> </ul>
<b>Rotation A: Assessment Opportunity</b>	<ul style="list-style-type: none"> <li>• <b>Designing:</b> Students should be assessed on their abilities to develop suitable ideas for their pencil place, this should use inspiration of the users favourite animals.</li> <li>• <b>Making:</b> Students should be assessed on their use of hand tools, with a particular focus on how accurately they have used the coping saw for both curved and straight cuts. Students will also be assessed on the quality of their finish.</li> <li>• <b>Home Learning:</b> Students will complete up to four 'knowledge organiser' home learning activities, based around work covered in the pencil place project. These will be checked, and self/peer assessed in class.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Designing:</b> Students should be assessed on their abilities to develop suitable ideas for their box lids, this should use inspiration for others and/or existing ideas.</li> <li>• <b>Making:</b> Students should be assessed on their use of hand tools, with a particular focus on how accurately the corner joints are, and how well the lid functions.</li> <li>• <b>Home Learning:</b> Students will complete up to four 'knowledge organiser' home learning activities, based around work covered in the stylish storage project. These will be checked, and self/peer assessed in class.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Making:</b> Students should be assessed on their use of hand tools, with a particular focus on how accurately the recycled materials have been used and how accurately the side arms have been marked, shaped and drilled out.</li> <li>• <b>Home Learning:</b> Students will complete up to four 'knowledge organiser' home learning activities, based around work covered in the Sustainable lamp project. These will be checked, and self/peer assessed in class.</li> </ul>
<b>Rotation B</b>	<b>Textiles Key Ring</b>	<b>Textiles Monster</b>	<b>Passive Speaker</b>
<b>Rotation B: Knowledge</b>	<p>Students should know:</p> <ul style="list-style-type: none"> <li>• The two different categories of textiles (natural and synthetic)</li> <li>• The names of different types of fabrics and their uses.</li> <li>• Where the different types of fabrics come from.</li> <li>• The difference between a running stitch and back stitch.</li> </ul>	<p>Students should know:</p> <ul style="list-style-type: none"> <li>• About the sewing machine and how to stay safe when using it.</li> <li>• Why textile designers use patterns and the importance of patterns</li> <li>• The issue with waste within the textile industry and what happens to this waste</li> <li>• About smart fabrics. Including the name of them and how / why they are used</li> </ul>	<p>Students should know:</p> <ul style="list-style-type: none"> <li>• What is a design movement is and know some of the types of design movements with a focus on Memphis.</li> <li>• The different scales of production and their advantages and disadvantages.</li> <li>• What isometric drawing is and why it is used.</li> </ul>
<b>Rotation B: Skills</b>	<p>Using a needle and thread properly to create a running stitch.</p> <ul style="list-style-type: none"> <li>•</li> <li>• Accurately cutting the different piece's for their keyring</li> <li>• Using the applique technique to secure pieces together.</li> </ul>	<ul style="list-style-type: none"> <li>• Using a sewing machine safely and efficiently</li> <li>• Accurately creating a pattern and using this to precisely cut the pieces of fabric needed.</li> <li>• Using their hand sewing skills from previous projects to securely fasten any parts of their monster (e.g. eyes)</li> </ul>	<ul style="list-style-type: none"> <li>• Accurately marking and measuring the pieces for their speaker.</li> <li>• Using the drill to cut the speaker hole</li> <li>• Precisely cutting the pieces and using the relevant finishing techniques to make these suitable</li> </ul>

	<ul style="list-style-type: none"> <li>Securely fastening their design to the key ring</li> </ul>	<ul style="list-style-type: none"> <li>Learning how to sew buttons and beans on and secure them to the fabric</li> </ul>	<ul style="list-style-type: none"> <li>Finishing the product to a high standard using a range of materials and techniques (e.g. laser cut plastic shapes, colouring pencils and the pyrograph machine).</li> </ul>
<b>Rotation B: Assessment Opportunity</b>	<ul style="list-style-type: none"> <li><b>Designing:</b> Students should be assessed on their abilities to develop suitable ideas for their keyring. These should link to the brief set.</li> <li><b>Making:</b> Students should be assessed on their use of hand sewing with focus on two stitches (running and back stitch).</li> <li><b>Evaluating:</b> Students should be assessed on their ability to evaluate the product they have made; identifying strengths and development points. The evaluation should reference the brief and/or user.</li> <li><b>Home Learning:</b> Students will complete up to four 'knowledge organiser' home learning activities, based around work covered in the textiles project. These will be checked, and self/peer assessed in class.</li> </ul>	<ul style="list-style-type: none"> <li><b>Designing:</b> Students should be assessed on their abilities to develop suitable ideas for the monster project. They should work in collaboration with others at times and produce an idea with emphasis on annotation.</li> <li><b>Making:</b> Students should be assessed on their use of equipment, for example the sewing machine. Students will be assessed on the overall quality of the monster. Focus will be on applique skill and securing buttons and beads securely.</li> <li><b>Evaluating:</b> Students should be assessed on their ability to evaluate the product they have made; identifying strengths and development points. The evaluation should reference the brief and/or user and some criteria.</li> <li><b>Home Learning:</b> Students will complete up to four 'knowledge organiser' home learning activities, based around work covered in the monster project. These will be checked, and self/peer assessed in class.</li> </ul>	<ul style="list-style-type: none"> <li><b>Designing:</b> Students should be assessed on their abilities to develop suitable ideas for their passive speaker, this should use inspiration of the work of others . design movements.</li> <li><b>Making:</b> Students should be assessed on their use of hand tools, with a particular focus on how accurately they have marked, measured and cut parts for their speakers. Students will be assessed on the overall finish of their speaker.</li> <li><b>Evaluating:</b> Students should be assessed on their ability to evaluate the product they have made; identifying strengths and development points. The evaluation should reference the brief and/or user and some criteria.</li> <li><b>Home Learning:</b> Students will complete up to four 'knowledge organiser' home learning activities, based around work covered in the speaker project. These will be checked, and self/peer assessed in class.</li> </ul>
<b>Rotation C</b>	<b>Block Bot</b>	<b>Bolt Man</b>	<b>Modelling</b>
<b>Rotation C: Knowledge</b>	<p>Students should know:</p> <ul style="list-style-type: none"> <li>What are natural timbers? Hardwoods and soft woods.</li> <li>What are the properties and uses of different natural timbers?</li> <li>What are finishes and how can they be applied?</li> </ul>	<p>Students should know:</p> <ul style="list-style-type: none"> <li>What are ferrous metals? (Iron containing metals; iron, mild steel, stainless steel)</li> <li>What are non-ferrous metals and alloy metals? (Aluminium, copper, lead, tin, brass)</li> <li>What are the stock forms of the metal materials?</li> </ul>	<p>Students should know:</p> <ul style="list-style-type: none"> <li>What are the different types of papers and boards are used in industry and school?</li> <li>What are the different functions of different paper and board materials?</li> <li>How can papers and boards can be cut, shaped, processed and joined?</li> </ul>

	<ul style="list-style-type: none"> <li>• Why is accuracy important when marking out materials?</li> <li>• Why do we use a range of different drawing and designing techniques? (Isometric and plan views)</li> <li>• What are the different tools for wood working? (Tenon saw, try square, bench hook, drilling machine)</li> </ul>	<ul style="list-style-type: none"> <li>• What are the properties and uses of different metal materials?</li> <li>• How can metals be joined? (Adhesives, brazing, welding and riveting)</li> <li>• What are jigs and formers and how are they used in manufacturing?</li> <li>• What are the different engineer's tools and what are their uses? (hack saw, scribe, engineers square, file)</li> </ul>	<ul style="list-style-type: none"> <li>• What is biomimicry and how can it be used to develop design ideas?</li> <li>• How can scale drawings and information be used to inform realisation?</li> <li>• What are prototypes and how are they used by designers to develop new products?</li> </ul>
<b>Rotation C: Skills</b>	<ul style="list-style-type: none"> <li>• Using hand tools carefully for marking out (Try square and steel rule)</li> <li>• Interpret a plan drawing to accurately measure and mark out of the softwood.</li> <li>• Using hand tools safely and carefully for cutting and shaping. (Tenon saw, files and sanding boards)</li> <li>• Safe use of the drilling machine, to drill out components of the block bot.</li> <li>• Applying a suitable finish to the softwood.</li> <li>• Use isometric drawing skills to produce 3D views of the block bot.</li> <li>• Use scale and plan drawings to create a plan view of the block bot.</li> </ul>	<ul style="list-style-type: none"> <li>• Using engineering tools carefully for marking out (engineers' scribe, steel rule and engineers square)</li> <li>• Using engineering hand tools safely and carefully for cutting and shaping. (Hacksaw, files and emery cloth)</li> <li>• Using a jig/former to help shape the mild steel rods.</li> <li>• Safe use of the brazing hearth to join the components of the bolt man.</li> <li>• Applying a suitable finish to the ferrous metal to achieve a good product.</li> </ul>	<ul style="list-style-type: none"> <li>• Using craft tools safely and carefully (craft knife, safety rule, cutting mat, paper drills compass cutters.</li> <li>• Selecting and using the appropriate adhesives and fastenings to join paper and card materials. (Glue gun, model glue, paper fasteners etc)</li> <li>• Developing a precise scale model of a product</li> <li>• Creating a suitable finish to the scale model and prototype.</li> </ul>
<b>Rotation C: Assessment Opportunity</b>	<ul style="list-style-type: none"> <li>• <b>Designing:</b> Students should be assessed on their abilities to develop and communicate plan and isometric drawings</li> <li>• <b>Making:</b> Students should be assessed on their use of hand tools and the drilling machine and how safely and accurately they can operate these.</li> <li>• <b>Evaluating:</b> Students should be assessed on their ability to evaluate the product they have made; identifying strengths and development points.</li> <li>• <b>Home Learning:</b> Students will complete up to four 'knowledge organiser' home learning</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Designing:</b> Students should be assessed on their abilities to develop and communicate ideas using different media (string modelling for the components of their bolt man)</li> <li>• <b>Making:</b> Students should be assessed on their safe and accurate use of engineering tools and joining using the brazing hearth.</li> <li>• <b>Evaluating:</b> Students should be assessed on their ability to evaluate the product they have made; identifying strengths and development points. The evaluation should reference the brief and/or user and some criteria.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Making:</b> Students should be assessed on their safe and accurate use of modelling tools and equipment. Students should be assessed on the scale and quality of the prototype.</li> <li>• <b>Evaluating:</b> Students should be assessed on their ability to evaluate the product they have made; identifying strengths and development points.</li> <li>• <b>Home Learning:</b> Students will complete up to four 'knowledge organiser' home learning activities, based around the modelling project these will be checked, and self/peer assessed in class.</li> </ul>

	activities, based around the Block Bot project. These will be checked, and self/peer assessed in class.	<ul style="list-style-type: none"> <li>• <b>Home Learning:</b> Students will complete up to four 'knowledge organiser' home learning activities, based around the Bolt Man project these will be checked, and self/peer assessed in class.</li> </ul>	
<b>KS3 Food preparation and Nutrition</b>			
	<b>Y7</b>	<b>Y8</b>	<b>Y9</b>
	<b>License to cook-An introduction to food</b>	<b>Eatwell-good nutrition and healthy eating</b>	<b>Going global</b>
<i>Food preparation and Nutrition:</i> <b>Knowledge</b>	<p>Students should know:</p> <ul style="list-style-type: none"> <li>• Why safety and hygiene in Food Technology is important?</li> <li>• What are food miles and sustainability issues in food production?</li> <li>• What are the properties of flour and grains?</li> <li>• What is the Eatwell guide and how does it help in the preparation of balanced meals?</li> <li>• What are the 4Cs and why is preventing the spread of pathogenic bacteria important?</li> <li>• What do we mean by food provenance? (Fairtrade scheme)</li> <li>• How and why the storing of food safely is important? (ambient and chilled food)</li> <li>• What are healthy choices for vegetarians and vegans?</li> </ul>	<p>Students should know:</p> <ul style="list-style-type: none"> <li>• What are the functions of fruit and vegetables in the diet? (Vitamins and minerals).</li> <li>• What is seasonality?</li> <li>• What are the functions of fats and carbohydrates in the diet? (Energy balance).</li> <li>• What is gelatinisation and what is its importance in sauce making?</li> <li>• What are the functions and sources of protein?</li> <li>• Why is sensory analysis important? (Sources and function of dairy and alternatives.)</li> <li>• What are the nutritional benefits of breakfast?</li> <li>• What are the 4 methods of cake making and the science behind them?</li> <li>• What is Food provenance? Why is rice a commodity and staple food?</li> </ul>	<p>Students should know:</p> <ul style="list-style-type: none"> <li>• What are the functions of the ingredients in bread dough? (gluten, yeast)</li> <li>• What are the effects of sugar on the body?</li> <li>• What are the function of eggs in food preparation? (emulsification, coagulation, aeration)</li> <li>• What are the methods of heat transfer and the effects of heat on food?</li> <li>• How do cultural influences affect our food choice?</li> <li>• What are food assurance schemes and SMSC issues surrounding food choice?</li> <li>• What are street food trends, history, international influence and nutrition?</li> <li>• What are Food assurance schemes and SMSC issues surrounding food choice?</li> </ul>
<i>Food preparation and Nutrition:</i> <b>Skills</b>	<ul style="list-style-type: none"> <li>• Using basic food preparation equipment correctly and safely.</li> <li>• Weigh and measure different types of ingredients.</li> <li>• Use safe and hygienic practices when working with food.</li> <li>• Demonstrate the skills: fruit and vegetable and meat preparation, safe cutting methods</li> </ul>	<ul style="list-style-type: none"> <li>• Using food preparation equipment safely and accurately.</li> <li>• Accurately weigh and measure different types of ingredients.</li> <li>• Develop safe and hygienic practices when working with food.</li> <li>• Develop meat, fruit and vegetables preparation skills, developing the skills used in Y7.</li> </ul>	<ul style="list-style-type: none"> <li>• Using food preparation equipment safely and precisely.</li> <li>• Develop skills in using electrical food preparation equipment including the food processor and electric mixers.</li> <li>• Demonstrating the skills of shaping, binding, coating, wrapping.</li> </ul>

	<p>[bridge and claw] rubbing in, making a dough grating, peeling, boiling, test for readiness.</p> <ul style="list-style-type: none"> <li>• Demonstrate the safe use of the hob and oven.</li> <li>• Designing; creating ideas and labeling, developing simplistic criteria, evaluating outcomes</li> </ul>	<ul style="list-style-type: none"> <li>• Demonstrating the skills of sauce making, melting method and pastry making.</li> <li>• Designing; developing ideas and annotation, developing criteria, evaluating outcomes</li> </ul>	<ul style="list-style-type: none"> <li>• Designing; developing ideas and annotation/justification, developing criteria, evaluating outcomes and improvements</li> </ul>
<p><i>Food preparation and Nutrition:</i> <b>Assessment Opportunity</b></p>	<ul style="list-style-type: none"> <li>• <b>Designing:</b> Students should be assessed on their abilities to develop and communicate 2D design ideas for food products.</li> <li>• <b>Making:</b> Students should be assessed on their safe and careful use of knives and various utensils.</li> <li>• <b>Evaluating:</b> Students should be assessed on their ability to evaluate at least one of the food products they have made.</li> <li>• <b>Home learning:</b> Students will complete up to four home learning activities, based around work covered in the License to Cook topic These will be checked, and self/peer assessed in class.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Designing:</b> Students should be assessed on their abilities to develop and communicate 2D/3D design ideas for food products. They should be more familiar with the function of ingredients/ingredient choices.</li> <li>• <b>Making:</b> Students should be assessed for their safe, careful and accurate use of knives and various utensils.</li> <li>• <b>Evaluating:</b> Students should be assessed on their ability to evaluate at least one food product they have made; identifying strengths and development points and some adaptations.</li> <li>• <b>Home learning:</b> Students will complete up to four home learning activities, based around work covered in the Eatwell topic These will be checked, and self/peer assessed in class.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Designing:</b> Students should be assessed on their abilities to develop and communicate 2D/3D design ideas for food products. They should be able to discuss functions of ingredients/ingredient choices.</li> <li>• <b>Making:</b> Students should be assessed for their safe, careful and accurate use of knives and various utensils. Students would also be competent users of electrical equipment such as mixers and food processors.</li> <li>• <b>Evaluating:</b> Students should be assessed on their ability to evaluate at least one food product they have made; identifying strengths and development points and adaptations that link to the user.</li> <li>• <b>Home learning:</b> Students will complete up to four home learning activities, based around work covered in the Going Global Topic. These will be checked, and self/peer assessed in class.</li> </ul>

## LONG TERM CURRICULUM PLANNING OVERVIEW:

### Design and Technology Department: EDUQAS GCSE Design and Technology

	YEAR 10	YEAR 11
<b>Autumn A Topic</b>	<b>Core theory: Scales of production, CAD&amp;CAM, Energy Generation, Product lifecycle and Product evolution</b>	<b>NEA continuation: designing and developing</b>
<b>Autumn A Knowledge</b>	<p><b><u>Scales of production</u></b></p> <ul style="list-style-type: none"> <li>Students should know about different scales of production/ manufacture; one off, batch, continuous and mass production.</li> <li>Know how different manufacturing scales are used in industry.</li> <li>Students should know where different scales of manufacture are used and the products that can be made using the various types of manufacture.</li> </ul> <p><b><u>CAD &amp; CAM</u></b></p> <ul style="list-style-type: none"> <li>Students should be able to explain what CAD and CAM stand for.</li> <li>Students should know at least one example for CAD and CAM.</li> <li>Students should be able to explain the advantages and disadvantages of CAD &amp; CAM.</li> </ul> <p><b><u>Energy generation</u></b></p> <ul style="list-style-type: none"> <li>Students should be able to explain the difference between finite and non-finite resources.</li> <li>Students should be able to identify examples of these resources and explain the advantages and disadvantages.</li> </ul>	<p><b><u>Continuation of controlled assessment:</u></b> Know/review aspects of the design portfolio and ensure that content is relevant and suitable. Identify Y11 Starting point:</p> <ul style="list-style-type: none"> <li>Analysis of context</li> <li>Research of context</li> <li>Consumer profiling</li> <li>Generation of design ideas</li> <li>Card modelling</li> <li>Development of design ideas</li> </ul> <p><b><u>Homework</u></b></p> <p>Theory revisited: knowledge organiser/exam question booklet about specific topics covered in Y10 focusing on materials. Materials covered:</p> <ul style="list-style-type: none"> <li>Timbers (hardwoods, softwoods and manufactured boards)</li> <li>Plastics (Thermoforming and Thermosetting)</li> </ul>

	<p><b><u>Product life cycle</u></b></p> <ul style="list-style-type: none"> <li>• To feel confident with the four stages of a products introduction to market. Introduction, growth, maturity, and decline.</li> <li>• Students should be able to take a product and explain it against the four stages.</li> </ul> <p><b><u>Informing design decisions</u></b></p> <ul style="list-style-type: none"> <li>• To be able to explain what planned obsolescence is</li> <li>• To be able to structure a life cycle analysis for a specific product.</li> <li>• To be able to understand and evaluate the design decisions of a designer.</li> </ul> <p><b><u>Product evolution</u></b></p> <ul style="list-style-type: none"> <li>• Students should be able to explain what market pull, and technology push is.</li> <li>• Students should have an understanding to why and how product evolve.</li> </ul>	
<p><b>Autumn A Skills</b></p>	<p><b><u>Textile apron project</u></b></p> <ul style="list-style-type: none"> <li>• Students will accurately mark and measure a pattern to create their own apron.</li> <li>• Students will develop their design communication skills that will allow them to build drawing and designing skills to support in Y11.</li> <li>• A range of manufacturing processes and equipment will be used to develop students' skill set within textiles. (e.g. sewing machine, heat press, hand sewing, pattern making).</li> <li>• Students will reflect and evaluate on their work and suggest areas for improvement giving a well justified explanation. The analysis will link to both the brief and customer needs.</li> </ul>	<p><b><u>Continuation of controlled assessment.</u></b></p> <ul style="list-style-type: none"> <li>• Developing a design brief that is based upon research and consumer requirements.</li> <li>• Generation of design ideas that satisfy the context and criteria, and ones which avoid fixation (explore hand drawn sketching skills/presentation</li> <li>• Use of craft tools and card/foam to develop suitable and scale appropriate prototypes.</li> </ul>
<p><b>Autumn A Assessment Opportunity</b></p>	<ul style="list-style-type: none"> <li>• End of unit test about the theory topic's covered during that half term.</li> <li>• Textile project – Design Ideas assessed, and feedback given to students. KS4 ladders will be used.</li> <li>• Textile project – Written feedback given on sewing</li> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>• Theory test given to recall information from Y10</li> </ul>



Autumn B Topic	Core Theory: Materials (Plastics, Paper/board, timber, electronics components textiles and metals)	NEA continuation: Development and manufacture
Autumn B Knowledge	<p><b><u>Plastics</u></b></p> <ul style="list-style-type: none"> <li>• Students should know the properties and functions of plastic materials and how they are used within a designing/manufacturing context.</li> <li>• To be able to explain the difference between thermosetting and thermoforming.</li> <li>• To be able to identify a range of surface finishes and explain the process.</li> <li>• Students should be able to explain a range of manufacturing processes including injection moulding, blow moulding, pressing.</li> <li>• Students should identify a range of products and materials that relate to the plastic moulding processes.</li> <li>• Students to be able to explain SPI codes and give examples.</li> </ul> <p><b><u>Paper, card, and board</u></b></p> <ul style="list-style-type: none"> <li>• Students should know the properties and functions of paper, card, and board materials and how they are used within a designing/manufacturing context.</li> <li>• To be able to explain a range of manufacturing process that link to these materials.</li> <li>• Students to be able to identify a range of finishing processes.</li> </ul> <p><b><u>Electronic systems</u></b></p> <ul style="list-style-type: none"> <li>• Students will understand what an input, process and output is</li> <li>• Students will be able to identify the flowchart symbols.</li> <li>• Students will be able to identify circuit symbols.</li> </ul> <p><b><u>Timbers</u></b></p> <ul style="list-style-type: none"> <li>• Students will be able to explain the different category of timbers (hardwoods, softwoods and manufactured boards)</li> <li>• Students will be able to name a type of timber and explain a property of that specific timber.</li> </ul>	<p><b><u>Continuation of controlled assessment:</u></b></p> <p>Know/review aspects of the design portfolio and ensure that content is relevant and suitable.</p> <ul style="list-style-type: none"> <li>• Know how to carry out a plan of manufacture.</li> <li>• Show awareness of QA and QC when planning</li> <li>• Investigate materials and properties to be used.</li> </ul> <p><b><u>Homework</u></b></p> <p>Theory revisited: knowledge organiser/exam question booklet about specific topics covered in Y10</p>

	<ul style="list-style-type: none"> <li>• Student can recall finishes for different timbers.</li> </ul> <p><b><u>Textiles</u></b></p> <ul style="list-style-type: none"> <li>• Students will be able to explain the difference between the two categories of textiles (natural and synthetic) and name at least 3 types of fabrics in each one.</li> <li>• Students will know the difference between woven and knitted fabrics.</li> <li>• To be able to recall the properties of different fabrics.</li> </ul> <p><b><u>Metals</u></b></p> <ul style="list-style-type: none"> <li>• Student's will be able to explain the difference between ferrous and non-ferrous</li> <li>• Student's will be able to identify different metals and their properties.</li> </ul>	
<p><b>Autumn B Skills</b></p>	<p><b><u>Continuation of textiles apron project.</u></b></p> <p><b>Lego project:</b> Reconstructing a scale model.</p> <ul style="list-style-type: none"> <li>• Creating a cardboard prototype to understand scale and improve on modelling techniques.</li> <li>• Drawing using specific techniques such as isometric to create accurate 3D drawings.</li> <li>• Working collaboratively to assemble the MDF box.</li> <li>• Creating compartments for the box by ensuring the measurements are correct.</li> <li>• Developing finishing techniques and demonstrating an understanding of what types of finishes are used and why.</li> <li>• <b>Answering exam style questions based on 'knowledge'</b> Analysis of different command words – what is the questions asking and how to develop a suitable response</li> </ul>	<p><b><u>Continuation of controlled assessment.</u></b></p> <ul style="list-style-type: none"> <li>• Generation of design ideas that satisfy the context and criteria, and ones which avoid fixation (explore hand drawn sketching skills/presentation</li> <li>• Use of craft tools and card/foam to develop suitable and scale appropriate prototypes.</li> <li>• Planning resources materials and tools effectively ready for the manufacture of the final prototypes.</li> <li>• Quality control aspects of any making undertaken.</li> <li>• Investigate suitability of components and materials when considering development work.</li> </ul>

<b>Autumn B Assessment Opportunity</b>	<ul style="list-style-type: none"> <li>• End of unit test about the theory topic's covered during that half term.</li> <li>• Textile project – Feedback given on apron using the KS4 ladders.</li> <li>• Exam questions around modelling and developments</li> </ul>	<ul style="list-style-type: none"> <li>• Y11 Exams</li> <li>• Self-assessment against exam board specification (A01 / A02)</li> </ul>
<b>Spring A Topic</b>	<b>Core theory: Mechanical systems and processes, human factors, quality control and design movements</b>	<b>NEA continuation: Development and manufacture</b>
<b>Spring A Knowledge</b>	<p><b><u>Types of motion and pulleys</u></b></p> <ul style="list-style-type: none"> <li>• Students should be able to explain the four types of motion.</li> <li>• Students should understand the different formulas needed to work out motion mathematic problems.</li> <li>• Students to understand what a pulley is and how to work out the velocity ratio and weight held.</li> </ul> <p><b><u>Levers and Gear</u></b></p> <ul style="list-style-type: none"> <li>• Students should be able to identify the different types of gears and explain how they work.</li> <li>• Students should understand levers and their function.</li> <li>• To be able to work out the mathematics surrounding these (e.g. ratios)</li> </ul> <p><b><u>IQA and QC</u></b></p> <ul style="list-style-type: none"> <li>• What is QA and QC when manufacturing (define)</li> <li>• Give examples of different types of QA/QC (visual inspection, tolerances, gauges etc)</li> </ul> <p><b><u>Anthropometrics and Ergonomics</u></b></p> <ul style="list-style-type: none"> <li>• To be able to define what anthropometrics' are and why designers need to consider them.</li> <li>• To be able to explain ergonomics and explain why designer's consider them</li> <li>• To be able to apply their knowledge of them to a product and explain why they are needed or how they are used.</li> </ul> <p><b><u>Design movements</u></b></p> <ul style="list-style-type: none"> <li>• To be able to explain what a design movement is</li> <li>• To be able to identify the key features of Memphis and Bauhaus</li> <li>• To use their knowledge of design movements and apply these to design a product.</li> </ul>	<p><b><u>Continuation of controlled assessment.</u></b></p> <ul style="list-style-type: none"> <li>• Ensure that success criteria for relevant sections on the NEA are developed and met.</li> <li>• Know how to develop the manufacturing plan so that it aids development and making carefully and thoughtfully.</li> <li>• Research and use different and suitable manufacturing techniques.</li> </ul> <p><b><u>Homework</u></b></p> <p>Theory revisited: knowledge organiser/exam question booklet about specific topics covered in Y10.</p> <ul style="list-style-type: none"> <li>• Sustainability</li> </ul>

	<p><b><u>Designers and design companies</u></b></p> <ul style="list-style-type: none"> <li>To be able to identify a range of designers or design companies and their products (Phillipe Starck, Dyson, Air bus, Apple etc)</li> </ul>	
<p><b>Spring A Skills</b></p>	<p><b>Lego box continued. (if needed)</b></p> <ul style="list-style-type: none"> <li>Developing finishing skills by using abrasive paper correctly and following the steps to apply a high-quality surface finish.</li> <li>Mathematics: Area and perimeter</li> </ul> <p><b>Design and Make project:</b> Lego repackaging and product development. Drawing skills using the product as the focus;</p> <ul style="list-style-type: none"> <li>3D drawing and presentation</li> <li>Working and plan based drawings.</li> <li>CAD 3D skills working to accurate calculations and tolerances.</li> <li>Mathematical skills development looking at area, and volume.</li> <li>CAD graphical development to create packaging for minifigure.</li> </ul> <p>Making skills:</p> <ul style="list-style-type: none"> <li>CAM to manufacture minifigure mould, vacuum forming machine to create blister packaging.</li> <li>Variety of hand shaping and finishing techniques with a variety of hand tools (N.B the project is not exclusively delivered in the workshop elements of CAM maybe undertaken.</li> </ul> <p><b>Branding</b></p> <ul style="list-style-type: none"> <li>What is branding and how is it used?</li> <li>What makes effective branding designs?</li> </ul> <p>How does branding contribute to the corporate image of a company?</p> <p><b>Answering exam style questions based on 'knowledge'</b></p> <ul style="list-style-type: none"> <li>Analysis of different command words – what is the questions asking and how to develop a suitable response.</li> </ul>	<p><b><u>Continuation of controlled assessment.</u></b></p> <ul style="list-style-type: none"> <li>Manufacturing of the final prototype using a variety of tools and equipment including CAD/CAM</li> <li>Planning resources materials and tools effectively ready for the manufacture of the final prototypes</li> <li>Quality control aspects of any making undertaken.</li> </ul>

<b>Spring A Assessment Opportunity</b>	<ul style="list-style-type: none"> <li>• End of unit test about the theory topic's covered during that half term.</li> <li>• Lego box assessed against criteria.</li> <li>• Exam questions around finishes and manufacturing processes</li> </ul>	<ul style="list-style-type: none"> <li>• Self-assessment against exam board specification (A02 / A03)</li> </ul>
<b>Spring B Topic</b>	<b>Core theory: Sustainability issues, joining materials, smart materials</b>	<b>Review core theory topics/continue with NEA work</b>
<b>Spring B Knowledge</b>	<p><b><u>Consumer issues</u></b></p> <ul style="list-style-type: none"> <li>• Know about; health and safety issues, Moral, Social, Environmental, Sustainability (MESS) and how these affect consumer choice and demand.</li> </ul> <p><b><u>Sustainability-6R's</u></b></p> <ul style="list-style-type: none"> <li>• Identify the 6R's recycle, refuse, reuse, rethink, reduce and replace.</li> <li>• Know how to apply the <b>6 Rs</b> to designing/making contexts to promote sustainable practices.</li> </ul> <p><b><u>Joints, fixings and finishes</u></b></p> <ul style="list-style-type: none"> <li>• Know that there are different adhesives are for joining different materials.</li> <li>• Investigate the effectiveness of different adhesives to join different materials.</li> <li>• Know about different surface finishes to different materials and the reasons why!</li> <li>• To know about different ways of joining materials and be able to explain some fixings and joints in detail.</li> </ul> <p><b><u>New and smart materials</u></b></p> <ul style="list-style-type: none"> <li>• Investigate and research different types of smart materials and there uses.</li> <li>• Know key terminology; thermochromic, memory alloys, memory shape alloys, hydrochronic, aroma pigments</li> </ul>	<p><b><u>Systems approach to designing.</u></b></p> <ul style="list-style-type: none"> <li>• Know about different design systems and conventions.</li> </ul> <p><b><u>Types of movement, levers and linkages</u></b></p> <ul style="list-style-type: none"> <li>• Know about different types of movement i.e., linear, rotary, reciprocal.</li> <li>• Know about 1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup> class levers and systems.</li> <li>• Know about different linkages, hydraulics and cams.</li> </ul> <p><b><u>Energy generation</u></b></p> <ul style="list-style-type: none"> <li>• Know about different ways in which energy can be generated, i.e. solar, wind, hydro etc.</li> </ul> <p><b><u>Homework</u></b></p> <p>Theory revisited: knowledge organiser/exam question booklet about specific topics covered in Y10</p> <ul style="list-style-type: none"> <li>• Consumer issues</li> <li>• Product lifecycles</li> </ul>
<b>Spring B Skills</b>	<p><b>Design and Make project:</b> (Mini mock NEA) handheld device such as a Dyson style handheld vacuum</p> <ul style="list-style-type: none"> <li>• CAD 2D/3D drawing</li> <li>• Prototype modelling using card and modelling tools.</li> <li>• Safe and accurate use of CAM; laser cutting/3D printing/3D milling or vinyl cutting.</li> </ul>	<p><b><u>Continuation of controlled assessment.</u></b></p> <ul style="list-style-type: none"> <li>• Manufacturing of the final prototype using a variety of tools and equipment including CAD/CAM</li> <li>• Planning resources materials and tools effectively ready for the manufacture of the final prototypes</li> </ul>

	<ul style="list-style-type: none"> <li>Evaluating the success of the outcome and the development that could be made to improve.</li> </ul>	<ul style="list-style-type: none"> <li>Quality control aspects of any making undertaken.</li> <li>Evaluation; carryout and record 3<sup>rd</sup> party testing, testing against criteria, and testing against context and brief</li> </ul>
<b>Spring B Assessment Opportunity</b>	<ul style="list-style-type: none"> <li>End of unit test about the theory topic's covered during that half term.</li> <li>Self-assessment using criteria / specification from the exam board.</li> <li>Verbal and written feedback about work produced with tips for the NEA which starts summer term 2.</li> </ul>	<ul style="list-style-type: none"> <li>Self-assessment against exam board specification (A03 / A04)</li> </ul>
<b>Summer A Topic</b>	<b>Core theory: Modern and composite materials</b>	<b>NEA: Final stages; analysis and evaluation work</b>
<b>Summer A Knowledge</b>	<p>Modern &amp; composite materials</p> <ul style="list-style-type: none"> <li>To be able to define what a modern material is.</li> <li>To be able to define what a composite material is.</li> <li>Know the different types of modern and composite materials!</li> <li>To explain why we use modern and composite material's</li> </ul> <p>Interactive textiles:</p> <ul style="list-style-type: none"> <li>To explain the benefits of interactive textiles</li> <li>To explain what interactive textiles are and how we use them.</li> </ul> <p>Recap on mechanism's, gears, pulleys and levers:</p> <ul style="list-style-type: none"> <li>Recapping topic due to previous years students have found this challenging.</li> <li>Exam style questions to support understand and apply knowledge.</li> </ul> <p>Focus on materials:</p> <ul style="list-style-type: none"> <li>Around 60% of the exam paper is materials. Develop students understanding and use exam questions to apply knowledge.</li> </ul>	<p><b>NEA Analyse and evaluate</b> –analysis of final prototype, developmental analysis, costing and improvements That could be made.</p> <p>Complete NEA work by final deadline [usually before Easter break each academic year]</p>
<b>Summer A Skills</b>	<p><b>Focused exam preparation for Y10 PPEs</b></p> <p><b>Exam style questions</b></p> <ul style="list-style-type: none"> <li>Analysis of different command words – what is the questions asking.</li> </ul>	<p><b>REVISION</b> for written exam examples as below:</p> <p><b>Exam style questions</b></p> <ul style="list-style-type: none"> <li>Analysis of different command words – what is the questions asking.</li> </ul>

	<p><b>Flash cards, games</b></p> <ul style="list-style-type: none"> <li>Recall and retain theory from year 10/homework etc</li> </ul> <p><b>Past paper analysis</b></p> <ul style="list-style-type: none"> <li>Use past papers and questions to improve technique and fill gaps in learning.</li> </ul> <p><b>Mathematical concepts within D&amp;T</b></p> <ul style="list-style-type: none"> <li>Focus on measurement, area, volume, percentages, graphs.</li> </ul> <p><b><u>Introduction to controlled assessment</u></b></p> <p><b>Begin NEA</b> Specific knowledge based on the brief/context released by the exam board – May/June [each academic year]</p> <p><b>Section A Research</b> – Analyse brief/context and complete research on relevant topic. Sourcing, using and presenting primary and secondary research effectively</p> <ul style="list-style-type: none"> <li>Effectively analysing contextual information</li> <li>Presenting findings in a deffectively.olio</li> </ul>	<p><b>Flash cards and revision games</b></p> <ul style="list-style-type: none"> <li>Recall and retain theory from year 10/homework etc</li> </ul> <p><b>Past paper analysis</b></p> <ul style="list-style-type: none"> <li>Use PPE papers to improve technique and fill gaps in learning.</li> </ul> <p><b>Examination walk through</b></p> <ul style="list-style-type: none"> <li>Look at importance of command words within examination questions and how structure the answers</li> </ul>
<p><b>Summer A Assessment Opportunity</b></p>	<ul style="list-style-type: none"> <li>End of unit test about the theory topic's covered during that half term.</li> <li>Self-assessment using criteria / specification from the exam board</li> </ul>	<ul style="list-style-type: none"> <li>Knowledge recall tests – establish gaps in knowledge</li> </ul>
<p><b>Summer B Topic</b></p>	<p><b>Topic: Controlled assessment continuation and examination preparation</b></p>	<p><b>Focused exam preparation for summer examination</b></p>
<p><b>Summer B Knowledge</b></p>	<p><b><u>Focused exam preparation for PPE's</u></b></p> <p><b>Exam style questions</b></p> <ul style="list-style-type: none"> <li>Analysis of different command words – what is the questions asking.</li> </ul> <p><b>Flash cards, games</b></p> <ul style="list-style-type: none"> <li>Recall and retain theory from year 10/homework etc</li> </ul> <p><b>Past paper analysis</b></p> <ul style="list-style-type: none"> <li>Use past papers and questions to improve technique and fill gaps in learning.</li> </ul>	<p><b>Focused exam preparation for summer examination</b></p> <p><b>REVISION</b> for written exam examples as below:</p> <p><b>Exam style questions</b></p> <ul style="list-style-type: none"> <li>Analysis of different command words – what is the questions asking.</li> </ul> <p><b>Flash cards and revision games</b></p> <ul style="list-style-type: none"> <li>Recall and retain theory from year 10/homework etc</li> </ul> <p><b>Past paper analysis</b></p> <ul style="list-style-type: none"> <li>Use PPE papers to improve technique and fill gaps in learning.</li> </ul> <p><b>Examination walk through</b></p>

	<p><b><u>NEA will continue this during this half term.</u></b></p> <ul style="list-style-type: none"> <li>• Knowledge of client/user needs to allow designing to develop effectively.</li> <li>• Know what design fixation is and how to avoid it</li> <li>• Know what iterative design is and how it is used to develop designs.</li> </ul>	Look at importance of command words within examination questions and how structure the answers
<b>Summer B Skills</b>	<p><b><u>Continuation of controlled assessment.</u></b></p> <ul style="list-style-type: none"> <li>• Developing design criteria that is based upon research and consumer requirements.</li> <li>• Generation of design ideas that satisfy the context and criteria, and ones which avoid fixation (explore hand drawn sketching skills/presentation</li> <li>• Use of craft tools and card/foam to develop suitable and scale appropriate prototypes.</li> </ul>	<b>Focused exam preparation for summer examination</b>
<b>Summer B Assessment Opportunity</b>	<ul style="list-style-type: none"> <li>• End of unit test about the theory topic's covered during that half term.</li> <li>• Self-assessment using criteria / specification from the exam board</li> </ul>	



LONG TERM CURRICULUM PLANNING OVERVIEW:		
Design and Technology Department: GCSE Food preparation and Nutrition		
	YEAR 10	YEAR 11
<b>Autumn A Topic</b>	<b>Core theory: Diet, Nutrition and health</b>	<b>NEA 1: Research, Investigation and Analysis</b>
<b>Autumn A Knowledge</b>	<p><b>NUTRITION</b>  <b>Protein, fats and oils, carbohydrates, fat soluble and water-soluble vitamins Including antioxidants, minerals and water:</b></p> <ul style="list-style-type: none"> <li>the functions</li> <li>main sources</li> <li>effects of deficiency and excess</li> <li>related dietary reference values</li> </ul> <p><b>Making informed choices for a varied and balanced diet:</b></p> <ul style="list-style-type: none"> <li>the current guidelines for a healthy diet e.g. Eatwell guide.</li> <li>nutritional needs for the following life stages: young children, teenagers, adults and the elderly.</li> <li>how to plan a balanced meal for specific dietary groups: vegetarian and vegan, coeliac, lactose intolerant and high fibre diets.</li> </ul> <p><b>Energy needs:</b></p> <ul style="list-style-type: none"> <li>factors which affect the BMR, such as age, gender and PAL. Their importance in achieving energy balance.</li> <li>the percentage of recommended energy sources from nutrients</li> </ul> <p><b>How to carry out nutritional analysis:</b>                      how to use current nutritional information and data e.g. food tables, nutritional analysis software to calculate energy and nutritional value.</p> <p><b>Diet, nutrition and health:</b></p> <ul style="list-style-type: none"> <li>the relationship between diet, nutrition and health</li> <li>the major diet related health risks.</li> </ul>	<p><b>Begin NEA1</b>                      Specific knowledge based on the brief released by the exam board – 1<sup>st</sup> September [each academic year]</p> <p><b>Section A Research</b> – Analyse brief and complete research on relevant topic.</p> <p><b>Section B Investigations</b> – Undertaking and demonstrating fair and accurate investigations based on research.</p> <p><b>Section C Analyse and Evaluate</b> – Summarise finding in relation to research, hypothesis' and investigation findings.</p>

<b>Autumn A Skills</b>	<p>Practical's: High fibre brownies, Fishcakes, Coconut chicken curry, Swiss Roll, Cheese and spinach souffle, Cornish pasties</p> <p>Skills Demonstrated: Skill 1: General practical skills, Skill 2: Knife skills, Skill 3: Preparing fruit and vegetables, Skill 4: Use of the cooker, Skill 5: Use of equipment, Skill 6: Cooking methods, Skill 7: Prepare, combine and shape, Skill 9: Tenderise and marinate, Skill 11: Raising agents, Skill 12: Setting mixtures</p>	<ul style="list-style-type: none"> <li>• Secondary research</li> <li>• Identifying reliable sources</li> <li>• Referencing</li> <li>• Concise written communication</li> <li>• Demonstrating accurate/fair/reliable investigation work including recording findings [e.g tables, graphs, photographs]</li> <li>• Analysis and sensory analysis</li> </ul>
<b>Autumn A Assessment Opportunity</b>	<ul style="list-style-type: none"> <li>• Assessment point 1: Subject knowledge Plickers</li> <li>• Assessment point 2: Practical assessment &gt; independence and safety</li> <li>• Assessment point 3: End of unit summative assessment &gt; knowledge organisers x4 Unit 1</li> <li>• Homework: Seneca Standardised assessment &gt; 1.2.1 Macro and Micronutrients</li> <li>• Homework: Seneca Standardised assessment &gt; 1.2.2 Nutrition and health</li> </ul>	<ul style="list-style-type: none"> <li>• Verbal feedback during NEA Investigation work</li> <li>• Assessment point 1: Exam style questions &gt; knowledge application and technique Food Science</li> <li>• Homework: Seneca Standardised assessment 1.3.1 Food Science</li> </ul>
<b>Autumn B Topic</b>	<b>Core Theory: Food Science</b>	<b>NEA 2: Researching the brief</b>
<b>Autumn B Knowledge</b>	<p><b>FOOD SCIENCE</b></p> <p><b>Why food is cooked and how heat is transferred to food:</b></p> <ul style="list-style-type: none"> <li>• The reasons why food is cooked</li> <li>• How heat is transferred to food through conduction convection radiation.</li> </ul> <p><b>Selecting appropriate cooking methods:</b></p> <ul style="list-style-type: none"> <li>• how the selection of appropriate preparation and cooking methods can conserve or modify nutritive value or improve palatability</li> <li>• how preparation and cooking affect the appearance, colour, flavour, texture, smell and overall palatability of food eg the use of marinades to denature protein.</li> </ul> <p><b>Functional and chemical properties of food:</b> Protein denaturation, protein coagulation, gluten formation, foam formation.</p>	<p><b>Feedback and NEA1 completion</b></p> <p><b>Revision</b> Revision timetable established – schedule revision homework and revision sessions to fit alongside NEA2 during the remaining course of year 11.</p> <p><b>Begin NEA2</b> Specific knowledge based on one of three briefs released by the exam board – 1<sup>st</sup> November [each academic year]</p> <p><b>Section A Research</b> – Analyse brief and complete research on relevant topic.</p>

	<p>Carbohydrate gelatinisation, dextrinisation, caramelisation. Fats shortening, aeration, plasticity, emulsification. Enzymic browning, oxidation.</p> <p><b>The working characteristics, functional and chemical properties of raising agents.</b></p>	
<b>Autumn B Skills</b>	<p>Practical's: Chelsea buns, Lemon meringue pie, Viennese whirls, Soup, Custard tarts, Choux pastry,</p> <p>Skills Demonstrated: Skill 1: General practical skills, Skill 2: Knife skills, Skill 3: Preparing fruit and vegetables, Skill 4: Use of the cooker, Skill 5: Use of equipment, Skill 6: Cooking methods, Skill 7: Prepare, combine and shape, Skill 8: Sauce making, Skill 10: Dough, Skill 11: Raising agents, Skill 12: Setting mixtures</p>	<ul style="list-style-type: none"> <li>• How to revise – establishing how to use a revision timetable</li> <li>• Primary and Secondary research</li> <li>• Using own work as a reliable source in research</li> <li>• Referencing</li> <li>• Concise written communication</li> </ul>
<b>Autumn B Assessment Opportunity</b>	<ul style="list-style-type: none"> <li>• Assessment point 1: Exam style questions &gt; knowledge application and technique</li> <li>• Assessment point 2: Practical assessment &gt; independence and competence</li> <li>• Assessment point 3: PPE Exam and purple pen feedback/analysis &gt; knowledge organisers x10 units 1-4PPE Exam and purple pen feedback/analysis &gt; knowledge organisers x6 Unit 1&amp;2</li> <li>• Homework: Seneca Standardised assessment 1.3.1 Food Science</li> </ul>	<ul style="list-style-type: none"> <li>• Verbal feedback during NEA Research</li> <li>• Assessment point 1: Exam style questions &gt; knowledge application and technique Cuisines and food choice</li> <li>• Homework: Seneca Standardised assessment 1.5.1 Food Choices</li> <li>• Homework: Seneca Standardised assessment 1.5.2 Cuisines and senses</li> </ul>
<b>Spring A Topic</b>	<b>Core theory: food soilage and contamination</b>	<b>NEA 2: Demonstration on Technical skills and planning for the final menu</b>
<b>Spring A Knowledge</b>	<p><b>FOOD SPOILAGE AND CONTAMINATION</b></p> <p><b>Microorganisms and enzymes:</b></p> <ul style="list-style-type: none"> <li>• the growth conditions for microorganisms and enzymes and the control of food spoilage</li> <li>• bacteria, yeasts and moulds are microorganisms.</li> </ul> <p><b>The signs of food spoilage:</b></p> <ul style="list-style-type: none"> <li>• enzymic action • mould growth • yeast action.</li> </ul> <p><b>Microorganisms in food production:</b></p> <ul style="list-style-type: none"> <li>• moulds in the production of blue cheese</li> </ul>	<p><b>Continue NEA2</b></p> <p><b>Section B Demonstrating technical skills</b> – 3 to 5 Trial dishes complete and record within the NEA 2 portfolio.</p> <p><b>Section C Planning final menu</b> – Justification and time plans recorded within the NEA 2 portfolio.</p>

	<ul style="list-style-type: none"> <li>• yeasts to raise bread.</li> <li>• bacteria in yoghurt and cheese production.</li> </ul> <p><b>Bacterial contamination:</b></p> <ul style="list-style-type: none"> <li>• the different sources of bacterial contamination</li> <li>• the main types of bacteria which cause food poisoning.</li> </ul> <p><b>Principles of food safety:</b></p> <ul style="list-style-type: none"> <li>• Buying and storing food</li> <li>• Preparing, cooking and serving food</li> </ul>	
<b>Spring A Skills</b>	<p>Practical's: Soft cheese and Tomato chutney, Sausage plait, Italian meatballs, Burgers,</p> <p>Skills Demonstrated: Skill 1: General practical skills, Skill 2: Knife skills, Skill 3: Preparing fruit and vegetables, Skill 4: Use of the cooker, Skill 5: Use of equipment, Skill 6: Cooking methods, Skill 7: Prepare, combine and shape, Skill 8: Sauce making, Skill 10: Dough, Skill 11: Raising agents</p>	<ul style="list-style-type: none"> <li>• Demonstrate basic, medium, complex skill dishes in trial practical's.</li> <li>• Plan dishes relevant to brief – must be justified.</li> <li>• Sensory analysis and written results for each trial dish</li> <li>• Evaluate – How can each dish be improved skilfully/nutritionally/sensory.</li> </ul> <ul style="list-style-type: none"> <li>• Plan final 3 dishes and justify relevant to brief.</li> <li>• Time plan to be developed – for use in practical exam including dovetailing agents</li> </ul>
<b>Spring A Assessment Opportunity</b>	<ul style="list-style-type: none"> <li>• Assessment point 1: Subject knowledge Plickers and Food poisoning summative test</li> <li>• Assessment point 2: Practical assessment &gt; control and prevent – safe working.</li> <li>• Assessment point 3: End of unit summative assessment &gt; knowledge organisers x2 Unit 3</li> <li>• Homework: Seneca Standardised assessment 1.4.1 Food Safety</li> </ul>	<ul style="list-style-type: none"> <li>• Verbal feedback during NEA Trial dish write ups</li> <li>• Assessment point 1: Exam style questions &gt; knowledge application and technique Nutrition</li> <li>• Homework: Seneca Standardised assessment 1.2.1 Macro and Micronutrients Homework: Seneca Standardised assessment 1.2.2 Nutrition and health</li> </ul>
<b>Spring B Topic</b>	<b>Food Choice</b>	<b>NEA 2: Practical exam and analysis and evaluation of final dishes made</b>
<b>Spring B Knowledge</b>	<p><b>FOOD CHOICE</b></p> <p><b>Factors which influence food choice:</b></p> <ul style="list-style-type: none"> <li>• To know and understand factors which may influence food choice.</li> <li>• Food choice related to religion, culture, ethical and moral beliefs and medical conditions.</li> </ul> <p><b>Food labelling and marketing influences:</b></p> <ul style="list-style-type: none"> <li>• How information about food available to the consumer, including labelling and marketing, influences food choice.</li> </ul> <p><b>British and international cuisines:</b></p>	<p><b>Continue NEA 2</b></p> <p><b>Section D Practical Exam</b> – Sch. for first week of March, 3 hours practical exam.</p> <p><b>Section E Analyse and Evaluate</b> – Sensory analysis on final menu, nutritional analysis, costing and improvements as per trial dishes.</p> <p>Complete NEA work by final deadline [usually before Easter break each academic year]</p>

	<ul style="list-style-type: none"> <li>• distinctive features and characteristics of cooking</li> <li>• equipment and cooking methods used</li> <li>• eating patterns</li> <li>• presentation styles</li> <li>• traditional and modern variations of recipes.</li> </ul> <p><b>Sensory evaluation:</b> Importance of senses when making food choices: sight, taste, touch and aroma.</p>	
<b>Spring B Skills</b>	<p>Practical's: Gluten free carrot cake, Manchester tart, Lasagne, Fresh pasta,</p> <p>Skills Demonstrated: Skill 1: General practical skills, Skill 2: Knife skills, Skill 3: Preparing fruit and vegetables, Skill 4: Use of the cooker, Skill 5: Use of equipment, Skill 6: Cooking methods, Skill 8: Sauce making, Skill 10: Dough, Skill 11: Raising agents, Skill 12: Setting mixtures</p>	<ul style="list-style-type: none"> <li>• Aim to demonstrate medium-complex skill dishes in practical exam</li> <li>• Demonstrate excellent level of hygiene safety, cross contamination etc</li> <li>• Sensory analysis and written results for final menu</li> <li>• Use nutrition program [or similar software] to complete nutritional analysis of each dish made.</li> <li>• Use costing software to analyse affordability of dishes made.</li> <li>• Evaluate – How can each dish be improved relevant to skill/nutrition/sensory analysis/costing</li> </ul>
<b>Spring B Assessment Opportunity</b>	<ul style="list-style-type: none"> <li>• Assessment point 1: Exam style questions &gt; knowledge application and technique</li> <li>• Assessment point 2: Practical assessment &gt; presentation</li> <li>• Assessment point 3: End of unit summative assessment &gt; knowledge organisers x2 Unit 4</li> <li>• Homework: Seneca Standardised assessment 1.5.1 Food Choices</li> <li>• Homework: Seneca Standardised assessment 1.5.2 Cuisines and senses</li> </ul>	<ul style="list-style-type: none"> <li>• Verbal feedback during NEA Planning final menu</li> <li>• Assessment point 1: Exam style questions &gt; knowledge application and technique</li> <li>• Homework: Seneca Standardised assessment 1.1.1 Food preparation skills</li> <li>• Homework: Seneca Standardised assessment 1.4.1 Food Safety</li> </ul>
<b>Summer A Topic</b>	<b>Food Provenance</b>	<b>Recall and revision of theory topics covered throughout Y10.</b>
<b>Summer A Knowledge</b>	<p><b>FOOD PROVENANCE</b></p> <p><b>Food Sources:</b></p> <ul style="list-style-type: none"> <li>• where and how ingredients are grown, reared and caught.</li> </ul> <p><b>Food and the environment:</b></p> <ul style="list-style-type: none"> <li>• seasonal foods</li> </ul>	<p><b>REVISION</b> for written exam</p> <p>Revision sessions in line with topics covered for homework and lunch time revision sessions.</p>

	<ul style="list-style-type: none"> <li>locally produced food</li> <li>food waste in the home/ food production/retailers</li> <li>packaging</li> <li>carbon footprint</li> </ul> <p><b>Sustainability of food:</b></p> <ul style="list-style-type: none"> <li>the impact of food and food security on local and global markets and communities.</li> </ul> <p><b>Food production:</b></p> <ul style="list-style-type: none"> <li>primary and secondary stages of processing and production.</li> <li>how processing affects the sensory and nutritional properties of ingredients.</li> </ul> <p><b>Technological developments - better health and food production:</b></p> <ul style="list-style-type: none"> <li>fortification and modified foods with health benefits and the efficacy of these.</li> </ul>	<p>All year 10 theory knowledge should have been covered to date during the course of year 11.</p>
<p><b>Summer A Skills</b></p>	<p>Practical's: Flaky pastry tart, Scones and homemade jam, Deboning chicken,</p> <p>Skills Demonstrated: Skill 1: General practical skills, Skill 2: Knife skills, Skill 3: Preparing fruit and vegetables, Skill 4: Use of the cooker, Skill 5: Use of equipment, Skill 6: Cooking methods, Skill 7: Prepare, combine and shape, Skill 8: Sauce making, Skill 9: Tenderise and marinate, Skill 10: Dough, Skill 11: Raising agents, Skill 12: Setting mixtures</p>	<p><b>REVISION</b> for written exam examples as below:</p> <p><b>Exam style questions</b></p> <ul style="list-style-type: none"> <li>Analysis of different command words – what is the questions asking</li> </ul> <p><b>Flash cards, games and QQT</b></p> <ul style="list-style-type: none"> <li>Recall and retain theory from year 10/homework etc</li> </ul> <p><b>Past paper analysis</b></p> <ul style="list-style-type: none"> <li>Use PPE papers to improve technique and fill gaps in learning</li> </ul>
<p><b>Summer A Assessment Opportunity</b></p>	<ul style="list-style-type: none"> <li>Assessment point 1: Practical assessment &gt; competence and independent delivery</li> <li>Assessment point 2: End of unit summative assessment &gt; knowledge organisers x2 Unit 5</li> <li>Assessment point 3: PPE Exam and purple pen feedback/analysis &gt; knowledge organisers x10 units 1-4</li> <li>Homework: Seneca Standardised assessment 1.6.1 Environmental Impacts</li> <li>Homework: Seneca Standardised assessment 1.6.2 Food Production</li> </ul>	<ul style="list-style-type: none"> <li>Exam style questions &gt; knowledge application and technique</li> <li>Homework: Seneca Standardised assessment 1.6.2 Food Provenance</li> </ul>

Summer B Topic	Developing NEA Knowledge and skills	Recall and revision of theory topics covered throughout Y10.
<b>Summer B Knowledge</b>	<b>Mock NEA 1 and 2</b> How to investigate Sensory analysis Report writing	
<b>Summer B Skills</b>	How to conduct an investigation Sensory analysis – different testing methods Analysis an evaluation Report writing structures	
<b>Summer B Assessment Opportunity</b>	<ul style="list-style-type: none"> <li>• On going verbal feedback throughout investigations</li> <li>• Assessment point 1: Exam style questions &gt; knowledge application and technique</li> <li>• Assessment point 2: Practical assessment &gt; competence and independent delivery</li> </ul>	

LONG TERM CURRICULUM PLANNING OVERVIEW:		
Design and Technology Department: L1&2 Constructing the built environment		
	Year 10	Year 11
<b>Autumn A Topic</b>	<b>Unit 1.7 Trades, employments, and careers</b>	<b>Unit 3: Practical Construction skills (Tiling) (NEA assignment)</b>
<b>Autumn A Knowledge</b>	<p>Learners should know the roles and responsibilities of different tradespersons:</p> <p>Bricklayer, Joiner/carpenter, Stonemason, Plasterer, Electrician, Plumber, painter and decorator and Floor layer.</p> <p><b>Unit 1.8</b></p> <p>Learners should know and understand that construction sites are hazardous environments with many risks:</p> <ul style="list-style-type: none"> <li>workers are at risk from heavy construction equipment and vehicles, working at height, manual handling and slips, trips and falls. Employers have the responsibility for the safe operation of sites and may be held to account in the case of accidents or incidents. The public may be at risk when close to a construction site, or if they gain access to the site, from harmful materials and site traffic.</li> </ul> <p>Learners should know and understand the importance of following the correct procedures (rules) so that contractors and employees work safely and prevent accidents and injuries.</p> <p>Learners should know and understand that regulations require employers to protect the wellbeing of workers, visitors and members of the public, and control exposure to hazards in order to prevent illness or injury.</p>	<ul style="list-style-type: none"> <li>Analysis and development of the success criteria to understand what needs to be done, for task 2; tiling.</li> <li>Planning of the activities to be undertaken, begin assignment portfolio/report, for task 2; tiling.</li> <li>Prepare of the activities to be undertaken, begin assignment portfolio/report, for task 2; tiling.</li> <li>Evaluate the success of the outcomes of task 2; tiling</li> </ul>



	<p>Learners should know and understand that regulations require employers to control exposure to hazards to prevent illness. (PPE, training, signage, working at height, exposure to hazards etc)</p> <p>Learners should be aware that there must be arrangements in place to get the person out of the enclosed space safely and promptly if they become unwell.</p> <p><b>Unit 1.1.1 The Construction Sector</b> Learners should know:</p> <ul style="list-style-type: none"> <li>the main types of buildings and structures covered within the sector: residential and non-residential buildings, bridges and roads.</li> <li>typical component parts of buildings and structures, including walls, floors and openings. <b>(Cover unit 1.3: Types of buildings and structures;</b> Infrastructure, residential dwellings, commercial buildings, industrial buildings, agricultural buildings, community buildings, recreational buildings, religious buildings)</li> </ul> <p><b>Unit 1.1.2 The Construction Sector</b> Learners should be aware of the following facilities and systems:</p> <p>Roads, railways, bridges, tunnels, water supply and sewerage systems, electrical grids, telecommunications.</p>	
<p><b>Autumn A Skills</b></p>	<p><b>Unit 3: Practical Construction skills (Joinery)</b></p> <ul style="list-style-type: none"> <li><b>Plan:</b> materials, measuring and marking of wood for joinery activities</li> <li><b>Do:</b> carryout joinery activities, cutting, drilling, shaping, removing waste and finishing</li> <li><b>Review:</b> Evaluate the success of the joinery outcome using success criteria</li> </ul>	<p><b>Unit 3: Practical Construction skills (tiling) (NEA assignment)</b></p> <ul style="list-style-type: none"> <li>Plan and source the materials and tools required for the task.</li> <li>Accurate measuring and marking out of materials.</li> <li>Laying out and check of appropriate tools and equipment used to undertake the tiling activity.</li> <li>Cut and lay out the tiles appropriately, as per the specification.</li> </ul>

	<p><b>Unit 1 examination skills, looking at approaching lower-level questions and building up the skills to answer them successfully. (Cover unit 1.1.1 and 1.1.2)</b></p>	<ul style="list-style-type: none"> <li>Identify strengths and weaknesses of the tiling component.</li> </ul>
<p><b>Autumn A Assessment Opportunity</b></p>	<p><b>Formative assessment:</b> Students will have the opportunity to self and peer assess practical outcomes (Carpentry) using exam board assessment criteria.</p> <p>Periodical teacher and peer assessment of class work will be used to check understanding. Students will have opportunity to act upon feedback of their work.</p> <p><b>Summative assessment:</b> There will be an end of unit test, that comprises of exam style questions to check students' knowledge and understanding of the topics covered during Autumn Term 1.</p> <p><b>Home Learning Opportunity:</b> Students will be expected to complete home learning activities and self-study tasks. Completion of these will be checked during activities in class.</p>	<p><b>Formative assessment:</b> Students will need to become aware of assessment criteria and outcomes and use this to assess their own learning to judge what improvements they will need to make.</p> <p><b>Home Learning Opportunity:</b> Students will be expected to complete home learning activities and self-study tasks. Completion of these will be checked during activities in class.</p>
<p><b>Autumn B Topic</b></p>	<p><b>Unit 1.1.3 The Construction Sector</b></p>	<p><b>Unit 3: Practical Construction skills (NEA assignment)</b></p>
<p><b>Autumn B Knowledge</b></p>	<p>Learners should be aware of the function of the following services in buildings:</p> <ul style="list-style-type: none"> <li>mechanical services, including escalators and lifts, heating, ventilation, air conditioning.</li> <li>electrical services, including energy supply, lighting, and low voltage (LV) systems, communication lines, telephones and IT networks, fire detection and protection, security and alarm systems.</li> <li>services that support public health, including plumbing for water supply, and domestic hot water, drainage of wastewater (sewage) and stormwater drainage.</li> <li></li> </ul>	<ul style="list-style-type: none"> <li>Analysis and development of the success criteria to understand what needs to be done, for task 3; painting and decorating.</li> <li>Planning of the activities to be undertaken, begin assignment portfolio/report, for task 3; painting and decorating.</li> <li>Prepare of the activities to be undertaken, begin assignment portfolio/report, for task 3; painting and decorating.</li> <li>Evaluate the success of the outcomes of task 3; painting and decorating.</li> </ul>

	<p><b>Unit 1.1.4 The Construction Sector</b></p> <p>Learners should know the following professional roles and be aware of the responsibilities of each (listed below) regarding the design and construction of a project through to its completion and handover:</p> <ul style="list-style-type: none"> <li>• designer/architect</li> <li>• civil/structural engineering</li> <li>• contracts manager and site manager</li> <li>• surveyor</li> <li>• quantity surveyor.</li> </ul> <p>Learners should also be aware of the professional associations such as CIOB, RICS, RIBA1 , and the benefits of membership</p>	
<p><b>Autumn B Skills</b></p>	<p><b>Unit 3: Practical Construction skills (painting and decorating)</b></p> <ul style="list-style-type: none"> <li>• <b>Plan:</b> materials, and order of work for the painting and decorating activity</li> <li>• <b>Do:</b> carryout painting and decorating activities; emulsion work and gloss work. Covering large areas and cutting in.</li> <li>• <b>Review:</b> Evaluate the success of the painting and decorating outcome using success criteria</li> </ul> <p><b>Unit 1 examination skills, looking at approaching lower-level questions and building up the skills to answer them successfully. (Cover unit 1.1.3 and 1.1.4)</b></p>	<p><b>Unit 3: Practical Construction skills (Painting and Decorating)(NEA assignment)</b></p> <ul style="list-style-type: none"> <li>• Plan and source the materials and tools required for the painting and decorating tasks.</li> <li>• Accurate measuring of material quantities (emulsion and gloss)</li> <li>• Laying out and check of appropriate tools and equipment used to undertake the painting and decoration activity. (brushes, PPE, trays etc)</li> <li>• Safely and accurately carryout the emulsion work</li> <li>• Safely and accurately carryout the gloss work</li> </ul>
<p><b>Autumn B Assessment Opportunity</b></p>	<p><b>Formative assessment:</b></p> <p>Students will have the opportunity to self and peer assess practical outcomes (Painting and Decorating) using exam board assessment criteria.</p> <p>Periodical teacher and peer assessment of class work will be used to check understanding. Students will have opportunity to act upon feedback of their work.</p> <p><b>Summative assessment:</b></p> <p>There will be an end of unit test, that comprises of exam style questions to check students' knowledge and understanding of the topics covered during Autumn Term 2.</p>	<p><b>Formative assessment:</b></p> <p>Students will need to become aware of assessment criteria and outcomes and use this to assess their own learning to judge what improvements they will need to make.</p> <p><b>Home Learning Opportunity:</b></p> <p>Students will be expected to complete home learning activities and self-study tasks. Completion of these will be checked during activities in class.</p>

	<p><b>Home Learning Opportunity:</b> Students will be expected to complete home learning activities and self-study tasks. Completion of these will be checked during activities in class.</p>	
<b>Spring A Topic</b>	<b>Unit 1.2 The Built environment cycle</b>	<b>Unit 1.4 Technologies and materials</b>
<b>Spring A Knowledge</b>	<p>Learners should know that the following industries extract raw materials:</p> <ul style="list-style-type: none"> <li>• Oil and gas</li> <li>• forestry</li> <li>• quarrying</li> <li>• mining.</li> </ul> <p><b>Unit 1.2.2</b> Learners should be aware of the following means of transforming raw materials into finished goods:</p> <ul style="list-style-type: none"> <li>• timber: felled logs are cut into 'boards' and then seasoned to remove excess water</li> <li>• engineered wood products (EWP): designed to overcome limitations on size of sawn timber, including trussed rafters, structural sections and manufactured boards such as plywood and oriented strand board (OSB)</li> <li>• steel: structural steel – made into standard column and beam sections. stainless steel – made into fixings and fastenings. lightweight mild steel sections – lintels, purlins and rails.</li> <li>• profiled sheeting – wall and roof cladding.</li> <li>• copper: manufactured to produce building services products such as electric cable and water/gas pipes.</li> <li>• plastic: manufactured to produce building services products such as water pipes.</li> <li>• crushed rock materials: used as hardcore and granular fill materials reduced to 20mm crushed grading.</li> </ul>	<p>Learners should know:</p> <ul style="list-style-type: none"> <li>• The different elements and components of low-rise buildings (foundations, substructure, ground floor, super structure: walls, upper floors, frame, roof supports, wall cladding, roof finishes)</li> <li>• That the following materials and components are used in the construction of walls, installing building services, fitting roofs and finishing interiors. (Block work, timber structure, steel structures, joists, slabs, cladding, plasterboards, screeding, pipework etc)</li> <li>• know that energy may be generated or collected from renewable sources, as opposed to generated by burning finite resources such as fossil fuels. (solar, wind, heat, water)</li> </ul> <p><b>Unit 1.5 Building structures and forms</b></p> <p>Learners should know:</p> <ul style="list-style-type: none"> <li>• about cellular structures (load bearing walls, bridging components, and prefabricated structures)</li> <li>• weight is carried by skeleton frameworks, columns, beams rather than walls.</li> <li>• How portal frame structures are constructed and laid out.</li> <li>• the terminology of the components of a portal frame detail drawing, including: (columns on base plates, rafters, apex and knee details, eaves beam, wind bracing cold formed sections and connections)</li> <li>• the importance of heritage and traditional methods in the maintenance of the historic built environment: (to maintain the history and character of a building, to</li> </ul>

	<ul style="list-style-type: none"> <li>• clay: natural clay minerals are crushed, shaped, dried and then fired in ovens to produce bricks. cement: raw materials such as limestone are crushed, blended and heated in a kiln to make cement.</li> <li>• mortar: sand, cement and water are mixed to make a paste used to bind and point building blocks.</li> </ul>	<p>comply with planning regulations within conservation areas, to preserve our heritage for the benefit of present and future generations.</p> <ul style="list-style-type: none"> <li>• The maintenance methods used by heritage and traditional trades: having a regular programme of maintenance to help prevent small problems escalating, or further deterioration occurring, matching existing materials and methods of construction where possible, retaining as much of the original fabric as possible in historically significant buildings.</li> </ul>
<p><b>Spring A Skills</b></p>	<p><b>Unit 2: Practical Construction skills (electrical work)</b></p> <ul style="list-style-type: none"> <li>• <b>Plan:</b> materials, and order of work for the electrical activity</li> <li>• <b>Do:</b> carryout electrical activities, installing sockets, wiring plugs, cutting and stripping wire.</li> <li>• <b>Review:</b> Evaluate the success of the electrical outcome using success criteria</li> </ul> <p><b>Unit 1 examination skills, looking at approaching higher level questions</b></p>	<p><b>Learners should be able to:</b></p> <ul style="list-style-type: none"> <li>• Interpret different sources of information.</li> <li>• Analyse different sources of information and use this to explain about themes in construction and buildings within construction, their components and their features.</li> <li>• Answer examination questions using 'BUG' techniques.</li> <li>• Develop longer answer responses to examination questions.</li> <li>• Use practical skills relevant to constructional themes and contexts.</li> </ul>
<p><b>Spring A Assessment Opportunity</b></p>	<p><b>Formative assessment:</b> Students will have the opportunity to self and peer assess practical outcomes (Electrical Work) using exam board assessment criteria.</p> <p>Periodical teacher and peer assessment of class work will be used to check understanding. Students will have opportunity to act upon feedback of their work.</p> <p><b>Summative assessment:</b> There will be an end of unit test, that comprises of exam style questions to check students' knowledge and understanding of the topics covered during Spring Term 1.</p> <p><b>Home Learning Opportunity:</b> Students will be expected to complete home learning activities and self-study tasks. Completion of these will be checked during activities in class.</p>	<p><b>Formative assessment:</b> Students will need to become aware of assessment criteria and outcomes and use this to assess their own learning to judge what improvements they will need to make.</p> <p><b>Home Learning Opportunity:</b> Students will be expected to complete home learning activities and self-study tasks. Completion of these will be checked during activities in class.</p>

Spring B Topic	Unit 1.5 building structure and their forms	Unit 1.6 Sustainable construction methods
<p><b>Spring B Knowledge</b></p>	<p><b>Learners should know and understand the following forms of construction activities:</b></p> <ul style="list-style-type: none"> <li>• new buildings and structures and the assembly on site of prefabricated elements</li> <li>• alteration, conversion, and renovation of existing buildings and structures</li> <li>• civil engineering works such as roads and bridges</li> <li>• mass concrete foundations and large diameter drainage schemes</li> <li>• installation of mechanical, electrical, gas and communication services.</li> </ul> <p>Learners should know and understand operations can involve:</p> <ul style="list-style-type: none"> <li>• controlling and monitoring of heating, cooling and lighting systems</li> <li>• the provision of security, cleaning and other ancillary services, including testing and evacuation procedures</li> </ul> <p>Maintenance may take the form of:</p> <ul style="list-style-type: none"> <li>• planned and preventive maintenance: carried out on a regular basis, in order to keep something in working order or extend its life.</li> <li>• cyclical maintenance: replacing over a cycle of work as an investment in stakeholders' comfort levels.</li> <li>• emergency or reactive maintenance due to safety reasons for stakeholders</li> </ul>	<p>Learners should know that:</p> <ul style="list-style-type: none"> <li>• There are different benefits of using sustainable building methods, these might include financial benefits, optimising lifecycles of buildings and materials, social, moral and cultural benefits.</li> <li>• That construction methods should take account of factors including pollution, preservation of the natural environment and natural habitats.</li> <li>• It is effective to use sustainable building materials when developing constructional projects. (Reclaiming and reusing materials and using products such as wool for insulation and straw bales for building walls)</li> <li>• Materials should be disposed of responsibly and safely. (recycling, reclaiming and reusing)</li> <li>• Local Planning Authorities control what can be built and where.</li> <li>• There are benefits and drawbacks to building on brownfield sites.</li> <li>• There are benefits and drawbacks to building on greenfield sites.</li> </ul>
<p><b>Spring B Skills</b></p>	<p><b>Unit 3:</b></p> <p>Development of controlled assessment skills:</p> <p>Practical</p> <p>Theoretical</p>	<p><b>Learners should be able to:</b></p> <ul style="list-style-type: none"> <li>• Interpret different sources of information.</li> <li>• Analyse different sources of information and use this to explain about themes in construction and buildings within construction, their components and their features.</li> <li>• Answer examination questions using 'BUG' techniques.</li> <li>• Develop longer answer responses to examination questions.</li> <li>• Use practical skills relevant to constructional themes and contexts.</li> </ul>

<p><b>Spring B Assessment Opportunity</b></p>	<p><b>Formative assessment:</b> Students will have the opportunity to self and peer assess practical outcomes using exam board assessment criteria.</p> <p>Periodical teacher and peer assessment of class work will be used to check understanding. Students will have opportunity to act upon feedback of their work.</p> <p><b>Summative assessment:</b> There will be an end of unit test, that comprises of exam style questions to check students' knowledge and understanding of the topics covered during Spring Term 2.</p> <p><b>Home Learning Opportunity:</b> Students will be expected to complete home learning activities and self-study tasks. Completion of these will be checked during activities in class.</p>	<p><b>Formative assessment:</b> Students will need to become aware of assessment criteria and outcomes and use this to assess their own learning to judge what improvements they will need to make.</p> <p><b>Home Learning Opportunity:</b> Students will be expected to complete home learning activities and self-study tasks. Completion of these will be checked during activities in class.</p>
<p><b>Summer A Topic</b></p>	<p><b>Unit 1.2.5 &amp; 1.2.6 Demolition and maintenance</b></p>	<p><b>Learning consolidation and preparation for the examination</b></p>
<p><b>Summer A Knowledge</b></p>	<p>Learners should know that a pre-demolition plan includes details of:</p> <ul style="list-style-type: none"> <li>hazardous materials such as asbestos, foam insulation, and medium density fibre board. live utilities and disconnections. Structures and load bearing party walls. Site conditions and constraints. Statutory requirements need to be considered.</li> </ul> <p>Learners should know that waste materials may be sent directly to landfill or salvaged for reuse or for recycling:</p> <ul style="list-style-type: none"> <li>waste materials can be retained on site in embankments and landscape bunding. Excavation materials can be retained on site by a balanced cut and fill excavation. Construction can produce a significant amount of waste so there are benefits to be gained from encouraging more reuse or recycling,</li> </ul>	<p>Learners should be provided with the opportunity to revisit and recall Unit 1 knowledge by:</p> <ul style="list-style-type: none"> <li>filling any gaps in knowledge from the learning journey/curriculum.</li> <li>recalling answers to low stakes questioning</li> <li>developing short answer questions with more detailed responses and explanations.</li> <li>Developing strategies that can be used to reinforce/recall leaning but also to enable them to consistently answer questions.</li> <li>Practicing a range of questions using the on-screen assessment format.</li> </ul>

	<p>including preservation of natural resources, creation of jobs and reduction in pollution. Sustainable construction methods may include specifying materials that are sustainable and renewable from managed sources.</p>	
<p><b>Summer A Skills</b></p>	<p><b>Unit 3: Practical Construction skills (NEA assignment)</b></p> <ul style="list-style-type: none"> <li>• Plan and source the materials and tools required for the task</li> <li>• Accurate measuring and marking out of materials</li> <li>• Laying out and check of appropriate tools and equipment used to undertake the joinery activity.</li> <li>• Cut out mortice and tenon joints precisely (use of tenon saw, chisel and drills)</li> </ul>	<p><b>Unit 1 Examination preparation</b></p> <p>Learners should develop examination techniques and skills for summer examination:</p> <ul style="list-style-type: none"> <li>• By using techniques such as 'BUG' to break down questions and develop answers.</li> <li>• By completing timed questioning.</li> <li>• By responding to and using exemplar materials and answers to formulate their own.</li> <li>• By accessing and using on-screen practice assessment materials</li> <li>• By developing revision clocks and mind maps to detail various parts of the curriculum.</li> </ul>
<p><b>Summer A Assessment Opportunity</b></p>	<p><b>Formative assessment:</b> Students will have the opportunity to self and peer assess practical outcomes using exam board assessment criteria.</p> <p>Periodical teacher and peer assessment of class work will be used to check understanding. Students will have opportunity to act upon feedback of their work.</p>	<p><b>Formative assessment:</b> Students will need to become aware of assessment criteria and outcomes and use this to assess their own learning to judge what improvements they will need to make.</p> <p><b>Home Learning Opportunity:</b> Students will be expected to complete home learning activities and self-study tasks. Completion of these will be checked during activities in class.</p>



	<p><b>Summative assessment:</b> There will be an end of unit test, that comprises of exam style questions to check students' knowledge and understanding of the topics covered during Summer Term 1.</p> <p><b>Home Learning Opportunity:</b> Students will be expected to complete home learning activities and self-study tasks. Completion of these will be checked during activities in class.</p>	
<b>Summer B Topic</b>	<b>Unit 3: Practical Construction skills (NEA assignment)</b>	<b>Revision</b>
<b>Summer B Knowledge</b>	<ul style="list-style-type: none"> <li>• Analysis of the project brief to ascertain the 3 activities to be undertaken.</li> <li>• Analysis and development of the success criteria to understand what needs to be done, for task 1; Carpentry.</li> <li>• Planning of the activities to be undertaken, begin assignment portfolio/report, for task 1; Carpentry.</li> <li>• Prepare of the activities to be undertaken, begin assignment portfolio/report, for task 1; Carpentry.</li> <li>• Evaluate the success of the outcomes of task 1; Carpentry.</li> </ul> <p><b>Y10 PPE exam to take place during this half term</b></p>	<p>Learners should be provided with the opportunity to revisit and recall Unit 1 knowledge by:</p> <ul style="list-style-type: none"> <li>• filling any gaps in knowledge from the learning journey/curriculum.</li> <li>• recalling answers to low stakes questioning</li> <li>• developing short answer questions with more detailed responses and explanations.</li> <li>• Developing strategies that can be used to reinforce/recall leaning but also to enable them to consistently answer questions.</li> <li>• Practicing a range of questions using the on-screen assessment format.</li> </ul> <p><b>(Examination usually in June)</b></p>
<b>Summer B Skills</b>	<p><b>Unit 3: Practical Construction skills (Carpentry) (NEA assignment)</b></p> <ul style="list-style-type: none"> <li>• Plan and source the materials and tools required for the task.</li> <li>• Accurate measuring and marking out of materials.</li> <li>• Laying out and check of appropriate tools and equipment used to undertake the carpentry activity.</li> <li>• Cut out mortice and tenon joints precisely (use of tenon saw, chisel and drills)</li> </ul>	<p><b>Unit 1 examination preparation</b></p> <p>Learners should develop examination techniques and skills for summer examination:</p> <ul style="list-style-type: none"> <li>• By using techniques such as 'BUG' to break down questions and develop answers.</li> <li>• By completing timed questioning.</li> </ul>

	<ul style="list-style-type: none"> <li>• Assemble and finish the carpentry component.</li> <li>• Identify strengths and weaknesses of the carpentry component</li> </ul>	<ul style="list-style-type: none"> <li>• By responding to and using exemplar materials and answers to formulate their own.</li> <li>• By accessing and using on-screen practice assessment materials</li> <li>• By developing revision clocks and mind maps to detail various parts of the curriculum.</li> </ul>
<p><b>Summer B Assessment Opportunity</b></p>	<p><b>Formative assessment:</b> Students will need to become aware of assessment criteria and outcomes and use this to assess their own learning to judge what improvements they will need to make.</p> <p><b>Summative assessment:</b> There will be an end of year exam, that comprises of exam style questions to check students' knowledge and understanding of the topics covered throughout Y10.</p> <p><b>Home Learning Opportunity:</b> Students will be expected to complete home learning activities and self-study tasks. Completion of these will be checked during activities in class.</p>	<p><b>Formative assessment:</b> Students will need to become aware of assessment criteria and outcomes and use this to assess their own learning to judge what improvements they will need to make.</p> <p><b>Home Learning Opportunity:</b> Students will be expected to complete home learning activities and self-study tasks. Completion of these will be checked during activities in class.</p>