Design and Technology - Long Term Plans

Year 7

Students in Year 7 rotate through 3 different areas of Design and Technology - Food Technology, Creative Design Production and Engineering. Each rotation is taught over a term.

Term	Autumn Term		Spring Term		Summer Term	
Half term	HT1	HT2	HT3	HT4	HT5	HT6
Unit Titles lengths:	Aerospace Engineering 7 lessons	Aerospace Engineering 7 lessons	Grab 5 5 lessons	Grab 5 6 lessons	Acrylic Clock 6 lessons	Acrylic Clock 7 lessons
Learning objectives Substantive and procedural knowledge covered in the unit	To understand the way that different types of engineering are applied in the world. To be able to explain a range of engineering disciplines. To be able to respond to a design brief with aerospace engineering. To use moodboards to inspire freehand drawings in response to the brief. To understand the importance of measuring within engineering and apply this to technical drawings. To analyse and evaluate the properties, functions and suitability of different materials. To be able to define the term CAD as well as its advantages and disadvantages. To use tinkercad software to create a 3D model of an aeroplane.	To understand the purpose of a prototype within engineering. To understand the role of forces and aerodynamics within aerospace engineering. To apply an understanding of aerodynamics to the creation of paper aeroplanes. To develop an understanding of health and safety within a DT workshop. To understand the term PPE and its purpose in a DT workshop. To describe and explain the methods in which wood can be joined together. To explain the difference between an electric conductor and an electric insulator. To build a circuit with a motor to power a paper aeroplane launcher. To be able to test and evaluate the final prototype.	To understand the importance of hygiene and food safety in a food environment. To explain that a hazard is something that can be dangerous or cause harm. To be able to understand how to complete a sensory evaluation of a dish. To describe the importance of a balanced diet in a healthy lifestyle. To be able to describe the eatwell guide and explain the functions and proportion of each food group/sector. To understand the role micro and macro nutrients play in a healthy and balanced diet. <u>Food practicals:</u> Scones Pasta in a tomato reduction sauce Vegetable stirfry To be able to use appropriate knife skills in a safe manner. To be able to practice keeping a work space clean and tidy, personal hygiene and preventing cross-contamination. To be able to use all parts of the oven safely whilst cooking and removing food.	To be able to identify seasonal, organic and provenance of food. To understand the functions of food packaging, food labelling and traffic light labelling. To be able to generate ideas for a new product. To be able to understand the properties and functions of ingredients. To be able to create a production plan and a list of chosen ingredients using nutrition computer software. <u>Food practicals:</u> Basic muffin recipe Own muffin with own development of recipe To be able to use appropriate knife skills in a safe manner. To be able to practice keeping a work space clean and tidy, personal hygiene and preventing cross-contamination. To be able to use all parts of the oven safely whilst cooking and removing food.	To understand and practice the importance of health and safety in a DT workshop. To be able to respond to a design brief and generate ideas using mindmaps. To use mood boards as a tool to research different design movements. To explain the characteristics of the Bauhaus Design movement. To be able to explain the functions and properties of polymers. To practice acrylic line bending techniques as well as different surface finishes. To use research to create 3 annotated design ideas using ACCESS FM. To be able to develop a final clock design inspired by Bauhaus.	To be able to develop a chosen idea for manufacturing. To develop CAD/CAM skills and understand how they are used in creative design and production. To be introduced to 2D Design (CAD) to create the clock panels. To understand the term prototype in CDP and to create a clock prototype of the final design. To be able to record the design and creating process of the final clock. To be able to manufacture a functioning clock using acrylic - using the technique or laser cutting. To evaluate the clock against the design brief including its strengths, weaknesses and any improvements.
Key ideas/ Themes:	Real world engineering Materials Aerospace engineering and career links Responding to brief Applying maths and science Technical drawing CAD	Prototypes - real world uses Experimentation with materials Health and Safety Electricity Application of maths and science	Eatwell guide Hygiene and safety Balanced diet Research Food Practicals	Muffins Ingredients and Recipes Recipe adaptations Production planning	Health and Safety Responding to a brief Bauhaus Design Movement Polymers Material finishing techniques ACCESS FM	Manufacturing Processes CAD/CAM 2D Design Prorotypes Creating a Clock Laser Cutting
Prerequisite knowledge:	Students are unlikely to have studied engineering as a specific subject but may have covered some of the content during science lessons or STEM activities. Students will need to know how to: Measure using a ruler Computer skills Drawing/outline skills	Students will need to know how to: Measure using a ruler Folding techniques Basic understanding of forces Constructing something using wood How to test fairly	Students may have experienced some food practicals and theory lessons in year 6 but some students will have never been in a food room or worked with food ingredients. Students will need to know how to: Work safely with sharp and hot equipment The purpose of a recipe The difference between ingredients and equipment Different vegetables	Students will need to know how to: Work safely in a food room List ingredients from different food groups Adapt a recipe Knife skills - bridge and claw Use research to inform recipe choices Make a basic muffin	Students are unlikely to have studied creative design production as a specific subject but may have covered some of the content during design technology lessons. Students will need to know how to: Personal safety Use research to inspire ideas Different materials	Students will need to know how to: Computer skills Basic Construction skills Measuring
Outcomes (Stickable-output that the student produces to demonstrate their knowledge)	At the beginning of the year 7 engineering rotation, students will receive an A4 workbooklet. After HT1 we would expect to see: Written text highlighted/annotated. Activity to consolidate learning sections to be completed. DPS freehand aeroplane sketches. A technical drawing with evidence of measuring.	After HT2 we would expect to see: Written text highlighted/annotated. Activity to consolidate learning sections to be completed. 2 Paper aeroplanes - Basic Dart/Navy Plane Cut wood using a saw Hot glue wood pieces together Create a functioning launcher using a motor	At the beginning of the year 7 food rotation, students will receive an A4 workbooklet. After HT1 we would expect to see: Written text highlighted/annotated. Activity to consolidate learning sections to be completed. Practical outcomes: Batch of scones Tomato reduction pasta sauce Vegetable stirfry	After HT2 we would expect to see: Written text highlighted/annotated. Activity to consolidate learning sections to be completed. Own adapted muffin recipe Practical outcomes: Basic muffins Own muffin recipe created	At the beginning of the year 7 creative design production rotation, students will receive an A4 workbooklet. After HT1 we would expect to see: Written text highlighted/annotated. Activity to consolidate learning sections to be completed. Recording of manipulating acrylic Bauhaus Clock Design Ideas Developed Annotated Design	After HT2 we would expect to see: Written text highlighted/annotated. Activity to consolidate learning sections to be completed. Finished Acrylic Clock Finished Clock Image Evaluation of Clock

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	TinkerCAD final 3D model - stuck in booklet and evaluated.					

Year 8

Students in Year 8 rotate through 3 different areas of Design and Technology - Food Technology, Creative Design Production and Engineering. Each rotation is taught over a term.

Term	Autumn Term		Spring Term		Summer Term	
Half term	HT1	HT2	HT3	HT4	HT5	HT6
Unit Titles lengths:	Mechanical Engineering	Mechanical Engineering	Budget Meals	Budget Meals	Storage Box	Storage Box
Learning objectives Substantive and procedural knowledge covered in the unit	To be able to understand the term engineering and why we need engineers. To understand how to stay safe and prevent hazards in the workshop. To be able to know the difference between hardwords and softwoods. To be able to understand the properties of thermo plastics and thermosetting plastics. To understand how to use moodboards to generate racecar design ideas. To describe the function of a wood lathe. To be able to render and annotate designs.	To use a variety of tools including, saws, vices, files and materials including woods and plastics to create a moving race car. To be able to evaluate the race car prototype considering aesthetics, functionality, performance and usability. To be able to understand the difference between imperial and metric units. To be able to understand the difference between orthographic and isometric. To be able to develop CAD skills and understanding and by using 2D Design. To be able to define different workshop tools and their purposes and functions.	To understand how to practice food hygiene and safety. To understand the role of the Eatwell Guide with a focus on starchy carbohydrates. To understand the traffic light labeling system. To be able to analyse factors that influence food choice. To be able to research recipe ideas. To be able to justify ingredient choices based on their nutritional value. <u>Food practicals:</u> Scone Based Pizza Pasta Bake - Vegetable - Cheese Sauce Potato and Spinach Curry - Rice/Naan To be able to use mixing and kneading skills to make a dough. To be able to make roux and sauce. To understand how to cook with spices. To be able to practice keeping a work space clean and tidy, personal hygiene and preventing cross-contamination. To be able to use all parts of the oven safely whilst cooking and removing food.	To be able to nutritionally analyse a dish to create a traffic light label. To be able to cost a dish and design ideal sensory characteristics. To be able to create a final idea and analyse properties and functions of the ingredients. To be able to create a production plan for the final idea and be able to produce an ingredient list. To be able to produce a final evaluation of a dish that includes nutritional and cost analysis. <u>Food Practicals:</u> Budget Meal - Product Development To be able to design and independently make a dish.	To understand the design brief and success criteria for making a storage box. To investigate existing storage products and identify good design features. To explore properties of woods, manufactured boards, and plastics suitable for storage. To learn about wood joints (butt, finger, dowel, etc.) and their applications. To explore surface finishes (paint, varnish, wax, laser engraving) for protection and aesthetics. To understand sustainable choices in materials, waste reduction, and durability.	To develop more complex CAD drawing skills for storage box components. To produce accurate CAD drawings for parts such as panels, joints, or decorative features. To finalise box design with working drawings, materials list, and measurements. To accurately measure and mark out components using workshop tools. To safely cut and shape parts for the storage box. To assemble the box using chosen joints and reinforcement methods. To apply finishes, check strength, and refine construction. To evaluate products against the design brief and suggest improvements.
Key ideas/ Themes:	Workshop Health and Safety Engineering Tools Material Properties Moodboards and Design Ideas Initial Sketches Rendering	Workshop Health and Safety Engineering Tools Evaluating a product Applying Maths and Science CAD Skills	Food Hygiene and Safety Eatwell Guide - Carbohydrates Traffic Light Labelling Food Choice Nutritional Value	Individual Dish Development Nutritional Analysis Costing a Dish Properties and functions of ingredients Dish Evaluation	Design Materials Joints Finishes Sustainability	CAD Marking Out Cutting Out Accuracy Evaluation
Prerequisite knowledge:	Real world Engineering Health and Safety Materials Different types of Engineering Responding to brief Applying maths and science Technical drawing	CAD Health and Safety PPE Drawing Skills Measuring	Food health, safety and hygiene The Eatwell Guide Balanced Diets Ingredient Research	Knife skills Ingredients and Recipes Recipe adaptations Production planning	Health and Safety Tools Measuring Marking out Sawing Sanding Drawing Simple CAD	Health and Safety Tools Measuring Marking out Sawing Sanding Drawing Simple CAD
Outcomes (Stickable-output that the student produces to demonstrate	At the beginning of the year 8 engineering rotation, students will receive an A4 workbooklet. After HT1 we would expect to see: Written text highlighted/annotated.	After HT2 we would expect to see: Written text highlighted/annotated. Activity to consolidate learning sections to be completed. Shapes drawn and measured with a ruler.	At the beginning of the year 8 food technology rotation, students will receive an A4 workbooklet. After HT1 we would expect to see: Written text highlighted/annotated.	After HT2 we would expect to see: Written text highlighted/annotated. Activity to consolidate learning sections to be completed. Ingredients, equipment and skills list Final Design Proposal	During the year 8 creative design and production rotation, students will be working on worksheets. After HT1 we would expect to see: Health and Safety Sheet	After Half Term 2 we would expect to see: Marking and Cutting out Sanding and finishing Practical Making of Lid Evaluation

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their knowledge)	Activity to consolidate learning sections to be completed. 4 Race Car Designs Final Race Car Design Race Car Construction	Shapes/Objects drawn from front, plan and side views. 2D design practice - Shapes Engineering Tools Mindmap	Activity to consolidate learning sections to be completed. Dish proposals (sweet and savoury)	Final Dish Image	Isometric Drawing Materials and Processes Design Ideas 3D Net Modelling	

Year 9

Students in Year 9 rotate through 3 different areas of Design and Technology - Food Technology, Creative Design Production and Engineering. Each rotation is taught over a term.

Term	Autumn Term		Spring Term		Summer Term	
Half term	HT1	HT2	HT3	HT4	HT5	HT6
Unit Titles lengths:	Civil Engineering	Civil Engineering	Multicultural nutritionally balance meals	Multicultural nutritionally balance meals	Moving Toy	Moving Toy
Learning objectives Substantive and procedural knowledge covered in the unit	To understand the key aspects of civil engineering. To understand advantages and disadvantages of different bridge designs. To understand the legislation around health and safety in engineering. To understand the differences between ferrous and nonferrous metals. To understand what smart materials are and how they are used in civil engineering. To be able to analyse a variety of existing bridge designs to create new designs. To create a final bridge design including annotation and rendering.	To use a variety of tools including, saws, vices, files, adhesives and materials including woods and metals to create a functional bridge. To be able to evaluate the final bridge prototype considering aesthetics, functionality, performance and usability. To be able to understand the difference between orthographic and isometric. To understand how the electric elements in a plug works and practice wiring skills. To understand different cutting and finishing tools such as types of saws and sanders.	To understand in-depth food hygiene and safety and its application in a food room. To be able to describe the Eatwell Guide - with a specific focus on protein, fats and oils and low fat alternatives. To be able to experiment with Healthy Cooking Methods. To be able to create a meal in response to a design brief and be able to use ACCESSFM/ SATSUMAS. To be able to complete an analysis of a brief and specification. To be able to research ideas using bbcgoodfood with a focus on healthy meals. To be able to scale down a recipe and justify it nutritionally on the Eatwell Guide. <u>Food practicals:</u> Mexican Chicken Fajita Wraps Italian Quorn Mince Lasagne French Savoury Tart - Focus on protein - egg To be able to understand the role of protein in a balanced diet and to understand how to cook these ingredients safely. To understand and cook with alternative proteins such as quorn. To be able to cook different meats using appropriate methods - frying, grilling, baking. To be able to cook pastry and make roux. To apply cultural understanding of dishes and ingredients including flavour and spice.	To be able to nutritionally analyse a lasagne recipe as well as being able to compare and contrast a healthier alternative. To be able to create a final recipe idea and analyse the properties and functions of the ingredients. To be able to create a production plan and ingredient list for the final idea. To be able to evaluate the nutritional value and cost of the dish including adaptations. To be able to evaluate personal cookery skills and list further improvements. <u>Food practicals:</u> Own Dish - Based on previous practicals and research/dish development. To be able to design and independently make a dish.	To understand the design brief, success criteria and intended outcome of creating a moving toy. To investigate examples of mechanical/moving toys, noting materials, mechanisms, and sustainability considerations. To identify and compare materials (wood, plastics, card, etc.), considering properties, advantages, and disadvantages. To explore and test different joining methods (adhesives, screws, joints, slot fitting) for selected materials. To learn surface finishing methods (paint, varnish, sanding, laser engraving) to improve durability and aesthetics. To understand simple mechanisms (cams, linkages, gears, levers) and how they create movement. To explore sustainable material choices, responsible production, recycling, and minimising waste.	To learn basic CAD skills to draw, edit, and model simple components. To develop a working CAD design for at least one component of the toy (e.g., a cam, housing, or decorative part). To create final design drawings, showing exploded diagrams, materials list, and step-by-step production plan. To safely cut, shape, and prepare materials for the toy components. To accurately assemble toy parts, applying appropriate joining methods. To apply finishes, test the toy's movement, and refine where needed. To evaluate the toy against the design brief, suggest improvements, and present the final product.
Key ideas/ Themes:	Civil Engineering Bridge designs and structures Legislation Metal Properties Smart Materials Bridge design	Practical Skills - cutting, joining, finishing Evaluation skills Types of Engineering Drawings Electrical Engineering Tools	Practical skills - softening, layering, rubbing in method, cooking meat Health and safety Protein Fats and Oils Healthy Cooking Methods Scaling down recipes Protein - Meat Free Alternatives	Individual Dish Development Healthier Alternatives Nutritional Analysis Production Planning Costing a Dish Properties and functions of ingredients Dish Evaluation	Design Thinking Material Properties Production Techniques Mechanisms Sustainability	Health and Safety Production Techniques CAD Skills Evaluation
Prerequisite knowledge:	Real world Engineering Health and Safety Materials Different types of Engineering Responding to a brief Applying maths and science	CAD Health and Safety PPE Electrical Engineering Technical drawing Engineering Workshop	Food Hygiene and Safety Eatwell Guide - Protein Traffic Light Labelling Food Choice Nutritional Value Recipe Analysis Making a sauce and pastry	Knife skills Ingredient Preparation Ingredients and Recipes Recipe adaptations Production planning Evaluation	Health and Safety Tools and Machinery Wood and Plastic properties Measuring Drawing 2D Design	2D Design Tools and Machines PPE CAD Laser Cutting Constructing a product
Outcomes (Stickable-output that the student produces to	At the beginning of the year 9 engineering rotation, students will receive an A4 workbooklet. After HT1 we would expect to see: Written text highlighted/annotated.	After HT2 we would expect to see: Written text highlighted/annotated.	At the beginning of the year 9 food technology rotation, students will receive an A4 workbooklet. After HT3 we would expect to see: Written text highlighted/annotated.	After HT4 we would expect to see: Written text highlighted/annotated. Activity to consolidate learning sections to be completed. Ingredients, equipment and skills list	During the year 9 creative design and production rotation, students will be working on worksheets. After HT1 we would expect to see:	After Half Term 2 we would expect to see: Marking and Cutting out Sanding and finishing Testing and modifying

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demonstrate their knowledge)	Activity to consolidate learning sections to be completed. 4 Bridge Designs Final Bridge Design Bridge Construction	Activity to consolidate learning sections to be completed. Orthographic Drawing Drawing different shapes Label Plug Diagram	Activity to consolidate learning sections to be completed. Dish proposals - adaptations	Final Design Proposal Final Dish Image	Health and Safety Sheet Sampling Tools and machinery Moving toy designs Final moving toy design	Moving toy Construction

Year 10 - NCFE 1/2 Technical Award in Engineering

Term	Autumn Term		Spring Term		Summer Term	
Half term	HT1	HT2	HT3	HT4	HT5	HT6
Unit Titles lengths:	Unit 1 and Unit 3	Unit 6 and Unit 7	Unit 5 and Unit 8	Unit 9 and Unit 4	Unit 2	Mock NEA Project
Learning objectives Substantive and procedural knowledge covered in the unit	To be able to understand the principles of a variety of engineering disciplines and their application within the world. To understand the health and safety at work legislation within different engineering fields. To be able to list and describe personal Protective Equipment (PPE) at work. To understand the Manual Handling Operations Legislation. To be able to describe and give examples of Control of Substances Hazardous to Health (COSHH). To be able to explain Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR). To be able to identify the characteristics of an Engineering Drawing. To understand and be able to explain the different types of 2D and 3D engineering. To be able to explain the British Standards 8888.	To understand the characteristics of hand-drawn engineering drawings as well as being able to create: Freehand sketches Hand-drafted isometric drawing sheets Hand-drawn orthographic drawing sheets To understand the characteristics of computer aided design engineering drawings as well as being able to create: CAD engineering drawings CAD isometric drawing sheets CAD orthographic drawing sheets To be able to understand the uses of CAD.	To be able to understand the applications and uses of different tools, equipment and tools within different engineering disciplines.. To be able to list and describe marking out tools. To be able to list and describe modification tools. To be able to list and describe joining tools. To be able to identify different finishing tools and methods. To be able to describe and apply safe and correct use of all tools and equipment. To be able to explain the different control measures used for different tools. To understand the purpose and stages of production planning. To understand the purpose and application of a risk assessment. To understand how to create a production plan and explain/describe some of the existing models used by engineers.	To be able to understand a variety of processing skills and techniques. To be able to prepare different materials using appropriate techniques. To be able to modify the shape and size of materials as well as being able to join and finish materials. To be able to practice safe and correct use of tools, equipment and machines. To be able to prepare and use tools, equipment and machines. To be able to understand chemical, electrical, mechanical, optical and magnetic and thermal properties of materials. To understand the environmental impact of extraction of raw material and fossil fuels. To understand the environmental impact of renewables, carbon footprint, recycling and sustainability. To understand the properties of different materials such as wood, ceramics and metal.	To be able to apply maths and science to different areas of Engineering. To understand how to use SI Units of Measurement. To be able to identify and measure current and luminous intensity. To be able to understand thermodynamic temperatures. To understand different units of measurement such as amount of substance, time, mass, forces and energy. To understand the application of Base SI Units. To be able to calculate the volume and area of geometric shapes and forms. To be able to apply equations to real world engineering problems.	To be able to respond to a clear and concise design brief that outlines the purpose, target audience, and context of the project. To be able to develop a detailed design specification that defines the requirements, constraints and success criteria of the product. To be able to generate a range of creative and feasible design ideas using appropriate techniques such as sketching or mind mapping. To be able to select and refine design ideas through testing, modeling, and feedback in order to develop a final design solution. To be able to create a clear and realistic plan for making the product, including tools, materials, timeframes and steps. To be able to produce a high-quality product using appropriate tools, materials, and techniques, following health and safety guidelines. To be able to critically evaluate the final product against the specification and suggest improvements based on testing and feedback. To be able to maintain a detailed learner log that reflects on progress, challenges, and learning throughout the design process.
Key ideas/ Themes:	Engineering Disciplines Reading Engineering Drawings	Hand-drawn Engineering Drawings Computer-aided Design (CAD) Engineering Drawings	Engineering Tools Equipment and Machines Production Planning Techniques	Applied Processing Skills and Techniques Properties Characteristics Selection of Engineering Materials	Applied Science and Mathematics in Engineering	Design Brief Specification Ideas Development Plan Production Evaluation Learner Log Revision
Prerequisite knowledge:	Engineering disciplines - civil, mechanical and aerospace Health and Safety in the workshop Engineering drawings Isometric and orthographic 2D and 3D drawings	Engineering drawings 2D design CAM/CAD Title Blocks Measuring Dimensions	Small and large equipment and tools - joining, finishing, modification and marking out Recording steps Following instructions	Different materials - wood, metal and plastic Properties of materials Environmental factors Preparing materials	Measurements - volume, area, voltage, time and mass Different Engineering Disciplines	Responding to a design brief Developing an idea Producing a production plan Making a product Evaluation Recording evidence
Outcomes (Stickable- output that the student produces to demonstrate their knowledge)	Assessment on unit 1 engineering disciplines and unit 3 health and safety at work legislation within different engineering fields. Checking for understanding and misconceptions.	Assessment on unit 6 Hand-drawn Engineering Drawings and unit7 Computer-aided Design (CAD) Engineering Drawings Checking for understanding and misconceptions.	Assessment on unit 5 Engineering Tools Equipment and Machines and unit 8 Production Planning Techniques Checking for understanding and misconceptions.			

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Year 10 - NCFE 1/2 Technical Award in Food and Cookery

Term	Autumn Term		Spring Term		Summer Term	
Half term	HT1	HT2	HT3	HT4	HT5	HT6
Unit Titles lengths:	Content Area 1 and 5	Content Area 2 and 5	Content Area 3 and 5	Content Area 3, 4 and 5	Content Area 4, 6 and 7	Content Area 5, 6 and 7
Learning objectives Substantive and procedural knowledge covered in the unit	To understand how to implement safe and hygienic working practices relating to the individual and the cooking environment. To identify potential hazards and risks in the cooking environment. To be able to understand and apply Hazard Analysis Critical Control Point (HACCP). To be able to minimise risk in the cooking environment. To understand the purpose of risk assessments. To be able to practice safe and hygienic working practices when using cooking equipment and utensils. To be able to explain the key stages and the purpose of a recipe. To be able to explain the characteristics and functions of ingredients. To understand a variety of preparation skills and how to apply them. To be able to practice different cooking techniques and skills. To be able to develop presentation skills to include garnishing and decoration.	To be able to explain the role of the Foods Standards Agency and be able to describe food safety legislation. To be able to explain the term food provenance. To be able to explain the difference between grown, reared and caught food. To be able to describe different types of food transportation. To be able to understand food processing, why food is processed and be able to describe the advantages and disadvantages of processed food. To be able to understand food manufacturing, why food is manufactured and be able to describe the advantages and disadvantages of manufactured food. To understand a variety of preparation skills and how to apply them. To be able to practice different cooking techniques and skills. To be able to develop presentation skills to include garnishing and decoration.	To be able to identify the different food groups. To be able to explain the components of a balanced diet. To be able to explain the proportions of the food groups. To be able to identify the Government healthy eating tips. To be able to understand the role of each nutrient. To be able to identify and describe sources and functions of macronutrients. To be able to identify and describe sources and functions of micronutrients. To be able to identify and describe sources and functions of minerals and water. To understand a variety of preparation skills and how to apply them. To be able to practice different cooking techniques and skills. To be able to develop presentation skills to include garnishing and decoration.	To be able to identify the different food groups. To be able to explain the components of a balanced diet. To be able to explain the proportions of the food groups. To be able to identify the Government healthy eating tips. To be able to understand the role of each nutrient. To be able to identify and describe sources and functions of macronutrients. To be able to identify and describe sources and functions of micronutrients. To be able to identify and describe sources and functions of minerals and water. To be able to identify and explain factors affecting food choice. To be able to understand and explain the difference between social and environmental factors as well as seasonality. To understand a variety of preparation skills and how to apply them. To be able to practice different cooking techniques and skills. To be able to develop presentation skills to include garnishing and decoration.	To be able to identify and explain factors affecting food choice. To be able to understand and explain the difference between social and environmental factors as well as seasonality. To be able to amend and develop recipes. To be able to evaluate a completed dish. To be able to interpret a customer brief. To be able to understand the process of menu planning. To be able to understand and apply the process of action planning. To be able to evaluate the planning and outcome of completed dishes against the requirements of a customer brief.	To understand a variety of preparation skills and how to apply them. To be able to practice different cooking techniques and skills. To be able to develop presentation skills to include garnishing and decoration. To be able to amend and develop recipes. To be able to evaluate a completed dish. To be able to interpret a customer brief. To be able to understand the process of menu planning. To be able to understand and apply the process of action planning. To be able to evaluate the planning and outcome of completed dishes against the requirements of a customer brief.
Key ideas/ Themes:	Health and Safety Relating to Food Nutrition and the Cooking Environment Food Preparation Cooking Skills and Techniques	Food Legislation Food Provenance Food Preparation Cooking Skills and Techniques	Food Groups Key Nutrients Balanced Diet Food Preparation Cooking Skills and Techniques	Food Groups Key Nutrients Balanced Diet Factors Affecting Food Choice Food Preparation Cooking Skills and Techniques	Factors Affecting Food Choice Recipe Amendment, Development and Evaluation NEA Task Preparation Menu and Action Planning for Completed Dishes	Food Preparation Cooking Skills and Techniques Recipe Amendment, Development and Evaluation NEA Task Preparation Menu and Action Planning for Completed Dishes
Prerequisite knowledge:	Health and safety Food groups and portion sizes Basic cooking skills Knife skills Ingredient preparation Personal Hygiene	Food Labelling - Traffic Lights Cultural foods Basic cooking skills Knife skills, sauce, pasty Cooking methods Ingredient preparation	Food groups Eatwell Guide Micro and Macro Nutrients Knife skills, sauce, pasty Cooking methods Ingredient preparation	Food groups Eatwell Guide Micro and Macro Nutrients Tolerances, food preferences and allergies More complex cooking skills Ingredient preparation	Tolerances, food preferences and allergies Adapting a recipe Menu and dish planning Sensory evaluation	More complex cooking skills Ingredient preparation Adapting a recipe Menu and dish planning Sensory evaluation
Outcomes (Stickable- output that the student produces to demonstrate their knowledge)	Term overview and specification content areas being covered. Hygiene and safety worksheets Practical sensory evaluation and photos Risk assessment worksheets Keywords / definitions.Unlocking vocabulary HACCP Chart Exam Practice questions Mid interim test	green pen test paper food legislation and the law notes food provenance notes Keywords / definitions Grown foods - notes Practical evaluations and photos of outcomes Product development - designing a new bread product - annotated sketch Production plan with QCC's Photographic step by step plan - NEA Practice	Food provenance - reared farming notes Food symbols and definitions Milk processing notes Milk taste testing notes and sensory evaluations Cheese processing notes Cheese taste testing sensory evaluations Practical evaluations and photos of outcomes Caught foods notes Transportation notes Why foods are manufactured notes CA2 Exam	Green pen test paper Eatwell guide annotated 8 healthy eating tips explained. Practical and photo of outcomes. Sensory evaluations / modifications Nutrient notes on each macronutrient - structure, function, RIs, Excess, Deficiency, Exam Practice	Nutrient notes on each macronutrient - structure, function, RIs, Excess, Deficiency, Exam Practice Nutrient notes on each micronutrient - structure, function, RIs, Excess, Deficiency, Nutritional requirements for different stages of life notes. Food related health conditions notes. Exam practice	Nutritional labelling information NEA Practice - recipe modification. Printed food labels - analysed. NEA - Practice planning a recipe NEA - Practice making and uploading photos. NEA - Practice sensory evaluation and modifications Practical evaluations and photos of outcomes. Notes on social and environmental factors that affect food chocies.

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Year 10 - NCFE 1/2 Technical Award in Creative Design and Production

Term	Autumn Term		Spring Term		Summer Term	
Half term	HT1	HT2	HT3	HT4	HT5	HT6
Unit Titles lengths:	Design and production in context design movements 18 lessons	Design materials and processes 21 lessons	Practice Synoptic: Design brief research initial ideas 18 lessons	Practice Synoptic: Develop design, Test and Make 15 lessons	Practice Synoptic: Review and evaluate 18 lessons	Careers in the design industry 15 lessons mocks
Learning objectives Substantive and procedural knowledge covered in the unit	To understand the difference between the design movements: Arts and crafts movement Art nouveau Art deco bauhaus Modernism Memphis Post modernism To identify social factors To identify key features key designers of the movement Explore different materials when sampling each movement in the style of them. To evaluate sampling completed and the effectiveness. To reflect on own understanding in the end of unit test.	To investigate and understand the characteristics, properties and surface treatments and finishes used on materials.:textiles timber (wood), metal, plastic, paper To explore each material by carrying out different tests to identify the characteristics and suitability of materials used in designs. To develop and enhance understanding of materials by sampling different surface treatments and finishes. To explain why the materials performed the way they have and suitability of outcome. To make a product using appropriate materials and finish to improve the finish of the product and help sustain its use. Be aware of environmental issues when designing and making products.	To develop understanding when analysing a brief. To explore different research methods to understand the brief. To understand the difference between primary and secondary research. To carry out research on design movements and reflect on their work To develop self discipline when given time limits to complete tasks. To communicate and present their work in the form of an email to a client. To identify and use appropriate skills to present their design and explain why they are suitable for the brief.	To identify a design idea to develop further for a client To understand how to present and communicate design idea using different methods-sketching, 2D Design. To produce a production plan for chosen product, To explore different techniques/processes to make a prototype To identify safety procedures when using equipment To review quality of processes	To explore different techniques/processes to make a prototype of the jewellery To experiment with different materials to create a prototype To reflect on techniques used and their suitability. To develop practical skills when combining different materials to be experimental and problem solve issues when they arise.. To review the final prototype comparing to the design brief and clients needs.	To be aware of Employments and careers opportunities Industry sectors, Types of work Upskilling To identify skills for the design production industry Self reflection, Invention, Innovation Process Skills used for product promotion Digital marketing and promotion Physical marketing and promotion methods To identify how to self promotion Purpose Digital promotion methods Physical promotional methods To present a piece of work using the skills learnt.
Key ideas/ Themes:	social factors key features key designers of each movement sampling of different skills/techniques evaluating work test on unit	key words and definitions textiles-woven sample, screen printing wood-door stop metal-engraving plastic-keyring paper/card-embossing environmental issues-not wasting materials test on unit	Analysing a brief-identifying of key words primary and secondary research Mood board product research environmental issues materials and characteristic/properties initial ideas with annotation of design ideas use of ACCESS FM to support annotating email to client	developing a chosen design-referring to SCAMPER to develop an idea FPT-use of 2D Design to create their jewellery. line bending acrylic sample how to plan practical identifying stages used. How to present and write a production plan identifying techniques, H&S, PPE, QA	how to plan their time to explore techniques to make their jewellery how to reflect on their work and record their findings how to use tools and equipment when using different materials CADCAM reflecting on final product in relation to the brief/clients needs environmental issues when sampling-reduce waste/recycling materials	to make a presentation using different communication skills. to be aware of the careers in the design sector
Prerequisite knowledge:	some understanding of design movements use of different communication skills to present work written/computer drawing shapes in 2D	understanding of materials and some uses properties of materials uses of materials use of basic tools and equipment	sketching of ideas moodboards computer skills use of colour computer skills emails	computer skills to present work making of a model stages for making	making of prototypes identifying	presenting to a class verbal communication computer skills
Outcomes (Stickable- output that the student produces to demonstrate their knowledge)	Fact pages on all design movements Sampling each movement by making a product linked with the movement. Printing using foamboard, repeat patterns, line drawing, collage, 2 point perspective drawing, isometric drawing, scaled prototype, 2D Design, Reflection on their own work by writing an evaluation on the strengths, weaknesses of the made product and suggesting further improvements. test on knowledge gained	Definitions of key words for testing materials. write ups of mini tests to reinforce understanding of the properties of materials Samples of screen printing, lino printing, Photographs of prototypes made using different materials door stop, keyring using acrylic, card using roller press to emboss, heat transfer,	how to present their work in preparation for synoptic in year 11. design page identifying key words page analysing brief mood board on design movements research on jewellery page research on materials and their properties page environmental issues page page 3 design ideas with annotations	developing chosen idea page sampling materials they could use to make jewellery evaluating techniques sampled production plan for making own design	2D Design page of creating their design with explanations. pages of techniques using photos taken during the making of the jewellery annotation with the photographs explaining the process and effectiveness of outcome. final product with evaluation linking it to the brief. strengths of the final prototype identifying further improvements	list of careers and skills required type of digital and physical promotion methods digital and physical marketing how to self promote using different methods. a presentation to be delivered in front of the class

Co-op Academy Grange

Design and Technology - Long Term Plans

Year 11 - NCFE 1/2 Technical Award in Engineering

Term	Autumn Term		Spring Term		Summer Term	
Half term	HT1	HT2	HT3	HT4	HT5	HT6
Unit Titles lengths:	NEA (Non-Exam Assessment): Internal Synoptic Project	NEA (Non-Exam Assessment): Internal Synoptic Project	NEA (Non-Exam Assessment) Internal Synoptic Project	NEA (Non-Exam Assessment) Internal Synoptic Project	Exam Preparation / Revision Techniques	Exam Preparation / Revision Techniques
Learning objectives Substantive and procedural knowledge covered in the unit	To be able to research and justify appropriate materials, tools, and machinery for a working-scale model. Properties of engineering materials: ferrous and non-ferrous alloys, polymers, composites, woods, ceramics. Tools and machinery: marking-out tools, modifying, joining, finishing. Research methods and referencing (internet use, annotated diagrams, written reports)	To be able to explain BS 8888 requirements and produce compliant hand-drafted engineering drawings. British Standard BS 8888: conventions for engineering drawings. Hand-drafting techniques: 3-view, scale, dimensions (angles, lengths, diameters), units, line types, tolerance, title block.	To be able to convert hand-drafted drawings into CAD format, applying BS 8888. CAD software operation for engineering drawings. Application of drawing standards: 3D dimensioning, scale, line types, tolerance, title block per BS 8888	To be able to develop a detailed production plan including tools, safety, quality control, timescales, with justification. Production planning techniques: flowcharts, Gantt charts, spreadsheets. Health & safety. Quality control principles. Time management and planning justification	To be able to recall and apply key engineering principles, including material properties, forces, and energy types, in exam-style questions. To be able to interpret and analyse technical drawings, diagrams, and data accurately to inform engineering decisions. To be able to evaluate the suitability of materials, tools, and processes for specific engineering contexts and justify choices. To be able to demonstrate effective exam techniques, including time management, question deconstruction, and structured written responses.	To be able to recall and apply key engineering principles, including material properties, forces, and energy types, in exam-style questions. To be able to interpret and analyse technical drawings, diagrams, and data accurately to inform engineering decisions. To be able to evaluate the suitability of materials, tools, and processes for specific engineering contexts and justify choices. To be able to demonstrate effective exam techniques, including time management, question deconstruction, and structured written responses.
Key ideas/ Themes:	Understanding material properties. Tool-selection and their correct applications. Evidence-based justification and referencing.	Precision in engineering graphics. Standards compliance (BS 8888). Clear visual communication of design.	Transition from manual to digital drafting. Maintaining standards compliance across formats.	Organised and safe production processes. Ensuring quality and efficiency. Critical decision-making in planning.	Reinforcement of core engineering knowledge (materials, tools, processes, forces, energy, systems) - Application of knowledge to exam scenarios - Reading and interpreting engineering drawings and data - Exam technique, planning, and written communication	Reinforcement of core engineering knowledge (materials, tools, processes, forces, energy, systems) - Application of knowledge to exam scenarios - Reading and interpreting engineering drawings and data - Exam technique, planning, and written communication
Prerequisite knowledge:	Basic understanding of different material categories and their properties. Familiarity with common workshop tools and their functions.	Basic drawing skills (lines, measurement). Familiarity with dimensioning concepts.	Hand-drafted drawings from Term 2. Basic CAD navigation and tools.	Drawings (Term 2 & 3), understanding of manufacturing steps. Familiarity with planning visual tools.	Understanding of all core units from the Technical Award spec: - Engineering materials and properties - Tools and manufacturing processes - Forces and energy - Engineering drawings and diagrams - Prior experience with mock exam questions and NEA tasks - Familiarity with command words (describe, evaluate, justify, etc.)	Understanding of all core units from the Technical Award spec: - Engineering materials and properties - Tools and manufacturing processes - Forces and energy - Engineering drawings and diagrams - Prior experience with mock exam questions and NEA tasks - Familiarity with command words (describe, evaluate, justify, etc.)
Outcomes (Stickable- output that the student produces to demonstrate their knowledge)	The NEA portfolio task will be completed on a Google Slides Document By the end of half-term 1, students should have completed Task 1 - Research and began Task 2 - Engineering Drawings.	By the end of half-term 2, students should have completed Task 2 - Engineering Drawings.	By the end of half-term 3, students should have completed Task 3 - CAD Engineering Drawings.	Annotated production plan (Gantt/chart/spreadsheet) with safety, quality, timeline, and rationale.	Completed topic-based revision sheets or flashcards - Marked past paper questions with feedback - A “mistake log” or self-reflection sheet identifying key misconceptions - A timed, marked mock exam under exam conditions - Personalised revision plan (topics to focus on + time allocation)	Completed topic-based revision sheets or flashcards - Marked past paper questions with feedback - A “mistake log” or self-reflection sheet identifying key misconceptions - A timed, marked mock exam under exam conditions - Personalised revision plan (topics to focus on + time allocation)

Co-op Academy Grange

Design and Technology - Long Term Plans

Year 11 - NCFE 1/2 Technical Award in Food and Cookery

Term	Autumn Term		Spring Term		Summer Term	
Half term	HT1	HT2	HT3	HT4	HT5	HT6
Unit Titles lengths:	NEA (Non-Exam Assessment): Internal Synoptic Project	NEA (Non-Exam Assessment): Internal Synoptic Project	NEA (Non-Exam Assessment): Internal Synoptic Project	NEA (Non-Exam Assessment): Internal Synoptic Project	Exam Preparation / Revision Techniques	Preparation for examination
Learning objectives Substantive and procedural knowledge covered in the unit	Analyse the brief to identify the key areas that must be considered Generate a mind map of all the factors that needs to be considered Plan the research that is needed to find out the key information. Analyse and evaluate food groups, key nutrients, a balanced diet and recipe amendment when amending the recipe. Justify how their modifications for the amended recipe will significantly improve the nutritional content of the recipe. Apply their knowledge and understanding of food groups, key nutrients, a balanced diet, government guidelines and recipe amendment that will improve the nutritional content of the recipe. Justify how it meets the healthy eating guidelines. e.g. saturated fats – such as cream, butter or lard for example, fatty meat – such as replacing leaner meat or suitable alternative, foods high in salt – such as stock cubes, bacon. increase the fruit and vegetable intake – such as adding in additional vegetables to the filling increase the fibre intake – such as the substitution of plain flour to wholemeal flour,	Demonstrate "Mise-en- place" by is ensuring their workstation is set up before beginning practical (Task 2A / B) Prepare themselves as food handlers to reduce cross contamination Select the correct tools and equipment to achieve a good quality finish. Use tools and equipment safely and skillfully to avoid injury to themselves or others. Make a quality product using temperature control Use a range of knife safety cutting techniques when preparing vegetables. Food style their dish to improve the aesthetics. Use oven gloves to remove hot objects from the oven safely. Season their food to bring out or intensify the natural flavour of the food without changing it. Follow their method to make a quality product within the time constraints. Use and select the correct part of the cooker for the required task. Make a product more affordable by considering seasonal ingredients Increase the vitamins, minerals and dietary fibre in the diet by using fresh vegetables.	Analyse and evaluate the preparation, cooking (techniques and methods) and presentation skills you have used to create their dish (NEA 2C) Suggest ways to improve the preparation, cooking and presentation skills. Annotate their photograph of the completed dish which evaluates the presentation Sensory evaluate the sensory characteristics of their dish identifying the strengths and weaknesses and suggesting ways to further improve to meet the brief. Analyse task 3A to research two recipes that could be made to meet the brief requirements. Identify if the dishes enable relevant skills, processes and techniques to be demonstrated to gain maximum marks in the assessment criteria. Modify the recipes to include dovetailing to enable multitasking so that both dishes can be made within the time constraint. Create a step by step plan with approximate timings to highlight key preparation, cooking and presentation skills. Identify and justify key QCCs for each process. Record the full list of ingredients to make a scaled down recipe.	Demonstrate "Mise-en- place" by is ensuring their workstation is set up before beginning practical (Task 3A /B /) Prepare themselves as food handlers to reduce cross contamination Select the correct tools and equipment to achieve a good quality finish. Use tools and equipment safely and skillfully to avoid injury to themselves or others. Make a quality product using temperature control Use a range of knife safety cutting techniques when preparing vegetables. Food style their dish to improve the aesthetics. Analyse and evaluate food groups, key nutrients, a balanced diet and recipe amendment when amending the recipe. Justify how their modifications for the amended recipe will significantly improve the nutritional content of the recipe. Apply their knowledge and understanding of food groups, key nutrients, a balanced diet, government guidelines and recipe amendment that will improve the nutritional content of the recipe. Justify how it meets the healthy eating guidelines	Analyse task 4A to research a recipe that meets the dietary needs of the specified target group. Identify if the dish enables relevant skills, processes and techniques to be demonstrated to gain maximum marks. Annotate their photograph of the completed dish which evaluates the presentation Prepare themselves as food handlers to reduce cross contamination Select the correct tools and equipment to achieve a good quality finish. Use tools and equipment safely and skillfully to avoid injury to themselves or others. Make a quality product using temperature control Use a range of knife safety cutting techniques when preparing vegetables. Food style their dish to improve the aesthetics. Sensory evaluate the sensory characteristics of their dish identifying the strengths and weaknesses and suggesting ways to further improve to meet the brief.	To apply knowledge when answering exam style questions to gain full marks on each topic To practice past exam papers in preparation for exam.
Key ideas/ Themes:	Nutrients / macronutrients/ micronutrients Age related nutritional requirements Healthier alternatives / cooking methods NEA Assessment objectives.	Modify recipe to meet the brief. Justification of all modifications to explain how it meets the brief and the target groups nutritional requirements. List of ingredients . Step by step diagrammatic plan to highlight the cooking, preparation and presentation skills. QCCs for each process. Photos uploaded to evidence skills, processes and techniques.	research recipe modification dovetailing, sequencing, production planning time management hygiene and safety considerations	List of ingredients . Step by step diagrammatic plan to highlight the cooking, preparation and presentation skills. QCCs for each process. Photos uploaded to evidence skills, processes and techniques.	List of ingredients . Step by step diagrammatic plan to highlight the cooking, preparation and presentation skills. QCCs for each process. Photos uploaded to evidence skills, processes and techniques. Evaluation / reflection	Revisit previous exam papers
Prerequisite knowledge:	Nutrients - types, functions, RIs, sources, excess and deficiencies. Age related nutritional requirements and why. How to modify a recipe justifying the changes / modifications.	Practice tasks from year 10. Production planning to highlight and justify all skills Food styling. Working safely and hygienically within a time constraint in a food environment.	Practice tasks from year 10. Practical skills / food styling techniques Production planning to highlight and justify all skills Portion control Time management Working safely and hygienically within a food environment.	Practice tasks from year 10. Production planning to highlight and justify all skills Food styling. Working safely and hygienically within a time constraint in a food environment.	Practice tasks from year 10. Production planning to highlight and justify all skills Food styling. Working safely and hygienically within a time constraint in a food environment.	Revisit subject content areas from year 10. Practice mocks exam papers from year 10.
Outcomes (Stickable- output that the student produces to demonstrate their knowledge)	New books - labelled. New folders for their NEA tasks. Books to include the content overview, proposed timeplan for the delivery of the 8 NEA tasks, Keyword Focus NEA requirements. Brief Modelled - annotated paragraph. Annotated paragraph 2.	List of ingredients, Step by step diagrammatic plan with all the processes identifying if they are preparation, cooking and/or presentation skills.	Preparation for a practical exam. weighing of ingredients, photos of all processes step by step plan being marked off hygiene and safety being applied	List of ingredients, Step by step diagrammatic plan with all the processes identifying if they are preparation, cooking and/or presentation skills. Preparation for a practical exam. weighing of ingredients, photos of all processes step by step plan being marked off hygiene and safety being applied	List of ingredients, Step by step diagrammatic plan with all the processes identifying if they are preparation, cooking and/or presentation skills. Preparation for a practical exam. weighing of ingredients, photos of all processes step by step plan being marked off hygiene and safety being applied	Revision Practice past papers from exam board How to scaffold long exam questions

Co-op Academy Grange

Design and Technology - Long Term Plans

Year 11 - NCFE 1/2 Technical Award in Creative Design and Production

Term	Autumn Term		Spring Term		Summer Term	
Half term	HT1	HT2	HT3	HT4	HT5	HT6
Unit Titles lengths:	Review movements and materials. synoptic-18 lessons Release of synoptic to students-7 lessons	NEA Synoptic	NEA Synoptic	Examination preparation Internal mock exams 18 lessons	Examination preparation 24 lessons	Preparation for examination
Learning objectives Substantive and procedural knowledge covered in the unit	To review design movements: Arts and crafts movement Art nouveau Art deco Bauhaus Modernism Memphis Post modernism To reflect on synoptic jewellery project: Research methods and techniques including ideas Interpreting a brief Developing the designs Plan of production stages for design solution Reviewing the design project Introduction to the NEA (Oct) To analyse the brief and identify research methods. To select and record research.	To reflect on research and record own opinions To demonstrate how research will influence decisions when designing Review design ideas and promote digital communication to client with specific reason for suitability To develop a chosen idea suitable for the design brief and client requirements to identify stages for techniques and processes when experimenting with materials	To demonstrate correct use of tools and equipment when sampling techniques To show understanding of materials and processes used To record stages for making prototype To identify effectiveness of techniques and suggest further improvements. To review final prototype against the brief and stages carried out in the design process To identify strengths and how the final prototype meets the brief To suggest further improvements	To develop knowledge of design movements. To reinforce and identify key facts, key features and designers. To identify design principles. To reinforce knowledge of materials and identify their properties. To practice and develop revision strategies. To apply knowledge when answering exam style questions to gain full marks on each topic	To reinforce knowledge of materials and identify their properties to identify environmental issues and how they have impact on design To review stages of a design proposal To identify different ways of communicating To reinforce what a production plan is identifying processes, techniques and safety issues. To understand employment and opportunities within the design sector To apply knowledge when answering exam style questions to gain full marks on each topic	To apply knowledge when answering exam style questions to gain full marks on each topic To practice past exam papers in preparation for exam.
Key ideas/ Themes:	Facts on design movements Social factors Key features Dates Key designers Individual tasks on synoptic explored	Drawing ideas using different methods-hand drawn/2D Design Annotation of developed design ACCESS FM SCAMPER Developing an idea Annotating designs Producing a plan for making	Experimenting with different techniques and materials to make prototype Recording decisions when evaluating Reviewing design against the brief	Revision techniques Answering exam questions Revisit tops: Design movements-key social factors/key features and designers Materials and their properties and finishes	Revision techniques Answering exam questions How to break exam questions down to gain higher marks Processes used in design Communication skills-personal/computer production planning and identifying areas of importance Environmental issues when designing and making products	Revisit previous exam papers
Prerequisite knowledge:	Different tyes of research Computer skills	Drawing skills Rendering Design movements key features Computer skills	Computer skills Materials and uses techniques communicating decisions	Revision techniques Knowledge of movements Designers of movements	Writing of notes Revision techniques exam questions Job opportunities	
Outcomes (Stickable- output that the student produces to demonstrate their knowledge)	facts on each design movement notes explaining how they can complete each of the tasks in the synoptic Students will be working digitally when completing their coursework. Task 1a-Research preparation carried out and printed off brief analysed on a slide research-mood board materials product analysis movements researched object relating to brief researched	initial ideas drawn and annotated Task 1b-interpreting a brief digital communication to a client justifying the 3 initial ideas to client proposing chosen idea to develop Task 2-developing a chosen design show initial design and how it has been improved. annotations will be specific with measurements and material/techniques identified to lead into the production plan. Task 3-plan for production stages for design solution plan for experimenting with techniques relevant to design risk assessments for materials/tools/techniques	Task 4- demonstrate techniques/processes knowledge of materials correct use of tools/equipment to explain processes using photographic evidence to illustrate stages carried out judgements made to inform further experimentation analyse and evaluate throughout Task 5 summative review of final prototype photographic evidence of the product from different angles.	Revision Design movements revisited: Arts and crafts movement Art nouveau Art deco Bauhaus Modernism Memphis Post modernism Design principles Materials revision: Textiles Paper and card	Revision Materials revision: Timber/plastics Metal Smart materials Environmental impact of a product Impact of social factors on a product Digital design and manufacture opportunities The stages of the design process, defining the need of a product, Research purposes and methods, developing ideas, prototyping, testing and redesigning Communication skills / Client communication skills / Graphical communication Production plan Production methods, processes and techniques / Safe working practices Employment and career opportunities and skills in the design production industry Employment and career opportunities	Revision Practice past papers from exam board How to scaffold long exam questions