The Holy Trinity Church of England Secondary School

Design and Technology Curriculum Guide

WHOLE SCHOOL CURRICULUM INTENT STATEMENT

Curriculum Intent:

- As a Church of England School we are committed to the belief that every child is a child of God – uniquely blessed with individual gifts and talents. The intention of our curriculum is to provide opportunities for all students to flourish, drawing out their individual potential and developing them as fully integrated human beings. Our curriculum reflects our Christian ethos and is designed to be challenging, fulfilling, enjoyable and successful for all, regardless of academic or social barriers.

- The curriculum is designed with the intention of being rich and balanced, giving a breadth of opportunity at Key Stage 3 supporting the development of the skills needed to succeed at Key Stage 4 and Key Stage 5. Key Stage 4 has a core which includes RS GCSE for all, alongside both academic and vocational courses. Key Stage 5 provides appropriate pathways for the majority of students to progress to, and allows students to prepare for further study and the world of work. Alongside this, students are provided with a broad enrichment and work-related offer that stimulates their aspirations as global citizens - resilient in the face of difficulty, skillful when faced with new challenges, confident to step out into the unknown and assured of their individual self-worth and of the unique gifts that they each have to bring to the world.

We review our curriculum on a yearly basis and consider the following principles. We believe our curriculum should:

- Embody the school vision which is to be a centre of excellence for learning, inspired by Christian values, where every person in our school community fulfils their potential.

- Provide a broad and balanced range of subjects, including those that are creative and practical, at all Key Stages.

- Include opportunities in a range of both academic and vocational courses at Key Stages 4&5.

- Ensure Religious Studies sits alongside Maths, English and Science as a Core subject which every student will take up to GCSE level.

- Ensure that every student has the opportunity to develop their character through a variety of experiences within REACH, PE, and the Creative Arts.

- Be coherent and sequential so that new knowledge and skill builds on what has been taught, both within an individual subject and across the wider curriculum.

- Be informed by educational research e.g. Growth Mindset (Carol Dweck) and Feedback Loop (John Hattie).

- Acknowledge our contextual needs by giving a high priority to increasing students' mastery of functional literacy, vocabulary and numeracy to maximise students' opportunities for future learning and employment.

- Provide opportunities for learning outside of the classroom. At KS3 this is being embedded through the concept of a 'Passport'; a collection of co-curricular experiences that every student will have experienced.

- Make explicit links to future career pathways alongside a programme of advice and guidance based on the Gatsby benchmarks to prepare students for life and work.

- Ensure effective transitions at all key stages; from Year 6 to Year 7, Year 9 to Year 10 and Year 11 to Year 12.

- Meet statutory National Curriculum expectations.

Whole School Curriculum Principles:

- Our curriculum is structured in a logical and chronological manner.

- Leaders carefully plan to ensure that appropriate knowledge and skills build upon what has been taught previously and are carefully developed before application into more challenging and

complex situations, appropriate to the different curricular end points. These skills are recognised as the 'big ideas' within each subject area.

- Knowledge is considered as a 'big idea' within all subject areas. We are developing our understanding of cognitive psychology to enable students to maximise their learning potential. This is best seen through the regular opportunities provided within subject areas to revisit knowledge acquired to enable improved retention and recall.

- Our curriculum runs within a two-week timetable made up of 50 periods a fortnight, with 5 x 1 hour lessons plus assembly and Tutor time every day.

- Each day begins at 8.45am with registrations, assemblies and a period of reflection and students are dismissed from this regular timetable at 3.10pm.

- There are a range of additional activities such as study studio and numerous co-curricular opportunities which take place after this time on a daily basis.

Whole School Learning Principles:

- Progress at Holy Trinity is informed by 'Accelerated Learning' which emphasises efficiency by engaging learners in order to speed up the process of learning. It enables students to commit knowledge to their long-term memory and develop and refine their skills and performance over time.

- This in turn supports the OFSTED definition of learning; "Learning is defined as an alteration in long-term memory. If nothing has altered in long-term memory nothing has been learned".

Subject Intent Statement:

Design and Technology

The study of Design and Technology aims to deliver a broad and balanced curriculum with creative problem solving and technology at its heart, underpinned by scientific principles and ethical decision making. The curriculum provides support and challenge for each student whilst they discover and develop their unique talents, skills and interests, ensuring relevance to the 21st century. The curriculum promotes and develops skills and knowledge in:

- Creativity
- Problem solving
- Latest technologies / innovation
- Sustainability
- A full knowledge of the different material groups
- Practical skills associated with the different material groups
- Scientific principles
- Practical numeracy
- Communication
- Literacy (with specific regard to analysis and evaluation)
- Softer skills required for employment (leadership, teamwork, communication, problem solving, adaptability, interpersonal skills, independence, self-management).

To achieve this the Design and Technology teachers have developed a curriculum that demonstrates progression from Yr 7- Yr 13. The model at KS3 is centred around the design process and the national curriculum, providing a project approach that takes each student through the different material areas of Design and Technology, whilst developing their questioning, creativity and practical and communication skills. The experience from feeder schools is inconsistent, with the provision of Design and Technology often being confused with Art by the students. The provision at Holy Trinity commences with a broad curriculum and the development of basic skills, becoming increasingly focused with particular material areas as the student progresses through the school. The approach of the department is led by the requirements of the examination boards with respect to the teaching of KS4 and KS5 courses.

Students and parents know what will be studied at the start of each year by reference to the curriculum guides that are released. Lessons also start with a reference to the outcomes and success criteria to ensure that students know what they are studying and the intended end point.

The curriculum is designed in a spiral manner with the development of skills in:

- Investigating Ideas
- Developing Ideas
- Planning
- Manufacture
- Evaluation.

Knowledge is an integral part of each of these skills, with assessment based on the application of specific knowledge.

Curriculum summary:
Year 7: Project approach with the emphasis on "designing outcomes for themselves". A broad range of materials are used and skills developed in these. The students remain with the same teacher for the year. This allows a flexible approach should the group need to develop a specific skill.

Year 8: Following a carousel model (material specialist teacher in a specialist room), a project approach is used with the emphasis on "designing and outcomes for others". The basic skills are revisited and new skills are introduced. Independence is encouraged.

Year 9: With each student focusing on 2 material areas a greater depth of study can be achieved. Following a project approach but with distinct knowledge and skills foci, the students respond to Design Briefs / Contexts that are centred around the "needs of others and the wider world". The materials areas allocated are based on student voice and teacher input.

KS4: The KS4 curriculum commences in the June of Year 9. This is a period of ensuring that the subject specific skills and knowledge from Year 9 are embedded and that those who have switched to an unfamiliar material area have the opportunity to be assessed and supported.
Both the KS4 and KS5 approaches follow routes that allow the students to be as independent as possible by the time they begin their NEA components. The learning approach that the department adopts is one of arriving at solutions through analysis, practical investigation, scientific

principles, and development. Iterative design is used as a structure where appropriate for the material area. Our approach is based on our belief that our students will understand, retain and adapt their approach to new circumstances if they are immersed in a kinesthetic experience where possible.

Throughout the design curriculum, the students are tasked with considering the work of others from functional to form aspects. The students go on to consider specific designers and the influences of design movements both at the time and on the modern day.

Throughout the food curriculum, the students are tasked with considering ingredients and traditional methods of cooking both international and domestically.

Enrichment is offered through entering national competitions, a museum trip for Yr9 / Yr10 to the Design and V&A museums (master class and careers / pathways links) and encouraging students to develop their specific interests through their GCSE and A level coursework. 6th form students who are studying Design and Technology Subjects are encouraged to "support" in KS3 and KS4 classes for the purpose of personal development both for the 6th former and the KS3 students.

The development of literacy and numeracy skills is seen as an integral part of the Design and Technology curriculum. Standalone skills are taught that will then be used to improve the outcomes within Design and Technology, for example; converting units of measurement, calculation of area and calculating the percentage waste within a work piece; developing the use of tier three words and definitions and the concepts behind them, use of connectives in specification writing and writing balanced arguments for evaluation.

As a department we aim to ensure that all students are successful, regardless of their starting point or socio-economic background. The department and school use target grades at the 20th percentile level. The expectation is that all students will work towards that target. We actively target additional support to those that need it whilst fostering an atmosphere of trust and encouragement between the student and the teacher. For example, pupil premium funding is used to fund ingredients, materials or components for students. After school intervention is also regularly available for those that need additional support.

As a department we review the progress of our students regularly and from this we are able to identify those areas of the curriculum where there are underlying weaknesses in relation to its delivery. These are then identified and turned into action points on our whole school development plan. They may relate to changes in the design of the curriculum and how this needs to be re-developed or may identify pedagogical deficits that need to be developed via CPD.

Current plans for Curriculum Development include: The re-launch of the Cambridge national in Engineering Design in September 2022, Developing CAD / CAM in KS3, KS4 and KS5 with a new CAD/CAM suite being ready for Sept 2022 and then Engineering Manufacture replacing the Engineering Design course for Sept 2023.

Curriculum Aim:

- The overall curriculum aim of the Design and Technology Department is to deliver a broad and balanced curriculum with creative problem solving and technology at its heart, underpinned by scientific principles and ethical decision making.
- To learn by experimenting and "doing"
- In addition, we want learners to develop confidence in themselves and enjoy their learning, which should allow them to rise to the challenge, progress and reach their potential.

Curriculum Principles:

- The curriculum is designed to meet the requirements of the national curriculum for Design and Technology

- The KS4 and KS5 curriculum is designed to allow each student to specialise in a distinct materials specialism that allows then to develop their creativity and knowledge of that specialism whilst meeting the requirements that will be tested by the examination boards.

Key Stage 3:

- **Year 7:** Each group stays with their teacher all year developing knowledge, skills and understanding within the material areas of food (nutrition, cutting and peeling, hob use), textiles (sources, aesthetics, hand construction techniques), timber (types and sources, laminating, shaping, creativity), metal (types and sources, casting, mould design (CAD/CAM) and electronics (electricity and conventions, components, soldering, re-use. The Yr7 curriculum develops students to a basic standard of knowledge and skills.

- **Year 8:** There is a carousel / part-carousel system in place. Groups are created to accelerate progress amongst HA students. Each group develops their knowledge and understanding and is beginning to apply this to specific scenarios outside of their own need. There is a greater emphasis on analysis, developing ideas and evaluation. Practical activities are at a higher level with more machinery being used and a greater level of independence being evident. Material / topic areas include Food (raising agents, knife skills, food from other countries), Textiles (natural fibres and woven fabric, constructional development of e-cushion, use of sewing machine), Timber (movement, mechanisms, developing ideas that create movement, use of templates, wasting techniques (hand and machine), Electronics (sensing, control of current, plastic forming).

- **Year 9:** Students are placed so that they study their Design and Technology through **two material specialisms**. The 4 material specialisms available are; Electronics (Systems), Food Preparation and Nutrition, Textiles and Timber. The pathways are influenced by student choice, career aspirations and teacher recommendation, with preference being given to students on the Pupil Premium register. There are 5 groups for each material specialism (105 students).
  The rationale: Having studied a broad curriculum to this point, concentrating on 2 specialisms allows a breadth of study to be offered whilst also delivering a depth of understanding and application. The students benefit from a materials specialist delivering specialists knowledge and techniques. The focus is to develop the skills that would allow a student a good start to a GCSE whilst still being broad enough to allow all students to choose a level 2 course in an area outside of their Year 9 area of study.

Key Stage 4:

There are five level 2 courses available for students to choose from. Students are encouraged to choose an option that matches their skills, talents and interests.

- GCSE Design and Technology (Systems)
- GCSE Design and Technology (Textiles)
- GCSE Design and Technology (Timber)
- GCSE Food Preparation and Nutrition
- Cambridge National Engineering Design

- The routes available at KS4 are designed to meet the diverse range of skills and talents of all learners whilst providing identifiable career paths and routes into further education.
- All courses build on the foundations laid in KS3.
- The delivery of the KS4 courses is by one material specialist teacher. The students will have 5 hours of Design and Technology per fortnight.
- For the GCSE Design and Technology courses the students will undergo unit assessments throughout the course. There is a PPE in June of Yr 10 and again in December of Yr11. The NEA commences on or around 1st June of June to coincide with the release date by the examination board.
- For the GCSE Food Preparation and Nutrition, the students will undergo unit assessments throughout the course. There is a PPE in June of Yr 10 and again in December of Yr11. The NEA 1 commences on or around 1st June of June to coincide with the release date by the examination board. NEA2 commences in November of Yr 11.
- In the Cambridge National Engineer Design course, the students initially learn the specialist skills within designing and making that will allow then to progress on the NEA tasks independently later in the course. The students study the exam module alongside the first controlled assessment (Investigating) before submitting both by the end of year 10. In year 11 students' study for two further controlled assessments which are completed consecutively (Designing and Manufacturing).

Key Stage 5:

There are two level 3 courses available for students to choose from.

- A Level Product Design
- A Level Fashion and Textiles

- Both A level courses will be taught from September 2020 with the following structure in order to support the small numbers that wish to study this area of the school's curriculum.
  Lower 6th : 4 discrete lessons
  Lower and Upper 6th: 5 joined lessons
  Upper 6th: 4 discrete lessons.
  The discrete lessons will be used to develop knowledge and skills more suited to the examination modules
  The joined lessons will follow a practical skill, project based independent work with individual mentoring.
  Where a number of teachers are involved in the delivery they will have specific responsibilities for delivery, assessment and feedback.

Curriculum Overview for Year 7:

Year 7 – Design and Technology		
Key topics		**Assessment**
Each topic is taken by each student on rotation throughout the year. Most groups will not start with Timber and lessons may have a different pattern that that indicated here		
Timber	Experimental Manufacturing in timber to develop creativity an insect or alien character, timber knowledge and the safe use of tool and machinery. Measuring and cutting with a craft knife Laminating veneers into a former Wasting with a dovetail saw Finishing edges (files / sandpaper / disc sander) Drilling using a bench / pillar drill Adding a finish to a timber product 3 dimensional drawing skills Adding findings to make the product into a functional item	**Preparation:** Use of timber and associated tools and machinery **Other assessments:** Booklets checked to assess knowledge being gained throughout the project: Investigating ideas Developing ideas Manufacturing quality products (Evaluating)
Electronics	**Mood Light to develop basic electrical knowledge, working to a specification and the safe use of soldering irons and hand tools.** Process of soldering explained, risk assessment. Students to position components according to a circuit diagram Students to solder components in place Specification writing Designing and making a casing out of a recycled piece of packaging Assembling a final working product	**Preparation:** Kits are ready for the electronics part of this project. The children are required to bring their own packaging to re-use. **Other assessments:** Booklets checked to assess knowledge being gained throughout the project: Developing ideas Planning Manufacturing quality products
Textiles	**Design an make a Monstering to learn designing skills and hand sewing techniques.** Learning about fibres and fabrics, focus upon wool/felt fabric Analysing merchandising and brand identity Learning how to use hand processes for cutting, pining and sewing textiles including running stich, back stitch and button attachment.	**Preparation:** Textiles materials are prepared for students and the equipment is supplied on a Year 7 trolley. **Other assessments:** Booklets checked to assess knowledge being gained throughout the project:

	Developing creativity and communication skills with particular attention paid to annotation of design features and construction.	Planning Manufacturing quality products Evaluation
Food	**Planning and cooking various meals food recipes that focus on vegetables, the safe use of kitchen hand tools, electrical portable equipment, hob and oven.** **Independence** Introduction to nutrition and the eatwell guide. Development of Nutritional analysis skills Students will learn knife skills and the correct ways of cutting various ingredients They will learn preparation skills They will learn about food hygiene and food safety They will learn and do washing up, drying and putting away Dips, Stir Fry, Soup and Pasta Salad Safe hand washing for working with food 4Cs of cooking Organisation/mise en place of food areas Bridge and claw cutting hold methods Methods of cutting specific foods Safely planning a sequence of practical processes	Preparation: Home work is very important here as students are asked to bring ingredients from home. Students should be encouraged to build practical maths skills by weighing ingredients themselves or with guidance from adults of older siblings. Thought shoud be taken to the safe storage of food at home and to/from school. Some ingredients are provided by school (sauces, cooking oil, etc.) **Other assessments:** Booklets checked to assess knowledge being gained throughout the project: Manufacturing quality products Evaluation of skills
Pewter	Use of mostly pre-made moulds for the learning how to gravity die cast metal Emphasis on safety whilst casting Cold working a cast piece Removal of sprue Edge finishing and surface finishing Specific tools – hacksaw, files, emery cloth, wet and dry paper, metal polish. Drilling metal- specific method and safety End product is useable as a key fob	**Preparation:** Use of metal and associated tools and machinery **Other assessments:** Booklets checked to assess knowledge being gained throughout the project: Planning Manufacturing quality products
Suggestions for independent study and home support:		

Try to build up a sketch book of ideas and always be aware or products which you have or use. Be critical of how easy the products are to use; how good they look and if products are good for the job they should do.

KEY SKILLS		
Literacy: Analysis, Brief, Criteria, Design Anthropometric Characteristic Development, Ergonomics, Evaluation, Finish, Initial Ideas, Investigate, Manufacture, Material, Millimetres, Modify, Planning Properties, Questionnaire, Research, Safety Specification, Testing	Numeracy: Measuring amounts, lengths, ohms, drill sizes Calculating averages Marking out nets Proportion in Design drawing Weighing ingredients	Other: Independent learning development of ideas for final piece. Being aware of design around them.

Curriculum Overview for Year 8:

Year 8 – Design and Technology		
Key topics		**Assessment**
Each topic is taken by each student on rotation throughout the year. Most groups will not start with Automata and lessons may have a different pattern that that indicated here		
Automata (Timber & Mechanisms)	Learning about mechanisms and motion through the production of a mechanical toy. Learning about the use of tools and processes. Learning about types of motion and where they can be found Understanding how to write a specification Understanding how to create ideas and develop ideas Making templates Wasting with a coping saw Finishing edges (files / sandpaper / disc sander) Drilling using a bench / pillar drill Making a crank for pre-made parts Dry assembling and assembling with glue Adding a finish to a timber product An ability to diarise the making demonstrating problems and how to solve them Evaluating using specification and third party evaluation	**Preparation:** Use of manufactured boards and solid timber. Tools available for practical lessons. Kits ready for each group **Other assessments:** Booklets checked to assess knowledge being gained throughout the project: Investigating ideas Developing ideas Manufacturing quality products
Locker Light (Electronics)	Learning about electronic components Analysis of electronic products Polymers identification and knowledge of recycling Learning how to write a specification Students to position components according to a circuit diagram Students to solder components in place, safely and effectively Developing 3-dimensional drawing and dimensioning Designing and making a casing from a polymer Learning how to use the vacuum former to make the casing Drilling holes in polymer Assembling a final working product Evaluating using a specification.	**Preparation:** Kits are ready for the electronics part of this project. The children are required to bring their own packaging to re-use. **Other assessments:** Booklets checked to assess knowledge being gained throughout the project: Investigating Ideas Developing ideas Planning Manufacturing quality products
E-Cushion (Textiles)	**Learning how to work safely in a textiles environment and how to**	**Preparation:**

	use tools/machinery. Manufacturing a given product and learning about fibres and fabrics Learning about fibres and fabrics focusing upon cotton/denim fabric Learning how to mark out a piece of textile fabric and learning how to create a seam – joining fabrics. Learning how to operate the sewing machine safely Learning how to manufacture in textiles - sequence Designing an appropriate care label for a textiles product – basic symbols [extension] Learning about a variety of fastenings used in textiles – making a drawstring, velcro, zips [extension]	Textiles are prepared for manufacturing a prescribed product. Students need to add to the booklets which they are given and will need to undertake homework as required by teacher. **Other assessments:** Booklets checked to assess knowledge being gained throughout the project: Planning Manufacturing quality products Evaluating
Food	**Planning and cooking various meals food recipes that focus on fruits, the safe use of kitchen hand tools, electrical portable equipment, hob and oven.** Students will learn to prepare smoothies, pear surprise, couscous salads, scones, pizza, sauces. They will learn the importance of nutrition and healthy eating in our daily diets. 5-A-Day will be a focus for the prep. tasks The students will be expected to understand and be able to describe what several specific culinary terms mean. They will also be expected to be able to explain how specific kitchen equipment should be used correctly and safely. There is a practical test at the end of the year when students are encouraged to cook a dish of their choice when they bring in their own ingredients. They will need to plan (for homework) and make this dish in one lesson.	Preparation: Home work is very important here as students are asked to bring ingredients from home. Students should be encouraged to build practical maths skills by weighing ingredients themselves or with guidance from adults of older siblings. Thought shoud be taken to the safe storage of food at home and to/from school. Some ingredients are provided by school (sauces, cooking oil, etc.) **Other assessments:** Booklets checked to assess knowledge being gained throughout the project: Planning Manufacturing quality products Evaluating

Suggestions for independent study and home support: Try to build up a sketch book of ideas and always be aware or products which you have or use. Be critical of how easy the products are to use, how good they look and if products are good for the job they should do.		
KEY SKILLS		
Literacy: Literacy (keyword link) Analysis, Brief, Criteria, Design Anthropometric, Characteristic, Development, Ergonomics, Evaluation, Finish, Initial Ideas, Investigate, Manufacture, Material, Millimetres, Modify, Planning Properties, Questionnaire, Research, Safety Specification, Testing	Numeracy: Measuring amounts, lengths, ohms, drill sizes, voltage, using measuring tools: try square, steel rule Correct size holes: Clearance / interference. Conversion between: mm, cm; g / kg Use of prefixes: m – milli, c – centi, k- kilo, M – mega. Lay planning Marking out nets Proportion in Design drawing Weighing ingredients	Other: Independent learning development of ideas for final piece. Being aware of design around them.

Key topics	Year 9 – Design and Technology: Electronics	Assessment
Autumn 1: Sumobot Project	• Product analysis of existing hand controllers • Ergonomics • Anthropometric data • Specification writing • Developing hand controller design • Manufacture of hand controller • Use of templates to cut profile	• Analysis and research information (II) • Specification (II) • Designing (DI) • Practical (M)
Autumn 2: Sumobot Project	• Creativity skills • Graphical skills • Practical: robot chassis • Interpreting wiring diagrams • Testing and fault finding • Evaluating hand controller • Life cycle analysis	• Analysis and research information (II) • Specification (II) • Designing (DI) • Practical (M
Spring 1: Speaker Project	• Component Identification and knowledge: resistors, diodes, capacitors, transistors, physical identification and uses. • Resistor Colour Codes • Understanding prefixes and powers of 10 • Risk Assessment • Reading a circuit diagram • Tool identification and roles • Practical soldering • Fault finding techniques	• Knowledge of electronics (II) • Risk assessments (P) • Practical (M)

Spring 2: Speaker Project	• Analysis of unfamiliar contexts • Specification writing • Graphical skills (isometric, dimensioning and rendering) • Developing a design • Numeracy: cm/mm conversion, measuring skills, use of datum edge and finding centres. • Timber categories and mdf • Box structures (wood) • Specialist equipment: try square, marking gauge, hole saw, smoothing plane, panel pins, pva wood glue and sanding techniques • Planning a practical activity – manufacturing the box	• Specification (II) • Numeracy skills (II) • Communicating quality designs (DI) • Plan of manufacture for the speaker casing (P) • Practical (M)
Summer 1: Speaker Project	• Strip heating • Polymer categories, Thermoplastics and HIPs • Planning a practical activity – speaker holder • Making working speaker and casing. • Testing and fault finding • Evaluative skills	• Plan of manufacture for the speaker holder (P) • Practical (M) • Testing and evaluation (E)

Summer 2: Start of GCSE Course: D&T (Systems)	• Families and sub-groups of materials. • Material properties • Core knowledge for: timber, metal, polymers, textiles, papers and boards. • Voltage, Current and Resistance • Prefixes and the size of numbers • Calculating current voltage and resistance in series circuits • Sensors and outputs • Potential dividers	• Low stakes testing. • Calculations • Short answers • Long answer descriptions

Suggestions for independent study and home support:
Pearson Edexcel GCSE (9-1) Design and Technology Revision guide.
GCSE Design and Technology: The Pocket sized revision guide.
www.technologystudent.com – Clarify your understanding and created some extra notes.

KEY SKILLS

Literacy:	Numeracy:	Other
Specification writing skills Evaluating skills Keywords: aesthetics amps anthropometrics ergonomics capacitor conductor farads inclusive insulation jig / former kilo - k mega – M micro - µ milli - m ohms PCB Template transistor	Dimensioning Frequency prediction. Measuring Conversion between cm and mm. Powers of 10 Prefixes: n, µ, m, K, M Scaled diagram Units: Ω, V, A, F	Creativity Electronic modelling skills Hand drawing skills Independent skills Practical soldering / casing skills Presentation Research development Risk assessment Team work Thinking skills Time management Written and verbal communication

volts		

Key topics	Year 9 – Food Preparation and Nutrition	Assessment
Autumn 1: Food Nutrition and health. **Vitamins & Minerals** Food safety. Cooking Techniques	• Vitamins and minerals for Teens • Design a meal- Eatwell guide recap-vitamins and minerals (DI) • Build a meal; Sauce making skill • Understand and apply the principles of nutrition and health to cook a repertoire of predominantly savoury dishes (curries) so that they are able to feed themselves and others a healthy and varied diet. • Sauce making including: starch based, reduction and emulsions. • General practical skills including: weighing, measuring, preparing ingredients and equipment, correct cooking times, testing for readiness and sensory testing. • Knife skills including: fruit, vegetables, meat, fish or alternatives. • How to use good food hygiene and safety practices when getting ready to store, prepare and cook food for safe consumption. • Evaluation	**Assessments:** Ongoing tests Long answer Practical outcome Exam questions Explanation of practical process

Autumn 2: Food safety. **Carbo-hydrate** Cooking Techniques	Carbohydrate theory (II) Bread making practical skills (M) Bread baking and theory (M) pasta cooking and sauce making and planning (P)- write a plan of making macaroni cheese surprise (vegetables) practical skills: (M) carbohydrates evaluation (E) The functions of carbohydrate in • the diet. • The main sources of carbohydrate. • The effects of deficiency and excess of carbohydrate in diet. • The amount of carbohydrate needed for everyday life. • The importance of reducing the amount of free sugars in our diets today Functions of dietary fibre • the different types of dietary fibre • the effect of excess and deficiency • the dietary reference values for fibre. • how to modify an existing recipe to reduce the amount of free sugar in the recipe and/or increase the amount of dietary fibre in the recipe. The principles of food safety, preventing cross-contamination, chilling, cooking food thoroughly and reheating food until it is piping hot. Sauce making including: starch based, reduction and emulsions. Become competent in a range of cooking techniques, for example, selecting and preparing ingredients; using utensils and electrical equipment; applying heat in different ways; using awareness of taste, texture and smell to decide how to season dishes and combine ingredients; adapting and using their own recipes.	**Assessments:** Ongoing tests Long answer Descriptions Practical outcome Exam questions Explanation of practical process
Spring 1: Food choices. **Proteins**	• Protein theory macro/micro nutrients (I) • Egg theory & cooking methods- scrambled/ poached/fried- coagulation- (DI) • Eggs practical skills - (M) • Seeds, cereals and alternatives theory (II)	**Assessments:** Ongoing tests

Cooking Techniques Food, nutrition and health. Macronutrients: Protein definition of protein functions of protein in the body. main sources of protein in the diet. effects of a deficiency or excess of protein in the diet amount of protein needed at different life stages.	• fajita's practical- protein complementation (M) • chicken jointing (II, DI) • chicken jointing practical skills (M) What is protein? • Why are proteins important? • functions of protein in the diet • sources of proteins • high biological value proteins • low biological value proteins • protein alternatives • protein complementation • effects of deficiency Nutrients, food groups in recipe, energy sources and how the dish could be adapted for vegetarians and any special dietary needs. Main influences on what people eat today.	Long answer Descriptions Practical outcome Exam questions Explanation of practical process
Spring 2: **Raising agents** **Pastry & baking**	• Dairy alternatives (II) • Pastry theory (II) • Raising agents experiments (Cup cakes) DI • Swiss roll theory and Practical (II, DI, M) • Choux pastry theory and practical (II, DI, M) • Rough puff pastry, lamination theory. Designing of a product (II, DI, P) • Rough puff pastry practical (M) • Evaluation skills (E) Use of raising agents including: eggs, chemical, steam and biological. Setting of mixtures through use of heat and egg protein.	**Assessments:** Ongoing tests Long answer Practical outcome Exam questions Explanation of practical process
Summer 1: **Food provenance**	Theory topics: • Environmental issues linked with foods today. • Use of seasonal ingredients • Sustainable fishing and farming • Reducing food miles and transportation • Organic foods • Importance of buying locally sourced foods • The issues linked to food waste	**Assessments:** Ongoing tests Long answer

	• Farm assured schemes • The environmental issues linked to packaging of foods.	Practical outcome Exam questions Explanation of practical process
Summer 2: **Seasonal foods**	Introduction to GCSE course Personal hygiene recap (II, DI) Health and safety recap (II, DI) Seasonal foods theory (II, DI, P) Seasonal foods practical (vegetable or fruit pie) (M) assessment feedback and personal review (P, E) Sauce making including: starch based, reduction and emulsions. Tenderising and marinating different ingredients. Making dough recap: pastry Use of raising agents including: eggs, chemical, steam and biological. Setting of mixtures through use of heat and egg protein.	**Assessments:** Ongoing tests Long answer Practical outcome Exam questions Explanation of practical process

Suggestions for independent study and home support:
AQA Food preparation and Nutrition- https://www.aqa.org.uk/subjects/food/gcse/food-preparation-and-nutrition-8585
BBC good food https://www.bbcgoodfood.com/
Cooking weekly
Discussing, research the science behind the food- https://www.youtube.com/c/FunKitchenCookeryforSchools/videos
Cooking world foods
Reading cook books

AQA GCSE Food Preparation and Nutrition Student Digital Book.

To access your Digital resource please click on the following link or paste the link into your browser: Please note he book cannot be used offline line.

www.illuminate.digital/aqafood

Student Username: SHOLYTRINITY3

Student Password: STUDENT3

KEY SKILLS		
Literacy: MFL Subject specific Vocabulary	Numeracy: Measurements Units	Other: Practical skills

Measurement language Scientific language	Volume Area Percentages Subtraction	Written and verbal communication Presentation Team work Independent skills Research development Time management Thinking skills Creativity

Key topics	Year 9 – Design and Technology: Textiles	Assessment
Autumn 1: Hat	• Investigating ideas • Designing for end users • Threading top of machine • Threading bottom of machine • Bringing up bobbin • Reverse stitch	• Knowledge of Fibres (Inv) • Risk assessments / Checking / modelling (P) • Practical (M)
Autumn 2: Hat	• Lay plan • Cutting out • Planning a practical activity with H&S and CCP • Assembly of a garment • Evaluative skills to inform designing	• Plan of manufacture for product (P) • Practical (M) • Testing and evaluation (E)
Spring 1: Pajama Trousers/Shorts	• Polymer knowledge • Product analysis • Ergonomics • Specification writing • Creativity and Graphical skills • Modelling in card • Developing a net • Manufacture of back stand • Finishing of polymer edges	• Specification (II) • Designing (DI) • Practical (M)

Spring 2: Pajama Trousers/SHorts	• Transfer/sublimation printing • Practical- Manufacture of pattern pieces once surface decoration complete to add to design • Method of attaching sleeves [set in] • Evaluating – iterative designing	• Practical (M) • Evaluating (E)
Summer 1: Trainer/Mannequin Design	• Investigating ideas • Product Analysis of existing products • Designing for end users • Modelling in card, scrap fabric and components	• Designing (DI) • Evaluating (E)

Suggestions for independent study and home support:

Hunger Games Design task [desk based] - Costume Design or researching British Designers

- Specification (II)
- Designing (DI)

Developing drawing skills and graphical communication

KEY SKILLS

Literacy: Specification writing skills Evaluating skills Analysis of similar products **Keywords**: Cotton Polyester Fleece Cotton Loop Back Embroidery Quilting Suffolk Puff Applique Hard wearing Absorbency Durable Water proof/repellent aesthetics grain line fabric width bias fabric thread	**Numeracy:** Dimensioning Measuring Scaled Modelling [hats] Seam allowance and tolerances Use of specialist tools Inches – imperil Centimetres - metric	**Other** Creativity Modelling skills Hand drawing skills Independent skills Lay planning Presentation Research development Helping others Thinking skills Time management Written and verbal communication

stitch length/width button stretch warp weft anthropometrics ergonomics millimetre Template		

Key topics	Year 9 – Design and Technology: Timber	Assessment
Autumn 1: Desk Top Clock Plywood	• Timber Identification • Diarising work done • Marking out / Measuring / Templates • Wasting • Creativity and graphic skills / Isometric Drawing • User needs, wants, values • Specification • Analysis of products • Modelling in card	• Knowledge of Timbers (II) • Risk assessments / Checking (P) • Practical (M)
Autumn 2: Desk Top Clock Plywood	• Assembling / Dry jointing • Drilling • Dowel Joints • Gluing and clamping • Finishing (Joints) • Finishing (Surface) • Usability • Attaching clock mechanism • Planning a practical activity • Evaluative skills	• Specification (II) • Practical (M) • Testing and evaluation (E)
Spring 1:	• Wood Joints / surface area	• Yr9 Exam (II) • Research information (II)

Picture Frame Pine	• Product analysis • Manufacture of back stand • Practical task • Reading of working drawings	• Practical (M)
Spring 2: Desk Top Clock Pine	• Manufacture of back stand • Practical- Manufacture of pieces to add to design • Methods of clamping • Intro to Planning and Evaluating	• Practical (M)
Summer 1: Desk Tidy	• Working to a working drawing • Safety with metals • Marking out • Wasting • Drilling metals • Bending and forming metals	• Plan of making for someone else to make (P) • Testing and evaluation including third party testing (E)
Summer 2: Start of GCSE Course: D&T (Timber)	• Families and sub-groups of materials. • Material properties • Working to a working drawing • Measuring, Marking-out, Wasting and Joining Timber (Side Table Project) • Frame joints with timber • Isometric and Orthographic Drawing	• Calculations • Ongoing tests • Practical outcome • Small Tests • Diarising with photographic evidence. • Explanation of practical process
Suggestions for independent study and home support:		
KEY SKILLS		
Literacy: Specification writing skills Evaluating skills Analysis of similar products Keywords: Timber Hardwood/ Softwood/ Manufacture Board Plywood	Numeracy: Dimensioning Measuring Scaled Modelling Angles Marking out timber Use of specialist tools	Other Creativity Hand modelling skills Hand drawing skills Independent skills Practical marking out / wasting / joining Presentation Research development Helping others Thinking skills

Surface Area Aesthetics, grain anthropometrics ergonomics box / frame millimetre Strip Heater Bench drill / Pillar drill Tenon saw Coping saw Chisel Marking gauge Try square Template Tensol cement Masking tape inclusive jig / former		Time management Written and verbal communication

Curriculum Overview for Year 10:

Year 10 – Food Preparation and Nutrition GCSE			
Exam Board & course title/code	Unit	Date of Exam	% of Total Exam
AQA 8585	written paper 8585	Summer – Year 11	50%
AQA 8585	NEA task 1 NEA task 2	Sept Year 11 Nov Year 11	15% 35%
Key topics	Course content		Assessment
Autumn 1: **Principles of food safety- chapter 6** **Nutrients- chapter 1** **Proteins** **Fats** **Carbohydrates** **Vitamins** **Minerals** **Water** Vitamins A, D, E & K. The functions of vitamins in the body. The functions of each mineral in the body.	Recap lesson/ expectations/ H&S- 3.4.2 Principles of food safety 3.4.2.1 Buying and storing food/ 3.4.2.2 Preparing, cooking and serving food/ 3.5.3 Sensory evaluation 1.1 Protein 1.1 Protein- fish filleting 1.1 Protein-mini fish pie 1.2 Fats 1.2 Fats-prac. veg flan 1.3 Carbohydrates 1.4 Vitamins 1.4Vitamins prac. Salad		**Assessments:** **Sensory evaluation chapter 9 throughout** Ongoing tests Long answer Descriptions Practical outcome Exam questions Explanation of practical process

The main sources of minerals in the body. To demonstrate and apply the principles of food safety and hygiene when cooking. To demonstrate a good working routine in the food room. To develop skills in garnishing, finishing and presentation of dishes. To identify nutritional profile and science behind the recipe	1.4 Vitamins- prac. smoked Mackerel pate 1.5 Minerals 1.6 Water 1.2.1 making informed food choices for a varied & balanced diet. Prac. Roast Veg & Pasta 4.3.1 Sensory Evaluation The main sources of vitamins in the body. The effect of excess and deficiency of vitamins in the diet The dietary reference values for the different vitamins needed every day. Why the preparation and cooking of foods has an effect on vitamin content. The effect of excess and deficiency of different minerals in the diet	
Autumn 2: **Nutritional needs and health- chapter 2** **Cooking of food and heat transfer-chapter 3**	1.2.1 making informed food choices for a varied & balanced diet. Prac. Fish cakes. 1.2.1 making informed food choices for a varied & balanced diet. Prac. Joint chicken. Chapter 5. Food safety- E.coli 1.2.1 making informed food choices for a varied & balanced diet. Prac. Jambalaya 1.2.2- Energy needs 1.2.3 How to carry out nutritional analysis 1.2.3 How to carry out nutritional analysis- Group practical challenge 1.2.4 Diet, Nutrition & health 2.1.1 Why food is cooked & how heat is transferred to food 2.1.2 Selecting appropriate cooking methods- group Prac. Challenge- burgers 2.2.1 Proteins. Prac. Chillled Flan 2.2.1 Proteins Prac. Bread rolls 2.2.1 Proteins Prac. Meringues. 4.3.1 Sensory Evaluation- 2.2.1 Proteins.	**Assessments:** **Sensory evaluation chapter 9 throughout** Ongoing tests Long answer Descriptions Practical outcome Exam questions Explanation of practical process

	2.2.1 Bread rolls	
Spring 1: **Functional and chemical properties of food- chapter 4** **Investigation NEA1 practice- chapter 12**	2.2.2 Carbohydrates- Functional & Chemical properties of food 2.2.2. Carbohydrates. Prac. Lasagne 2.2.2 Carbohydrates- Functional & Chemical properties of food Caramelised onion tart demo 2.2.3 Fats and oils Prac. chocolate & orange cakes 2.2.3 Fats group NEA 1 mock NEA 1 mock NEA 1 mock **<u>Cookie investigation</u>** What ingredients make the best cookies Investigation of sugars, flours, fats. Students to research, conduct practical investigations and written evaluation	**Assessments:** **Sensory evaluation chapter 9 throughout** Ongoing tests Long answer Descriptions Practical outcome Exam questions Explanation of practical process
Spring 2: **Food spoilage and contamination- recap chapter 5** **Principles of food safety- recap chapter 6** **Factors affecting food choice- chapter 7**	2.2.4 Raising agents swiss roll prac. / ginger bread prac. 2.2.4 Raising agents Choux Pastry Enzymes-Food spoilage contamination 3.1.1 Micro-organisms 3.1.2 The signs of food spoilage 3.1.3 Micro-organisms in food production- make cheese! 3.1.4 Bacterial contamination 4.1.1 Factors that influence food choice PAL/ Lifestyle/ cost/ times of day/ availability/ seasonality/ celebrations 4.1.2 Food choices- religions/ allergies 41.3 food labelling and marketing in fluences	**Assessments:** **Sensory evaluation chapter 9 throughout** Ongoing tests Long answer Descriptions Practical outcome Exam questions Explanation of practical process **Mock NEA 1** Research Practical make Evaluation
Summer 1: **British & international cuisine- chapter 8** **Food Provence- chapter 10**	Revision Exam technique 4.2.1 Traditional cuisines. Prac. Fresh Pasta	**Assessments:** **Sensory evaluation chapter 9 throughout** Ongoing tests Long answer

Food Production and processing- chapter 11 **Mock exam focus**	5.1.1/2.1.2/5.2.2 Food Provence 5.2.1/ 5.2.2 Food Production and processing	Descriptions Practical outcome Exam questions
Summer 2: **Mock NEA 2** To demonstrate a good working routine in the food room. To develop skills in garnishing, finishing and presentation of dishes. To practice answering different types of exam questions under examination conditions. To develop exam technique when answering different types of questions.	NEA 2 mock Section A NEA 2 mock Section B NEA 2 mock Section C NEA 2 mock section C practical mock 3 hours NEA 2 mock section D evaluation	**Assessments:** **Sensory evaluation chapter 9 throughout** Ongoing tests Long answer Descriptions Practical outcome Exam questions Explanation of practical process **Mock NEA 2** Research skills Practical skills Evaluation skills

Suggestions for independent study and home support:

GCSE Bitesize, www.designtechnologystudent.com Lonsdale revision booklet (available from the department) doddle.

AQA Food preparation and Nutrition- https://www.aqa.org.uk/subjects/food/gcse/food-preparation-and-nutrition-8585

BBC good food https://www.bbcgoodfood.com/

Cooking weekly

Discussing, research the science behind the food- https://www.youtube.com/c/FunKitchenCookeryforSchools/videos

Cooking world foods

Reading cook books

AQA GCSE Food Preparation and Nutrition Student Digital Book.

To access your Digital resource please click on the following link or paste the link into your browser: Please note he book cannot be used offline line.

www.illuminate.digital/aqafood

Student Username: SHOLYTRINITY3

Student Password: STUDENT3

KEY SKILLS		
Literacy: MFL Subject specific Vocabulary Measurement language Scientific language	Numeracy: Measurements Units Volume Area Percentages Subtraction	Other: Practical skills GCSE S skills 1-12: S1 – General practical skills S2 – Knife skills S3 – Preparing fruit and vegetables S4 – Use of the cooker S5 – Use of equipment S6 – Cooking methods S7 – Prepare, combine and shape S10 – Dough S11 – Raising agents S12 – Setting mixtures Written and verbal communication Presentation Team work Independent skills Research development Time management Thinking skills Creativity

Year 10 – Design and Technology: Systems (Electronics) GCSE			
Exam Board & course title/code	Unit	Date of Exam	% of Total Exam
Pearson Edexcel 1DT0	Component 1: Exam 1DT0/1D	Summer – Year 11	50%
Specialism: Systems (Electronics)	Component 2: NEA (Design and Make Coursework) 1DT0/02	June Year 10 to March Year 11	50%

Key topics	Course content	Assessment
Year 9 Prior Learning & Year 9 Summer 2:	• Components uses and categories: rocker switch, LDR, transistor, LED, resistor and capacitor. • Definitions of V, I and R as well as units. • Prefixes: mega, kilo, milli, micro • Hazards and control measures for practical electronics • Wires management: strain holes • Hazards of battery waste, recycling schemes for batteries and importance of recycling. • Families and sub-groups of materials. • 1.8.3, 1.9.3, 1.10.3, 1.11.6, 1.12.4, 1.13.1: Material mechanical and physical properties (5.2.6a electrical and thermal conductors and insulators). • 1.8 Metal • 1.10 Polymers • 1.11 Textiles • 1.12 Timber	• Short answer question • Long answer question • Calculations • Multiple choice quizzes
Autumn 1: • Materials • Electricity basics • Series Circuits • Sensing Circuits • Energy Generation	• 1.9: Papers and boards • 5.2: Current, voltage, resistance, capacitance, power, use of resistors, colour codes (5.8.1c), prefixes, powers of 10, units. • 5.5.1a, 5.2.5a: Stock forms of components: tolerances and calculations with resistance tolerances including cost savings. • 5.5.2 a-e: Ohms Law, calculating current voltage and resistance in series circuits • 1.6: Electronics systems • 1.6: Sensors and outputs • 1.6: Potential dividers	• Calculations • Ongoing tests • Long answer descriptions • Practical outcome • Exam questions • Explanation of practical process

	• 1.6: Transistor circuits • Designing printed circuit boards • Manufacture light or temperature sensing circuit • Vacuum forming • 1.3.1: Sources of energy and Energy generation	
Autumn 2: • The Impact of Emerging Technologies • Bi-stable circuits • Timing Circuits • Energy Storage	• 5.6.1b, 5.7.2a (Drilling, soldering and vacuum forming) Manufacture light or temperature sensing circuit • 5.2 Properties (include forces and stresses) and origins: Materials used in electronic components and the impact of sources materials. • 5.5: Parallel circuit calculations • 1.1.1, 1.1.2: The Impact of Emerging Technologies on industry / enterprise • 1.1.3, 1.1.7: The Impact of Emerging Technologies on sustainability and the environment • 1.1.4: The Impact of Emerging Technologies on people • 1.1.5: The Impact of Emerging Technologies on culture • 1.1.6: The Impact of Emerging Technologies on society • Thyristor circuits • Capacitors • Time delay circuits • Monostable Circuit: 555 timer, theory, DIL, Voltage / Time graphs, PCB design, breadboarding • Astable circuit: theory, Voltage Time graphs. • Manufacturing circuits in commercially and in school. • 1.3.2. 1.3.3: Power systems and choosing appropriate sources of energy	• Calculations • Ongoing tests • Long answer descriptions • Practical outcome • Exam questions • PCB design • Circuit descriptions
Spring 1: • Logic • Programmable components • CAD / CAM • Sensing Circuits	• Astable circuit: theory, Voltage Time graphs. • Novelty flashing light project: 1.15.1: Product analysis and research techniques, • 1.17.2: Specification writing • 1.16: Theory of design strategies to avoid fixation, use of	• Extended truth tables • Quality of flowchart programming • Practical outcome • Quality of CAD drawings

	collaboration to produce a range of ideas. • 1.17.2: Annotation of design ideas, reviewing choice that will be developed. • 1.17.1 a, h: isometric into orthographic conversion • 1.17.1 c, h, k: cut and paste, orthographic drawing (hand and CAD) • trigonometry and Pythagoras, • 1.17.1 f: isometric drawing (hand) • 1.17.1 b, f: creative designing within constraints, communicate design intention (isometric) • 1.17.1 c, j: develop electronic design proposal (circuit, PCB, components list, cut and paste) • 1.17.1 h: working drawing (orthographic), • 5.6.1a: Manufacture (Photo etching + MDF/ Pine Structure) • 1.17.2: Testing and evaluation. • Additional mathematical skills: area, % changes, % waste. • Alternative manufacture: line bending, vacuum forming, injection moulding • Logic circuits	• Explanation of circuit • Explanation of practical process
Spring 2: • Mechanisms • The Impact of Emerging Technologies	• 1.5.1: Motion • 1.5.2: Levers • 1.5.3: Linkages • 1.5.4, 1.5.5: CAM and follower systems • 1.5.6: Pulley and belt systems • Chain and sprocket systems • 1.5.8: Gears / Rack and pinion systems • 1.5.7: Cranks and sliders • 1.7: Peripheral interface controller circuits. Microprocessor vs microcontroller • Developing 3D CAD skills • Use of CAM in industry	• Calculations • Descriptions of mechanical systems • Long answer descriptions
Summer 1: • Product Analysis • Numeracy • Sensing circuits	• 1.2 Evaluating new and emerging technologies; ecological, environmental and social; issues Computer Mouse project; • 1.15.1 a – j: Analysis of a computer mouse against specification criteria. (5.2.5b materials selection for case construction – physical	• Quality of drawings (hand) • Written analysis • Calculations • Explanation of circuit

	and working properties, sustainability, manufacturing processes). • 1.13 b, c: advantages and disadvantages and justification of materials and manufacturing techniques for the PC mouse. • 1.14: Investigate environmental, social and economic challenges when identifying opportunities and constraints that influence the processes of design and making. • Injection moulding • 1.14.8: Complete an LCA • 1.17.1 f, g: Graphical skills (perspective, oblique) • Materials / properties • Ergonomics • Manufacturing principles • Calculations; economies of scale, tolerance and protective resistance (% cost saving). • Operational amplifier circuits	
Summer 2: • Counting • NEA (Coursework) Summer exam preparation	• 5.2.2h: Use of counters • 5.2.2a, c, d, e - Types of switch and uses • 5.2.3c, d: Outputs - loud speakers and motors • 1.4 Smart and composite materials and technical textiles (New, modern and smart materials). • NEA: Analysis of problem • NEA: Research • NEA: Design Brief / Specification • NEA: Initial Ideas	• Development and explanation of circuit. • NEA tasks • Year 10 exam

Suggestions for independent study and home support:
GCSE Bitesize, www.designtechnologystudent.com, Lonsdale revision booklet (available from the department) EdExcel: Design and Technology 9-1 Book.

KEY SKILLS

Literacy:	Numeracy:	Other:
• Insulator • Conductor • Amplification • Saturation • Monostable • Bi-stable • Astable • PIC • CAD, CAM, CNC	• Units: Ω, V, A, F, W • Prefixes: n, µ, m, K, M • Powers of 10 • Re-arranging equations • Voltage, current and resistance calculations • Areas • Reading graphs	CAD skills Hand drawing skills Practical soldering / casing skills Written and verbal communication Presentation Team work Independent skills Research development Time management Thinking skills

• Mechanical advantage • Velocity ratio		Creativity

Year 10 – Design and Technology: Textiles (GCSE)			
Exam Board & course title/code	Unit	Date of Exam	% of Total Exam
Pearson Edexcel 1DT0	Component 1: Exam 1DT0/1E	Summer – Year 11	50%
Specialism: Textiles	Component 2: NEA (Design and Make Coursework) 1DT0/02	June Year 10 to March Year 11	50%

Key topics	Course content	Assessment
Autumn 1: • Materials Prototype production • Work of others	• Families and sub-groups of materials. • Material properties -papers & boards, timber, ferrous and non-ferrous, textiles • Construction methods • Calculating how much waste • MAKING a hoodie or a skirt • Modelling • Tools and correct use • Sources of energy	• Calculations/numeracy • End of Unit tests • Long answer descriptions • Practical outcome • Exam questions • Explanation of practical process
Autumn 2: • Principles of Design	• Setting up and using the embroidery m/c; overlocker; cover stitch m/c • MAKING a dress [focus on fastening] • Social & Economic challenges of design • The Work of Others [LBD] • Developing design ideas • Ethical principles of design	• Calculations/numeracy • End of Unit tests • Long answer descriptions • Practical outcome • Exam questions Explanation of practical process
Spring 1: • The Impact of Emerging Technologies • Further manufacturing/use of technology	• The Impact of Emerging Technologies on industry • The Impact of Emerging Technologies on sustainability • The Impact of Emerging Technologies on people, culture & society • Designing a functional product – Bag or vessel	• Calculations/numeracy • End of Unit tests • Long answer descriptions • Practical outcome • Exam questions • Explanation of practical process
Spring 2:	• Motion	• Calculations/numeracy

• Mechanisms • Energy, Materials, Devices & Systems	• Levers and linkages • CAM and follower systems • Pulley and belt systems • Modern & smart materials • Technical textiles • Powering devices • Energy generation • Composites • Chain and sprocket systems • Gears / Rack and pinion systems	• End of Unit tests • Long answer descriptions • Practical outcome • Exam questions Explanation of practical process
Summer 1: • Product Analysis • Numeracy • Polymers	• Graphical skills (working drawings/flats) • Materials / properties • Ergonomics • Manufacturing principles • Calculations; economies of scale, tolerances	• Quality of drawings (hand) • Written analysis • Calculations
Summer 2: • NEA (Coursework) Summer exam preparation	• NEA: Analysis of problem • NEA: Research • NEA: Design Brief / Specification • NEA: Initial Ideas	• NEA tasks • Year 10 exam
Suggestions for independent study and home support: GCSE Bitesize, www.designtechnologystudent.com, Lonsdale revision booklet (available from the department) EdExcel: Design and Technology 9-1 Book.		
KEY SKILLS		
Literacy: Properties Seams Fabric Manipulation Forces Levers Motion Seams Bias Hems Finishes Care symbols Embroidery Properties	Numeracy: • Units: mm, cm, M [awareness of inches] • Waste calculations, lay planning, angles • Areas • Reading graphs • Tolerances	Other: CAD skills if Software is available Hand drawing skills Construction & surface decoration techniques/ skills Written and verbal communication Presentation Team work Independent skills Research development Time management Thinking skills Creativity

Year 10 – Engineering Design (Level 1/2) (Cambridge National)			
Exam Board & course title/code	Unit	Date of Exam	% of Total Exam

OCR J831, J841	Component 1: Exam **R105: Design briefs, design specifications and user requirements**	Summer – Year 11	25%
Specialism: Engineering Design	Component 2: NEA *R106: Product analysis and research*	June Year 10 to March Year 11	25%
	Component 3: NEA *R107: Developing and presenting engineering designs*	June Year 10 to March Year 11	25%
	Component 4: NEA *R108: 3D design realisation*	June Year 10 to March Year 11	25%

Key topics	Course content	Assessment
Autumn 1: *R107: Developing and presenting engineering designs* *R108: 3D design realisation*	1 Hand drawing techniques: freehand sketching. Isometric, oblique, two-point perspective 2 Rendering. Adding shading and colour to make designs realistic 3 Annotation and labelling. Conveying information 4 Using ICT software Hand trowel project. Manufacturing to working drawings Learning to forge steel and manufacture with sheet metal. Cold joining.	Ability to present design drawings which communicate ideas Ability to mark out to a working drawing Ability to manufacture a functional and aesthetically pleasing artefact Safe use of tools
Autumn 2: *R107: Developing and presenting engineering designs* *R108: 3D design realisation*	1 2D engineering drawings 2 3D engineering drawing 3 Annotation and labelling. Conveying information 4 Communicating design proposals	Ability to use ICT to convey design possibilities and model on screen Ability to present working drawings on screen to work from

	5 CAD applications 6 Communicating design proposals Phone Stand. CAD CAM. Design and manufacture to suite their own mobile phone. Use of jigs (bending)	Ability to make legible and realistic labelling and explanations for design work. Ability to design on CAD and email / share results so that CAD can be used to manufacture a net which can be folded into shape. Production of an aesthetically pleasing and functioning phone stand by CAD CAM
Spring 1: R105: Design briefs, design specifications and user requirements R108: 3D design realisation	1 The design cycle: identify and design phases 2 The design cycle: optimise and validation phases 3 Identifying design needs: design briefs 4 Manufacturing considerations: ease of manufacture 5 Manufacturing considerations: scale, reliability, safety and sustainability 6 Production costs 7 Regulations and safeguards Screwdriver. Manufacturing to working drawings. Learning safe and correct use of tools and machinery. Heat treatment of metals to change properties.	Posters and Presentations to cover knowledge covered in the theory lessons. Production of a functioning screwdriver. Use of Centre Lathe, forge and heat treatment of silver steel. Measurements and accurate marking out and wasting of materials Ability to plan how a product might be manufactured (use of diary of production)
Spring 2: **R105: Design briefs, design specifications and user requirements** *R108: 3D design realisation*	1 Market forces 2 Legislation and design 3 Inspirational design and new materials technology 4 Life Cycle Analysis 5 Environmental pressures	Theory areas to be recapped in theory lessons with short tests to check knowledge. Production of functioning depth gauge. Use of hand tools to waste and abrade to size. Production of internal

	Depth Gauge. Manufacturing to working drawings. Learning safe use of machinery and tools. Accurate marking out and production.	and external threads. Recapped use of centre lathe.
Summer 1: R106: Product analysis and research	Know how commercial production methods, quality and legislation impact on the design of products and components Be able to research existing products	To produce NEA work for presenting to the exam board Use of previously learnt knowledge to present R106 based on the Water Pump example provided by OCR.
Summer 2:	Be able to analyse an existing product through disassembly	Assessable R106
Suggestions for independent study and home support: GCSE Bitesize, www.designtechnologystudent.com, Lonsdale revision booklet (available from the department) EdExcel: Design and Technology 9-1 Book.		

KEY SKILLS		
Literacy: • CAD • CAM, CNC • Mechanical advantage • Velocity ratio	Numeracy: • Units: mm, cm, M • Waste calculations, lay planning, angles • Areas • Reading graphs • Tolerances	Other: CAD skills Hand drawing skills Practical soldering / casing skills Written and verbal communication Presentation Team work Independent skills Research development Time management Thinking skills Creativity

Year 10 – Engineering Design (Level 1/2) (Cambridge National)			
Exam Board & course title/code	Unit	Date of Exam	% of Total Exam
OCR J822	Component 1: Exam **R038: Principles of engineering design**	Summer – Year 11	40%
Specialism: Engineering Design	Component 2: NEA **R039: Communicating Designs**	June Year 10 to March Year 11	30%

	Component 3: NEA **R040: Design, Evaluation and Modelling**	June Year 10 to March Year 11	30%

Key topics	Course content	Assessment
Autumn 1: R038: Topic Area 1 R038: Topic Area 3	R038: Design Processes: Linear design, Iterative Design, Inclusive Design, User-centred Design, Sustainable Design, Ergonomic Design Hand drawing (freehand and drawing board) and sketching methods: freehand sketching; Isometric; oblique (cavalier and cabinet); two-point perspective. Hand trowel project. Manufacturing to working drawings Learning to forge steel and manufacture with sheet metal. Cold joining.	Ability to present design drawings which communicate ideas Ability to mark out to a working drawing Ability to manufacture a functional and aesthetically pleasing artefact Safe use of tools
Autumn 2: R038: Topic Area 1	Design Processes: Linear design, Iterative Design, Inclusive Design, User-centred Design, Sustainable Design, Ergonomic Design Product Analysis; ACCESSFM, Abacus. Disassembly task; disassembly techniques, exploded drawing, identification of materials (analysis of material properties) and processes used. Metal processes: casting (sand and die), milling, turning Polymer processes: Injection moulding, extrusion, vacuum forming, blow moulding, rotational moulding.	

Spring 1: R038: Topic Area 2 R038: Topic Area 3	Types of criteria included in a design specification: Needs and Wants, Quantitative and qualitative, ACCESS FM How manufacturing considerations affect design: Scale, Availablity and form, Processes, Production Costs. R038: Types of drawing used in Engineering: Hand sketching and enhancing techniques: Line thickness; rendering, adding shading and colour to make designs realistic. Annotation and labelling. Conveying information 2D CAD – creating 3rd angle orthographic drawings, dimensioning theory, line theory, abbreviations. 3D CAD – basics. Mobile phone on Sketchup.	Ability to use ICT to convey design possibilities and model on screen Ability to present working drawings on screen to work from Ability to make legible and realistic labelling and explanations for design work.
Spring 2: R038: Topic Area 2	Influences on engineering product design: pull and push, standards, legislation, planned obsolescence, Sustainable design and the circular economy. Design of Desk Tidy: Research Methods, Iterative design, Modelling skills (foamboard and mounting board; cutting skills and adhesive techniques) Jointing methods: Timber (screws, through dowel), Metal (riveting – cold and blind, nuts and bolts). Processes: Folding and rolling metals	Task sheets Practical modelling skill Practical skills
Summer 1: R038: Topic Area 3 R039: Practice skills	Types of drawing – revision and up skilling of hand techniques and 2D CAD. New materials: block diagrams and circuit diagrams and wiring diagrams Working Drawings: 3rd angle orthographic, standard conventions, dimensions, line types, mechanical features, abbreviations. (Practice skills for R039) Product Analysis techniques: ACCESSFM, QFD matrix Primary and Secondary research Writing design specifications	Drawing tasks Task sheets

R040: Practice skills	Material Properties Risk assessment Practice skills for R040 – use of Examination board sample.	NEA practice challenge
Summer 2: R038 R039 or R040 (preference R040) R040: Practice skills R038 Topic Area 4	Yr10 Examination Revision of R038 aspects. R039 / R040: Context released 1st June Decision on which dependent on tasks and also 3D CAD skills Docking station for mobile phone: Upskilling of 3D CAD to include animation. Methods of evaluating design ideas: Production models, Qualitative comparison, ranking matrices, quality function deployment Modelling methods, virtual CAD, Card, Block, Breadboarding, 3D printing. Methods of evaluating a design outcome: dimensions and functionality, quantitive comparison, user testing, modifications and improvements.	PPE examination 1st formal piece of coursework CAD tasks – Docking station for mobile phone. Skills required R040 Task sheets
R040 R038 R039 R038	Runs from June 2023 – October 2023 Revision for PPE Nov 2023 – Dec 2023 Runs from Jan 2024 – April 2024 Final revision March 2024 – May 2024	
Suggestions for independent study and home support: GCSE Bitesize, www.designtechnologystudent.com, Cambridge University Press: Engineering Design Revision Guide and Workbook.		

KEY SKILLS

Literacy:	Numeracy:	Other:
• CAD • CAM, CNC • Circular Economy • Ergonomic • Form • Inclusive • Isometric • Iterative • Legislation • Linear • Modelling	• Areas • Reading graphs • Scale • Tolerances • Units: mm, cm, m • Waste calculations, lay planning, angles	• 2D CAD skills • 3D CAD skills including animation • Creativity • Hand drawing skills • Independent skills • Practical soldering / casing skills • Presentation • Research development • Team work • Thinking skills • Time management

• Oblique • Orthographic • Planned obsolescence • Qualitative • Quantitative • Rendering • Standards • Sustainable • User-centred • Virtual Modelling		• Written and verbal communication

Curriculum Overview for Year 11:

Year 11 – Food Preparation and Nutrition GCSE			
Exam Board & course title/code	Unit	Date of Exam	% of Total Exam
AQA 8585	written paper 8585	Summer – Year 11	50%
AQA 8585	NEA task 1 NEA task 2	Sept Year 11 Nov Year 11	15% 35%
Key topics	Course content		Assessment
Autumn 1: **Revision** **NEA1**	Revision Proteins & fats NEA 1 intro NEA 1 practical's planning/ revision-& fats Revision: Carbs & vitamins NEA 1 practical 2 & write up NEA 1 revision minerals and water NEA 1 Revision informed choices Revision Energy needs NEA 2 intro		**Assessments:** Formal NEA Exam questions Quizzes Practical outcomes/ skills

Autumn 2: **Revision** **NEA 2**	NEA 2 research Section A Revision diet, nutrition and health NEA 2 Section B Revision cooking of food and heat transfer Revision: Selecting appropriate cooking methods PPE Mock Exam. Proteins revision NEA 2 Section B Technical skills practicals Skills 1-12 to be demonstrated	**Assessments:** Formal NEA Practical outcomes/ skills Quizzes Exam questions
Spring 1: **Revision** **NEA 2**	NEA 2 Section B Technical skills practicals Skills 1-12 to be demonstrated NEA 2 Section C Time plans Revision: Chapter 4 Fats & oils Chapter 5 micro-org. & enzymes/ signs of food spoilage NEA 2 practical 3 hour NEA 2 Section D evaluations	**Assessments:** Formal NEA Practical outcomes Quizzes Exam questions
Spring 2: **NEA hand in** **Revision**	NEA hand in NEA improvements Revision Bacterial contamination Revision: Buying & storing food Revision: Preparing, cooking & serving food Revision: Chapter 7 factors influencing food choice religious & intolerance/ allergies-	**Assessments:** Formal NEA Quizzes Exam questions
Summer 1:		

Final Revision! **EXAM**	Revision Chapter 8 traditional cuisines Revision- Sensory evaluations Revision: Food & the environment Revision: Sustainability of food Revision: Food production Revision: Technological develop. Associated better health & food production Revision final exam	**Assessments:** Ongoing tests Long answer Descriptions Quizzes Exam questions
Summer 2: **Final exam**	Final examination	**Assessments:** Fnal formal examination

Suggestions for independent study and home support:

GCSE Bitesize, www.designtechnologystudent.com Lonsdale revision booklet (available from the department) doddle.

AQA Food preparation and Nutrition- https://www.aqa.org.uk/subjects/food/gcse/food-preparation-and-nutrition-8585

BBC good food https://www.bbcgoodfood.com/

Cooking weekly

Discussing, research the science behind the food-
https://www.youtube.com/c/FunKitchenCookeryforSchools/videos

Cooking world foods
Reading cook books
AQA GCSE Food Preparation and Nutrition Student Digital Book.

To access your Digital resource please click on the following link or paste the link into your browser: Please notet he book cannot be used offline line.

www.illuminate.digital/aqafood

Student Username: SHOLYTRINITY3

Student Password: STUDENT3

KEY SKILLS		
Literacy: MFL	Numeracy: Measurements	Other: Practical skills

Subject specific Vocabulary Measurement language Scientific language	Units Volume Area Percentages Division Subtraction	GCSE S skills 1-12: S1 – General practical skills S2 – Knife skills S3 – Preparing fruit and vegetables S4 – Use of the cooker S5 – Use of equipment S6 – Cooking methods S7 – Prepare, combine and shape S10 – Dough S11 – Raising agents S12 – Setting mixtures Written and verbal communication Presentation Team work Independent skills Research development Time management Thinking skills Creativity

Curriculum Overview for Year 12:

Year 12 – Design and Technology: Product Design GCE			
Exam Board & course	Unit	Date of Exam	% of Total Exam
EdExcel 9DT(0)	Component 1: 9DT0/01 (Exam)	Summer – Year 13	50%
	Component 2: 9DT0/02 (NEA)	April – Year 13	50%
Key topics	Course content		Assessment
Autumn 1: Topic 1: Materials Topic 2: Performance characteristics of materials Topic 3: Processes and techniques	1.0 Materials categories 1.1 Timber 2.1 Properties of materials 3.1 Laminating 3.1 Routing, pillar drill 3.1 Lay planning (mathematical skill)		Design and make a folding seat Product analysis

Topic 5: Factors influencing the development of products Topic 7: Potential hazards and risk assessment	3.1 Marking out 3.2 Jigs and formers (template manufacture, lay planning and bag press) 3.3 Specification writing 3.3 Drawing techniques; isometric, 2-point perspective 3.3 Designing through modelling 3.5 Finishes (timber) 5.1 Product Analysis 5.3 Form over function / form follows function 5.4 Design Influences (Design Movements)	Specification writing Quality of drawing Report on Design influences
Autumn 2: Topic 1: Materials Topic 2: Performance characteristics of materials Topic 3: Processes and techniques Topic 5: Factors influencing the development of products.	1.2 Metals 3.1 Heat treatment 3.1 Metal processes: shears, bandsaw, pillar drill, folding, riveting and thread cutting. 3.1 Wood processes; band saw, bag press, hand tools, wood lathe, jigsaw 3.2 Marking out in metal 3.3 Orthographic and isometric drawings 3.4 Rivets and threads 3.5 Finishes (lacquer) 3.5 Timber finishes 5.1 Aesthetics 5.1 User and manufacturer needs 5.2 Ergonomics	Design and make a metal clock Design and make a folding seat Quality of drawing Product analysis
Spring 1: Topic 1: Materials Topic 3: Processes and techniques Topic 4: Digital technologies Topic 5: Factors influencing the development of products Topic 8: Features of manufacturing industries Topic 11: Information handling, Modelling and forward planning Topic 12: Further processes and techniques.	1.5 Paper and Boards 1.7 Smart and modern materials 3.1 Casting metals: die, sand and investment 3.1 Press forming (metal) 3.1 Polymer forming methods 3.2 Micrometres 3.3 Scale drawings 3.3Creative designing (ongoing analysis) 3.4 Fixtures and fitting (temp and perm) 4.1 CAD/CAM: vinyl cutting, milling. 5.1 Similar product analysis; materials, structure and manufacturing focus 5.2 Ergonomics and anthropometric data 8.1 Production systems 8.2 Quality control, quality assurance and TQM 8.3 JIT manufacturing	Design a custom made pen Micrometer questions Maths test Trigonometry and angles calculations E-portfolio

	11.1 Primary research 12.1 Producing designs to solve problems App 1: Mathematics baseline assessment App1: Trigonometry and angles	
Spring 2: Topic 3: Processes and techniques Topic 4: Digital technologies Topic 5: Factors influencing the development of products Topic 9: Designing for maintenance and the cleaner environment	3.1 Wood turning lathe 3.3 Generating design ideas 3.3 Evaluating designs 3.3 Nets & developments, lay planning. 3.3 Modelling with cardboard and styrofoam. 4.1 CAM milling 5.1 Product analysis 9.1 Sustainability	Model a custom made pen E-portfolio
Summer 1: Topic 1: Materials Topic 3: Processes and techniques Topic 4: Digital technologies Topic 7: Potential hazards and risk assessment Topic 10: Current legislation Topic 11: Information handling, Modelling and forward planning	1.1 Preparation of materials: timber 3.1 Metal forging 3.1 Metal casting 3.1 Polymer forming methods 3.1 Biscuit cutter 3.3 Evaluating products 3.3 Developing drawing skills; orthographic, isometric, dimensioning. 4.1 Developing 2D CAD skills 7.1 Risk assessment 10.2 Health and safety at work Act, PPE, COSHH 11.4 Implication of standards to designers, manufacturers and users. App1: area, volume, mass and density	Manufacture a wooden box with "many joints" H&S questions Drawing quality Mathematical calculations
Summer 2: Topic 11: Information handling, Modelling and forward planning Topic 12: Further processes and techniques.	Start NEA: Setting problem through to Specification writing. Revision for PPE 12.1 Social Impact of technology	E-portfolio PPE exam
Suggestions for independent study and home support: GCSE Bitesize, www.designtechnologystudent.com Lonsdale revision booklet (available from the department) doddle.		

KEY SKILLS		
Literacy: Structures for: • Explain • Compare • Evaluate	Numeracy: Scale Dimensioning Measuring Calculating angles, sizes, area, volume	Other: Communication Presentation Team work Independent skills Research development Time management

<table>
<tr><th colspan="4">Year 12 – Design & Technology: Fashion & Textiles</th></tr>
<tr><th>Exam Board & course title/code</th><th>Unit</th><th>Date of Exam</th><th>% of Total Exam</th></tr>
<tr><td rowspan="2">Eduqas A Level Design & Technology: Fashion & Textiles A601QS</td><td>Component 1:
Exam Paper 1</td><td>Summer Year 13</td><td>30%</td></tr>
<tr><td>Component 2:
NEA (Design and Make Coursework)</td><td>Summer Year 13</td><td>50%</td></tr>
<tr><th>Key topics</th><th colspan="2">Course content</th><th>Assessment</th></tr>
<tr><td>Autumn 1:</td><td colspan="2">Bridging work assessment and feedback
Design & Make Techniques and skills development project – Corset
The manufacture of a prototype using all potential resources, tools machines and equipment to a high level.
Interfacings
Construction techniques [1]
Fastenings [1]
Sketchbook skills
Theory
Materials and applications
Classification of materials
Methods for investigating and testing materials
Performance characteristics of materials
Performance characteristics of fibres, yarns & fabrics
Methods of joining and use of components
The use of finishes
Enhancement of materials Design methods and processes
Design theory & influences
How technology and cultural changes can impact on the work of Designers
Fashion Cycles
Fashion marketing
Socio economic influences</td><td>Module tests about theory content
Sketchbook
NEA practice PIA

Product Analysis</td></tr>
<tr><td>Autumn 2:</td><td colspan="2">Basic Block - bodice
Pattern development – collars & sleeves
Design & Make project – waistcoat/jacket [lined] or skirt with concealed zip
The manufacture of a prototype using all potential resources, tools machines and equipment to a high level.
Facings
Construction techniques [2]
Fastenings & Components [2]
Fabric manipulation [1]</td><td>Module tests about theory content
Sketchbook
NEA practice PIA

Product Analysis</td></tr>
</table>

	Theory • Digital design and manufacture • The requirements for textile and fashion design and development • Health and safety • Protecting designs and intellectual property • Design for manufacturing, maintenance, repair and disposal • Critical analysis and evaluation • Selecting appropriate tools, equipment and processes • Accuracy in design and manufacture • Environmental issues	
Spring 1: Spring 2:	Design & Make Techniques and skills development project – Trousers using basic block • Feasibility studies • Enterprise and marketing in the development of products • Design communication Researching and identifying a suitable context for NEA – Section A: Identifying and researching contexts	Module tests about theory content NEA practice PIA Product Analysis
Summer 1 & 2: <u>A01 Section A & B</u> Producing a design brief and specification	Identifying and researching contexts-complete. Developing initial ideas and evaluating against context. Produce a clear and challenging design brief and fully detailed design specification reflecting thorough consideration of investigations undertaken. Revision for PPE in June	6/8 lessons NEA - Coursework 2/8 lessons Theory. Constant review of NEA and verbal and written feedback. Module tests about theory content. Exam technique practice – Maths in DT
Suggestions for independent study and home support: • Visits to Galleries & Museums to view current and historical exhibitions and artefacts • Weekly revision of GCSE /AS booklets to ensure technical knowledge is continually referred to.		

- Future Learn Courses – sustainable fashion: take notes and summarise key learning points.
- Current affairs, e.g. iplayer 'Stacey Dooley Investigates' - take notes, do further investigation into Rana Plaza disaster, create links to NEA and both exam paper content.
- Newspapers, journals and trade magazines for social comment and design[er] investigation.
- Product Analysis of existing products.

KEY SKILLS		
Literacy: Identify, investigate and outline design possibilities. Analyse and evaluate. Demonstrate and apply knowledge and understanding of: • technical principles • designing & making principles.	**Numeracy**: Use of numbers and percentages Use of rations Calculation of surface areas & volumes Use of trigonometry Construction of & analysis of graphs/charts Use of statistics& probability Use of coordinates & geometry	**Other**: Written and verbal communication Presentation Team work Independent skills Research development Time management Thinking skills Creativity

Curriculum Overview for Year 13:

Year 13 – Design and Technlogy: Product Design GCE			
Exam Board & course title/code	Unit	Date of Exam	% of Total Exam
EdExcel 9DT(0)	Component 1: 9DT0/01 (Exam)	Summer – Year 13	50%
	Component 2: 9DT0/02 (NEA)	April – Year 13	50%
Key topics	Course content		Assessment
Autumn 1: Topic 6: Effects of technological developments Topic 9: Designing for maintenance and the cleaner environment Topic 12: Further processes and techniques. Appendix 1: Mathematical skills requirement	NEA: Developing Ideas 3.5 Metal finishes 6.1 Effects of technological developments; mass production, industrial age technological production; global market place. 9.1 Designing for maintenance and the cleaner environment. 12.1 Strategies, techniques and approaches to explore create and evaluate design ideas; user centred design; circular economy; systems thinking. 12.3 Product life cycle. Mathematical development; ratios, percentages, surface areas, % waste, Pythagoras.		AS standard PPE E-portfolio Maths questions Examination questions Product analysis: LCA Analysis of Product life cycle of a product
Autumn 2: Topic 1: Materials Topic 3: Processes and techniques Topic 12: Further processes and techniques. Appendix 1: Mathematical skills requirement	NEA: Working Drawing, Planning, Manufacture 1.4 Composites 3.2 Specialist measuring tools; densitometer, go no-go gauge. 3.3 Nets and lay planning (maths development) 12.2 Project management strategies; critical path, scrum, six sigma Mathematical development; Pythagoras, volume, density, % change.		E-portfolio Maths questions Examination questions Critical path analysis calculations Accurate drawing of a net design: redesign to use less materials. (Calculation /area / % waste)
Spring 1: Topic 8: Features of manufacturing industries	NEA: Manufacture 8.1 Revision of one-off, batch, high volume production.		E-portfolio Maths questions

Topic 10: Current legislation Appendix 1: Mathematical skills requirement	8.2 Quality monitoring systems. 8.3 Production and efficiency of modern manufacturing methods and systems. 10.1 Current legislation; consumer rights act 2015, sale of goods act 1979 Mathematical development; sin, cos, tan, data, charts and graphs.	Examination questions – focus 8.3 PPE
Spring 2: Topic 1: Materials Topic 2: Performance characteristics of materials Topic 3: Processes and techniques Topic 4: Digital technologies Topic 5: Factors influencing the development of products Topic 6: Effects of technological developments Topic 7: Potential hazards and risk assessment Topic 8: Features of manufacturing industries Topic 9: Designing for maintenance and the cleaner environment Topic 10: Current legislation Topic 11: Information handling, Modelling and forward planning Topic 12: Further processes and techniques. Appendix 1: Mathematical skills requirement	NEA: Apply finish, Test and Evaluate 1.6 Textiles 1.7 Smart and modern materials 3.5 Finishes for papers and boards 11.1 Collection, collation, analysis of information; marketing, innovation management, feasibility studies. 11.2 Modelling the costing of projects. 11.3 Protecting individual property rights. 11.4 Standards when developing designs and manufacturing products. Mathematical development; sine and cosine rules.	E-portfolio Maths questions Examination questions Unofficial PPE
Summer 1: Topic 1: Materials Topic 2: Performance characteristics of materials Topic 3: Processes and techniques Topic 4: Digital technologies Topic 5: Factors influencing the development of products Topic 6: Effects of technological developments Topic 7: Potential hazards and risk assessment	Revision activities.	E-portfolio Maths questions Examination questions

Topic 8: Features of manufacturing industries Topic 9: Designing for maintenance and the cleaner environment Topic 10: Current legislation Topic 11: Information handling, Modelling and forward planning Topic 12: Further processes and techniques. Appendix 1: Mathematical skills requirement		
Summer 2:	Study Leave and Exams	Preparation:

Suggestions for independent study and home support:

GCSE Bitesize, www.designtechnologystudent.com Lonsdale revision booklet (available from the department) doddle.

KEY SKILLS

Literacy:	Numeracy:	Other:
Structures for: • Explain • Compare • Evaluate	1mm = 0.1cm 10mm = 1 cm Dimensioning Measuring Calculating angles, sizes, area, volume	Communication Presentation Team work Independent skills Research development Time management

Year 13 – Design & Technology: Fashion & Textiles			
Exam Board & course title/code	Unit	Date of Exam	% of Total Exam
Eduqas A Level Design & Technology: **Fashion & Textiles A601QS**	**Component 1:** Exam Paper 1 Technical Principles Exam Paper 2 Design Principles	Summer Year 13	30% 20%
	Component 2: NEA (Design and Make Coursework)	Summer Year 13	50%
Key topics	Course content		Assessment
Autumn 1: **NEA** <u>A01 Section B</u> Producing a design brief and specification leading into: <u>A02 Section C</u> – Development of design proposal(s) Generate design proposals that take full account of the design brief and specification.	Produce a clear and challenging design brief and fully detailed design specification reflecting thorough consideration of investigations undertaken. Design proposals should reflect on first concepts and may use a variety of media in the development of a prototype that can be manufactured by the student. Constant reference to the design brief and design specification should be evident. Modelling is a key element of this assessment criterion. Produce a comprehensive and fully detailed manufacturing specification.		6/8 lessons NEA - Coursework 2/8 lessons Theory. Constant review of NEA and verbal and written feedback. Module tests about theory content
Autumn 2: NEA <u>A02 Section C</u> *continued and leading into* A02 Section D – Development of design prototype(s)	The manufacture of a prototype using all potential resources, tools machines and equipment to a high level. On-going development and directly related to the design proposals. On-going testing and evaluation.		6/8 lessons NEA - Coursework 2/8 lessons Theory. Constant review of NEA and verbal and written feedback. Module tests about theory content
Spring 1: NEA <u>A02 Section D</u> – Continued.	The manufacture of a prototype using all potential resources, tools machines and equipment to a high level. On-going development and directly related to the design proposals. On-going testing and evaluation.		6/8 lessons NEA - Coursework 2/8 lessons Theory. Constant review of NEA and verbal and written feedback.

		Module tests about theory content
Spring 2: NEA <u>A03 Section E</u> – Analysing and evaluating.	On-going analysis and evaluation that has informed the manufacture of the prototype. Testing and fitness for the needs of the client/user. Critical analysis of the final prototype. Modifications and improvements including consideration of levels of production.	8 lessons for finishing NEA & theory. Final review of NEA and feedback if relevant.
Summer 1: Revision - Technical Principals	• Materials and applications • Classification of materials • Methods for investigating and testing materials • Performance characteristics of materials • Performance characteristics of fibres, yarns & fabrics • Methods of joining and use of components • The use of finishes • Enhancement of materials • Modern industrial and commercial practice • Digital design and manufacture • The requirements for textile and fashion design and • Development • Health and safety • Protecting designs and intellectual property • Design for manufacturing, maintenance, repair and disposal • Feasibility studies • Enterprise and marketing in the development of products • Design communication	8 lessons Revision and Module tests about theory content
Summer 2: Revision -Design	• Design methods and processes • Design theory • How technology and cultural changes can impact on the work of Designers • Design processes • Critical analysis and evaluation • Selecting appropriate tools, equipment and processes • Accuracy in design and manufacture • Environmental issues	8 lessons Revision and Module tests about theory content

Suggestions for independent study and home support:

- Visits to Galleries & Museums to view current and historical exhibitions and artefacts
- Weekly revision of GCSE /AS booklets to ensure technical knowledge is continually referred to.
- Future Learn Courses – sustainable fashion: take notes and summarise key learning points.
- Current affairs, e.g. iplayer 'Stacey Dooley Investigates' - take notes, do further investigation into Rana Plaza disaster, create links to NEA and both exam paper content.
- Newspapers, journals and trade magazines for social comment and design[er] investigation.
- Product Analysis of existing products.

KEY SKILLS

Literacy:	**Numeracy**:	**Other**:
Identify, investigate and outline design possibilities. Analyse and evaluate. Demonstrate and apply knowledge and understanding of: • technical principles • designing & making principles.	Use of numbers and percentages Use of rations Calculation of surface areas & volumes Use of trigonometry Construction of & analysis of graphs/charts Use of statistics& probability Use of coordinates & geometry	Written and verbal communication Presentation Team work Independent skills Research development Time management Thinking skills Creativity

ASSESSMENT, MARKING AND REPORTING POLICY DOCUMENT FOR THE DESIGN AND TECHNOLOGY DEPARTMENT

This policy has been mapped against the school's assessment policy and statutory requirements; allowing Design and Technology teachers to deliver their subject in an appropriate manner, to provide support for pupils in order to maximise their success, for parents to support their children and for use as an accountability tool by all stake holders.

The overall aim for school assessment, marking and reporting and therefore the department's aim is to:

- Let students know what they need to do to improve to set realistic goals and targets.
- Monitor students' progress and give them an indication of their level of achievement.
- Inform students how they are progressing towards targets.
- Provide information for parents about students' progress.
- Create and use data to produce accurate values for current attainment that can be used for reporting and milestone predictions
- Acknowledge achievement.

The Design and Technology department will achieve these aims by planning the following types of assessment into their schemes of work:

- Formative/diagnostic - what do students need to do to improve?
- Knowledge based assessments – low stakes testing, Key Stage standard questions and tasks, end of unit tests as well as internal examinations.
- Summative - recording of overall achievement/attainment at critical points, e.g., end of projects / modules, end of unit tests, end of year exams, Teacher Assessments at end of KS3, KS4 & KS5.

As a result of these assessments, teachers will adjust their lesson plans to meet the needs of their pupils and schemes of work as appropriate in order to meet the needs of future pupils.

Teachers will record marks in order to:

- monitor progress over time.
- provide accurate historic information for students/parents/other teachers.
- provide evidence to support reporting and target setting.
- To inform judgements and make consistent predictions (Department SIMS sheets (KS3) and Spreadsheets (KS4 & 5)
- To share the standard of prior performance with colleagues.

Marks should be accessible to Line Managers and will be recorded in either a paper or an electronic mark book. Some marks will be placed onto departmental documents.

In order to support these aims:

- Teachers will access baseline data, attendance and other information such as SEND, EAL and G&T in order to inform their planning and teaching.

Key Responsibilities

Responsibilities of students:

In line with school policy:

- KS3 students will need student record sheet. This will give details of their progress overtime for each of the 5 assessed skills. The student will be responsible for keeping the record sheet safely within their folder. New information will be printed onto labels by the KS3 co-ordinator and passed to class teachers following a data sweep.
- There should be student response (DIRT) to teacher comments. Where appropriate something should be done as a result of the feedback; teacher set task, redo a piece of work, complete or improve work, check and learn spellings, complete some research, complete a new task, to set a new target to ensure that future goals are understood.
- Student response (DIRT) should be completed in green pen. Where this is not possible e.g. adding to a diagram then the work should be clearly labelled that it has been responded to. Another appropriate method might be to provide a separate sheet for this task. This should be clearly titled and filed as close to the original work as possible.
- Students should work through verbal feedback that is given regarding design and practical work. Best practice would show that there is an acknowledgement of the verbal feedback or to a statement of what has been done as a result of verbal feedback.
- At KS4 and 5 students should complete the DIRT activities as directed by their teacher. These will be kept in books / folders as appropriate. DIRT activities must be clearly labelled and where appropriate carried out in green pen or in the case of IT work using a green font colour or green highlight.

Responsibilities of teachers:

- Work will be marked in red pen or using a computer generated label or proforma.
- Work will be marked according to the descriptors identified in the Big Idea assessment grids or GCSE and A'level descriptors / mark schemes, and will enable students to understand what they have achieved and what they need to do to improve. The principles of PIA should be followed (appendix 1).
- The school marking codes should be used for Literacy Feedback within written work (appendix 4).
- Marks, attendance and progress data should be accessible to Line Managers at all times and will normally be recorded in a planner or mark book, which may be electronic if preferred.
- For KS3, marks are to be awarded for appropriate sections and put on the departmental SIMs sheets (Tc for Yr7/8 and FN, TM, TX, SY for Yr9).
- Marking and feedback will show the student the progress they are making against their target.
- Completion of homework should be checked.
- Teachers will dedicate time for reflection and improving work (DIRT) within the scheme of work.
- If the department chooses to have a DIRT focus or a specific Big Idea skill this will be planned for and delivered in the agreed time slot.
- Verbal assessment will take place as appropriate when pupils are involved in designing and making activities, the purpose of which is to support and stretch pupils through these skills

based practical, creative and experimental activities.

- Just before the end of a rotation (Yr8 only) the teacher must print out the class photo sheet and place behaviour and strength codes on relevant photos. Left side of face for behaviour and right side of face for strength. This should be passed to the next teacher on the rota together with seating plans or other useful information.

Key Stage 3:

The teacher will assess work regularly (approximately every 3 weeks) against the skills identified from the Big Idea (appendix 2) and must provide written feedback that can be acted upon at least twice during a project on carousel and approximately every 6th lesson for Year 9 pupils.

- A final assessment will take place at the end of each project (Appendix 5) to establish if students are:
    - 'Exceeding National Standards' is that of a student who is building up skills towards a 9/8 at GCSE Level
    - 'Working Above National Standards' is that of a student who is building skills towards a 7/6 at GCSE Level
    - 'At Expected National Standard' is that of a student who is building skills towards a 5 at GCSE Level
    - 'Working Towards National Standard' is a student who is building skills towards a 4/3 at GCSE Level.
    - 'Working Below National Standards' is a student who is building skills towards an outcome of an 2/1 or lower at GCSE Level.
- Learning mats and self-marking quizzes have been developed for use through SMHK. These should be used to produce knowledge-based assessments that add value to the assessments for the investigating ideas or developing ideas skills. The appropriate spreadsheet for year and skill should be used to translate the % marks into a grade (Appendix 8).
- The final assessment grading will be placed onto SIMs (Appendix 5).
- Teachers will need to keep their own records (manual or electronic mark book) of the performance of each Key Stage 3 pupil for each project taught e.g. attainment of pieces of work, classwork effort, homework effort or other information that will aid the progress of pupils. This will provide information for accurate data sweeps, identifying trends that will inform future planning.

Key Stage 4 and 5

- Controlled assessment / coursework should be tracked regularly and progress recorded using a tracking grid. Assessment should be done by section and cumulative marks held on a spreadsheet. Feedback should be given in line with guidance given by the exam boards. Grades should be awarded based on the latest examination board grade boundaries
- For non-controlled assessment theory, practical and skills work should be assessed approximately each 2 – 3 weeks. The form of this assessment will depend on the topic, activity and the stage of the course. This could be via the use of past exam questions, via the

assessment of a project using PIA principles or through verbal feedback of designing or practical activities. For designing and practical activities, the student should summarise the feedback on an Assessment Record Sheet or in their workbook / folder. After a series of lessons has been taught (perhaps over several weeks), the teacher should allow time for DIRT activities to take place.

- For KS4, formal end of unit assessments should be used to build a profile of each student throughout the course. The data will be in the form of actual attainment (GCSE grade) and will be combined with information from PPE and NEA to produce accurate and consistent predictions for reporting.
- Regularly tell pupils at what grade they are working at.
- When required for monitoring, be able to pass accurate records that demonstrate the progress that individuals are making towards their target grades (including examination comparison and coursework tracking).
- From records be able to inform the schools intervention co-ordinator /s which pupils are not making the necessary progress towards their target grades.
- Apply data to the department's tracking and intervention spreadsheets at regular intervals and evaluate the impact of intervention.
- Use consistent systems for the conversion of marks to grades using spreadsheets created in the department and using the latest exam board grade boundaries.
- Calculate the progress being made towards targets at various intervals during the course and when the final results are published evaluate the performance against targets. This information will be used as discussion at performance management meetings and as part of the appraisal process.

For consistency across the school:

- Teachers will use the PIA criteria (Appendix 1. PIA statement will be linked where possible to Big Ideas (see appendix 2) or GCSE/GCE grades.

- The school marking codes (Appendix 4) should be used for Literacy Feedback within written work.

- At the beginning of each Key Stage a Target Level or Grade will be decided for each student by the school. Marking will show the student the progress they are making against their target.
- Each term all teachers will give a progress report against National Standards and Individual Progress. The following pattern will be adhered to:

Year group	**Pattern of reporting**
7	Each term, reporting classwork & homework effort, current grade, projected grade and action code. The judgement is to be based on the outcomes of the projects or part projects that have been assessed. Teachers will use the calculated attainment column on the departmental SIMs sheets to identify the current level of attainment. Where there is limited data, the KS3 coordinator will provide baseline data appropriate to the standard / stage of the pupil.
8	
9	
10	Approximately each term, reporting classwork & homework effort, current grade, predicted grade and action code.

11	Approximately each term, reporting classwork & homework effort, current grade, predicted grade and action code.
12	Approximately each term, reporting classwork & homework effort, current grade, predicted grade and action code.
13	Approximately each term, reporting classwork & homework effort, current grade, predicted grade and action code.

All assessments will be supported by evidence and moderated (appendix 3) by the department. These results will be analysed in order to identify any underachievement where intervention may be necessary.

Appendix 1:

PIA

P – Positive

What is really good about this work? Which skills have been demonstrated really well here?

I – Improvement

What mistakes have been made? Which areas have not been done correctly?
What skills do you need to develop?

A – Action

You need to state what the student needs to do next as a result of the feed-back.
What should be done now to make progress?
Which ways can a student review/make further progress on this topic?

The action is then carried out as directed by the teacher. Time is given in lesson or for homework to complete this action (**DIRT – Dedicated improvement and reflection time).**

Appendix 2:

Big ideas

- INVESTIGATING IDEAS (includes knowledge including numeracy tasks)
- DEVELOPING IDEAS (includes application of knowledge including numeracy tasks as well as communication)
- PLANNING (demonstrates knowledge of specific tool, working properties of materials, health and safety and quality issues.
- MANUFACTURING
- EVALUATION

Appendix 3:

Moderation procedures:

At KS3:

1. A marking exercise consisting of several pieces of work will be distributed to staff prior to a department meeting.
2. Staff will assess the work against the AWL (assessment without levels) sheet and submit the sheet to the HOD or 2nd in dept.
3. The HOD or 2nd in dept will lead a moderation agenda item at the next meeting based on the assessment submitted. Individual feedback may be given where required and further actions may be set.
4. Standards will be agreed and a moderation folder will be used for future verification

At KS4 and 5:

1. Moderation will take place based on examination board guidelines.
2. Teachers will follow standardised procedures for creating predicted grades using assessment data from formalised tests, exam questions, designing and making tasks. With reference to internal / mock exams the examination board grade boundaries will be used.

Appendix 4:

The following correction symbols are to be used across the school to identify specific features of students' work. Other subject specific symbols, deemed appropriate by the teacher, may also be used. The codes work alongside meaningful teacher comments which are positive, formative and inform students of how their work can be improved.

Where appropriate, staff should insist on correction; misspelt subject specific words are considered a priority and corrections should be recorded by students on their work in green pen.

Over correction is best avoided as this can be discouraging; instead teachers should use the codes to identify specific learning needs.

In the Margin (by teacher)	On your work (by student)	What it means
Sp	dose	Spelling error
C	dave lives in crawley	Capital letter error
P	dont	Punctuation error
//	//The next day	Start a new paragraph here
T	T He screams and ran out of the room	Tense (verb) error or shift
~	Two cat sat in the mat	Indicates a lack of clarity or confusion
^	sat The cat^on the mat	You have missed something out
X	~~The world is flat~~	Indicates factual error, lack of relevance or repetition
?	?	Indicates particularly good point

Appendix 5

Grading		Year 7 Lamp Project Assessment Expected level work = 5		Overall Grading:
		Expected level	**Working above expected level**	**Exceeding expected level**
	Investigating	Name and describe the features of the components to be used in the lamp.		
		Knowledge of voltage, current and resistance.	Defines voltage, current and resistance accurately.	
		Labels the main features of a lamp / torch and explained their function	Identifies and explains the needs of the user.	Evaluates how the lamp / torch meets the needs of the user.
		Specification: List of things the design must do.	Includes constraints and what the user needs.	Includes quantities, user centred criteria and some reasons are given.
	Developing Ideas	Created ideas: underlying shapes are complete, rendering is within the shape,	Notes explain the key features, reasons given for decisions. Communication: Tonal work, no gaps in shading.	A range of designs. Notes explain differences and which is best. Materials are labelled and construction may be named. Sizes are used appropriately.
		Labelled Casing designs: battery location, switch, lens, basic sizes, basic materials.	Designs show all main features; battery location, switch, lens, a significant dimensioning, materials and constructional information. Reasons given for the design decisions.	
		Final idea: words and sketches communicate the casing design. Diffuser design is complete: shapes are complete, rendering is within the shape.	Reasons are given for key decisions. Dimensions are used. Skill evident; shapes are complete, rendering is within the shape.	The design has developed. Internal and external features are clearly shown and explained with reference to the specification. Diffuser demonstrates excellent drawing skill with no mistakes evident. Subject specific vocabulary is used.
	Planning	Tools named and use explained. Is able to sequence tasks during lessons.	Sequences the tasks required to complete a soldered joint. States hazards and control measures for soldering.	Process of soldering explained, risk assessment.
	Making	Work safely / some attention to accuracy / complete product/ may need tidying up.	Work safely / good accuracy / complete product/ only minor errors.	Precision evident in making. Modifications made if required with few errors made. Product is finished and works. Errors may have been corrected.
	Evaluating	Likes and dislikes stated. Explained problems encountered.	Described how the product will be used and how user friendly it is. Explained the strengths and weaknesses of the design. States what could be improved.	Results of testing are explained and suitable modifications are presented. Effectiveness of investigating has been considered.

- Teacher uses the descriptors to identify the level of attainment; expected, above or exceeding.
- Teacher gives a grading (E1- to 9) against each skill being assessed.
- Each project the teacher will fill out the departmental record page on SIMS (Marksheet: Tc……)
- The maximum calculated attainment is transferred to the ADM. This will automatically produce an indicative grade. Copy and paste this column to the current attainment. Carefully check this against the last current attainment (it should not go down). The current attainment will automatically produce a GCSE prediction. The teacher is able to override the prediction based on a clear data, rate of progress and their knowledge of the student. Particular care should be applied if a change of prediction would show that the student would be working above target. This is a standard that needs to be maintained. **See appendix 6 for in order to see how your assessments fit the bigger picture through to Yr11.**
- Student record sheets to be updated with new label following a data sweep in order to demonstrate where progress is being made.
- The teacher will look at all current data, max data and prior projects for the year in order to identify the correct attainment for the data sweep. This should be a best feel with emphasis on most recent attainment.
- **See Appendix 7 for clarification on using the calculated attainment to feed the ADM sheet.**

Appendix 6

	YEAR 7		YEAR 8		YEAR 9		YEAR 11
	AUT 2	SPR - SUM	AUT 2	SPR - SUM	AUT 2	SPR - SUM	END OF
EXCEEDING	7-	7	7+	8-	8	8+	9+
	6+	7-	7	7+	8-	8	9+
	6	6+	7-	7	7+	8-	9
	6-	6	6+	7-	7	7+	9-
	5+	6-	6	6+	7-	7	8+
	5	5+	6-	6	6+	7-	8
WORKING ABOVE	5-	5	5+	6-	6	6+	8-
	4+	5-	5	5+	6-	6	7+
	4	4+	5-	5	5+	6-	7
	4-	4	4+	5-	5	5+	7-
	3+	4-	4	4+	5-	5	6+
	3	3+	4-	4	4+	5-	6
EXPECTED	3-	3	3+	4-	4	4+	6-
	2+	3-	3	3+	4-	4	5+
	2	2+	3-	3	3+	4-	5
	2-	2	2+	3-	3	3+	5-
	1+	2-	2	2+	3-	3	4+
	1	1+	2-	2	2+	3-	4
WORKING TOWARDS	1-	1	1+	2-	2	2+	4-
	E3+	1-	1	1+	2-	2	3+
	E3	E3+	1-	1	1+	2-	3
	E3-	E3	E3+	1-	1	1+	3-
	E2+	E3-	E3	E3+	1-	1	2+
	E2	E2+	E3-	E3	E3+	1-	2
WORKING BELOW	E2-	E2	E2+	E3-	E3	E3+	1+
	E1+	E2-	E2-	E2+	E3-	E3	1
	E1	E1+	E2-	E2-	E2+	E3-	1-
	E1-	E1	E1+	E2-	E2	E2+	E3+
		E1-	E1	E1+	E2-	E2	E3+
			E1-	E1	E1+	E2-	E3
				E1-	E1	E1+	E3-
					E1-	E1	E2+
						E1-	E2

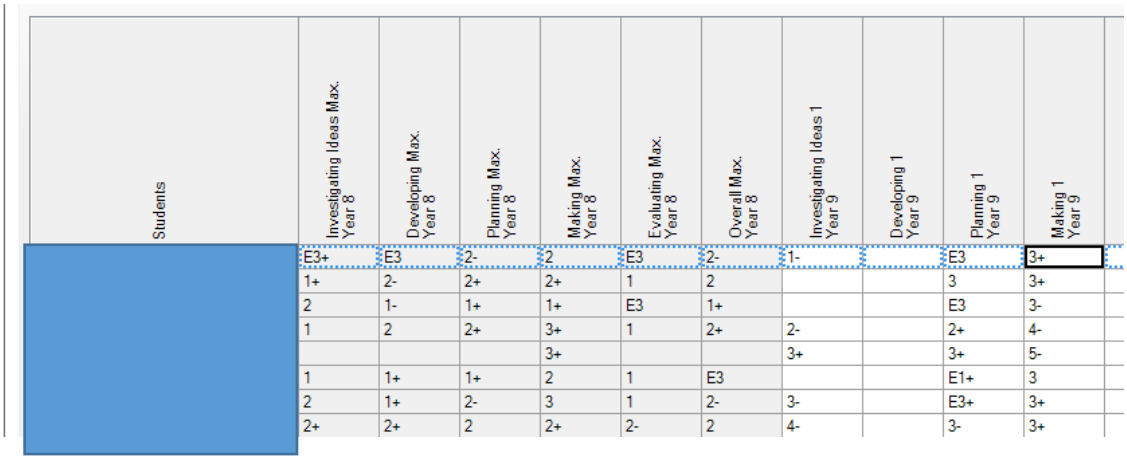
Shows the centre of the expected grade. Expected grade means meeting our expectations for that year group at that point in the year.

Trace the grade that you have awarded across to the Yr11 column to see what grade they are on track for.

Does the student need to make more than 1 sub level of progress? How many sub-levels are you awarding? What is the impact on the expectation in Yr11?

Appendix 7: Processing Data: Tc sheet to ADM

For Yr9 groups, your Tc sheet starts with the subject initials Ep-09, Fn-09, Tm-09, Tx,09

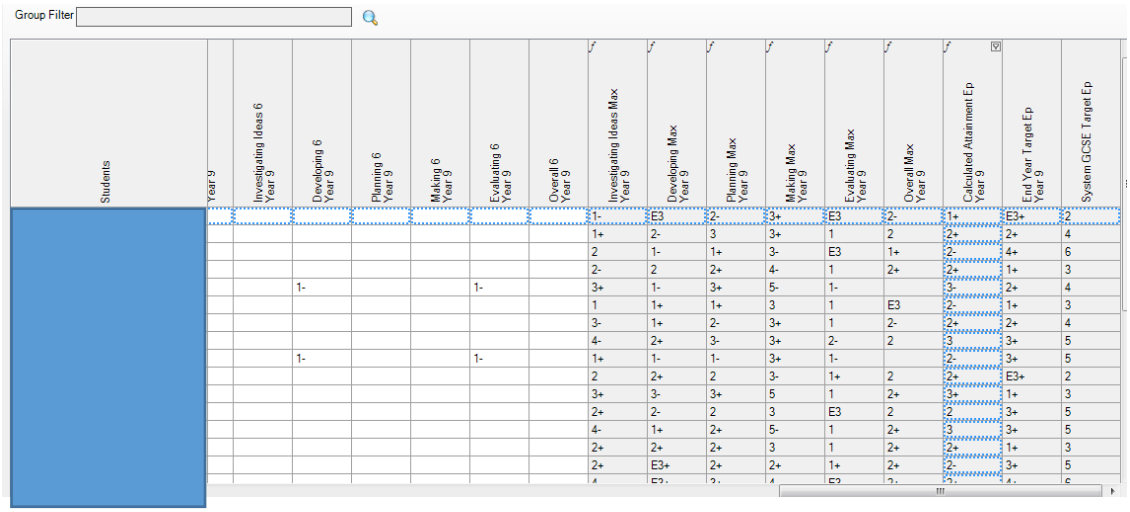


Students	Investigating Ideas Max. Year 8	Developing Max. Year 8	Planning Max. Year 8	Making Max. Year 8	Evaluating Max. Year 8	Overall Max. Year 8	Investigating Ideas 1 Year 9	Developing 1 Year 9	Planning 1 Year 9	Making 1 Year 9
	E3+	E3	2-	2	E3	2-	1-		E3	3+
	1+	2-	2+	2+	1	2			3	3+
	2	1-	1+	1+	E3	1+			E3	3-
	1	2	2+	3+	1	2+	2-		2+	4-
				3+			3+		3+	5-
	1	1+	1+	2	1	E3			E1+	3
	2	1+	2-	3	1	2-	3-		E3+	3+
	2+	2+	2	2+	2-	2	4-		3-	3+

Put in your project data.

For Yr7 and 8 – the projects are given specific names.

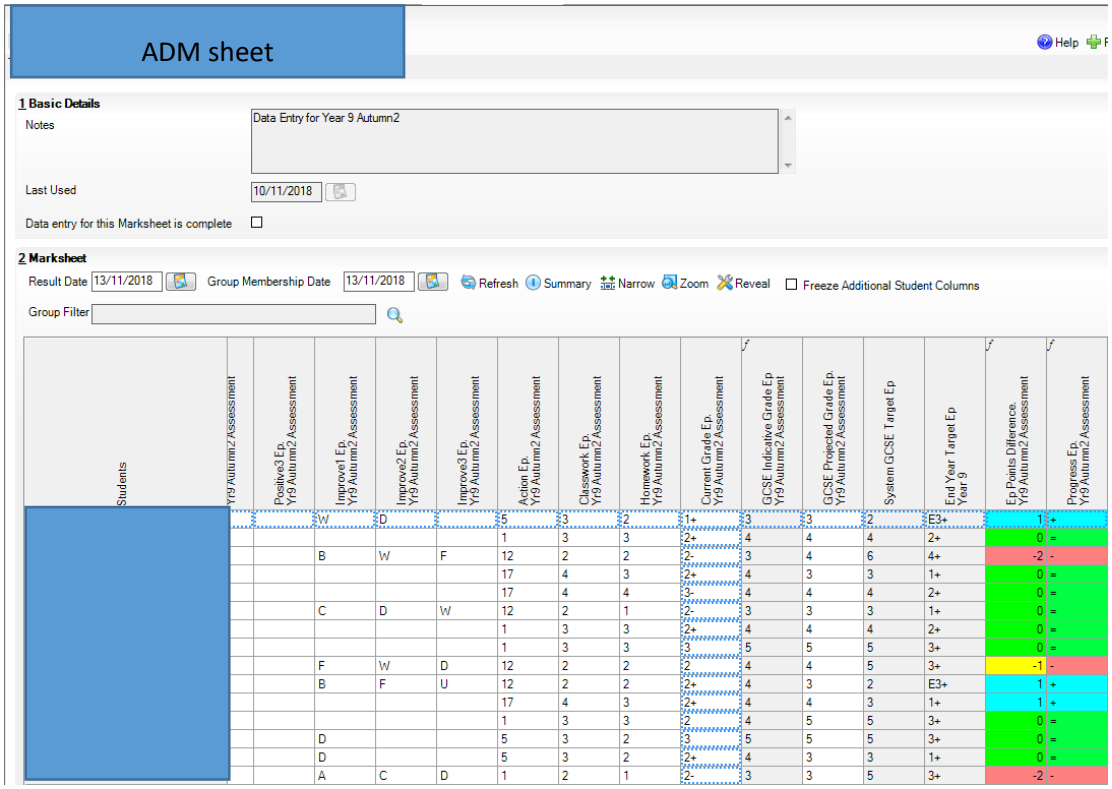
For Yr9: Use 1 project for each half term; AUT1 / Project1, AUT2 / Project 2 etc. This will allow progress to be shown.



Group Filter

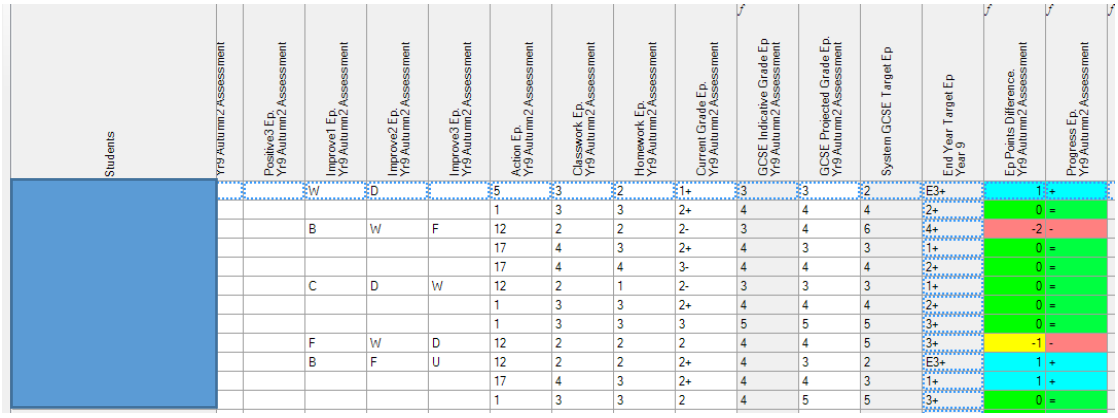
Students	Year 9	Investigating Ideas 6 Year 9	Developing 6 Year 9	Planning 6 Year 9	Making 6 Year 9	Evaluating 6 Year 9	Overall 6 Year 9	Investigating Ideas Max Year 9	Developing Max Year 9	Planning Max Year 9	Making Max Year 9	Evaluating Max Year 9	Overall Max Year 9	Calculated Attainment Ep Year 9	End Year Target Ep Year 9	System GCSE Target Ep
								1-	E3	2-	3+	E3	2-	1+	E3+	N2
								1+	2-	3	3+	1	2	2+	2+	4
								2	1-	1+	3-	E3	1+	2-	4+	6
								2-	2	2+	4-	1	2+	2+	1+	3
			1-			1-		3+	1-	3+	5-	1-		3-	2+	4
								1	1+	1+	3	1	E3	2-	1+	3
								3-	1+	2-	3+	1	2-	2+	2+	4
								4-	2+	3-	3+	2-	2	3	3+	5
			1-			1-		1+	1-	1-	3+	1-		2-	3+	5
								2	2+	2	3-	1+	2	2+	E3+	2
								3+	3-	3+	5	1	2+	3+	1+	3
								2+	2-	2	3	E3	2	2	3+	5
								4-	1+	2+	5-	1	2+	3	3+	5
								2+	2+	2+	3	1	2+	2+	1+	3
								2+	E3+	2+	2+	1+	2+	2-	3+	5

Move to the right on your TC sheet and find the calculated attainment column. **This is the grade that you must use for the ADM current grade**



Enter the data from current attainment column (TC sheet) to current grade column (ADM)

An indicative grade will be calculated. You need to verify this, or change it up. Check against the prior data, it should not be going in a downward direction.



Work your way down the projected grade column. You will have the following decisions to make:

- If they have hit target already, it is likely that they will also hit the GCSE system target, so award it.
- Be careful with someone who had hit target and it looks like they are on course to exceed the GCSE target. You know the pupil. will they really do that at GCSE level?
- If they have not yet hit target, is it conceivable that they will hit target?
    - 1 sub level per term is very possible.
    - For Yr9, you know them quite well, for some, expect more.
    - Consider carefully how long is left in the year. E.g. with 2 terms to go, it is conceivable that a year 9 will still make at least 2 sub levels of progress, particularly if there are areas that you have not yet assessed.
      With Yr7 and 8, you might expect those with higher target to be more capable of making accelerated progress than those with lower targets.

Appendix 8: Converting SMHW marks into grades.

The following tables should be used to convert SMHW marks into grades. It should be noted that a quiz is generally learned knowledge and therefore can be used to supplement the grade gained for Investigating Ideas and Planning sections in a project. Quizzes should not be over rewarded and should be used in addition to other tasks to produce grades.

Carefully designed quizzes can be used to supplement the marks of the Developing ideas section, but the questions asked must test application of knowledge.

Teachers should use the departmental spreadsheets to download and convert marks from SMHW. These are available on the department shared area: e.g. Year 8_Quiz conversion table.

Yr7: Knowledge marks conversion table to Investigating Ideas											
Quiz mark	1 – 9%	10 – 19%	20 – 29%	30 – 39%	40 – 49%	50 – 59%	60 – 69%	70 – 79%	80 – 89%	90 – 99%	100%
Grade awarded	E2+	E3-	E3	E3+	1-	1	1+	2-	2	2+	3-

Yr8: Knowledge marks conversion table to Investigating Ideas.											
Quiz mark	1 – 9%	10 – 19%	20 – 29%	30 – 39%	40 – 49%	50 – 59%	60 – 69%	70 – 79%	80 – 89%	90 – 99%	100%
Grade awarded	E3	E3+	1-	1	1+	2-	2	2+	3-	3	3+

Yr9: Knowledge marks conversion table to Investigating Ideas.											
Quiz mark	1 – 9%	10 – 19%	20 – 29%	30 – 39%	40 – 49%	50 – 59%	60 – 69%	70 – 79%	80 – 89%	90 – 99%	100%
Grade awarded	1-	1	1+	2-	2	2+	3-	3	3+	4-	4

Y7 – Yr9: Knowledge marks conversion table to Planning.											
Quiz mark	1 – 9%	10 – 19%	20 – 29%	30 – 39%	40 – 49%	50 – 59%	60 – 69%	70 – 79%	80 – 89%	90 – 99%	100%
Grade awarded	E3	E3+	1-	1	1+	2-	2	2+	3-	3	3+

Y7 – Yr9: Knowledge marks conversion table to Developing Ideas (must test application of knowledge)											
Quiz mark	1 – 9%	10 – 19%	20 – 29%	30 – 39%	40 – 49%	50 – 59%	60 – 69%	70 – 79%	80 – 89%	90 – 99%	100%
Grade awarded	E3	E3+	1-	1	1+	2-	2	2+	3-	3	3+

Appendix 9: Assessment grid: Generic Evaluation Tasks

Generic evaluation tasks are used to supplement the grades generated from projects. Generic evaluation tasks (e.g. shoe) will need to be used where there is a danger that a project is over running, and the students will not be able to evaluate their own made piece.

For use with Years 7, 8 and 9	
Grade Band	**Evidence you will see**
E3+ to 1 This will be the range awarded to those who struggle with literacy or who have rushed the activity and not really thought about why their shoes perform well of badly.	Marks will be awarded by the student and reasons may just be stated without any real proof
1+ to 2+ Many students will be awarded a mark in this section. The more they link to materials and features the better the grade can be	Marks will be awarded by the student and reasons will be linked to features of the design or materials used
1+ to 3- Students who have completed the task will get marks awarded in this range but only if they have linked the features to the design or materials (previous grade range). It is important not to over reward.	In addition to the table the paragraphs have been completed and strengths and weaknesses have been separated, but they are mostly copied from the table with little development of points being made.
3 to 4+ Most of the marks that you award in this section will be at the lower end if you have not practised the literacy skills beforehand. It is important not to over reward the student.	In addition to the table the paragraphs focus on the benefits and consequences by considering how the user will be affected. The more time the student links material / feature and benefit / consequence the higher the grade that can be awarded. The points are developed.
4+ to 5- It is unlikely that any of these will be awarded unless the student has developed good literacy skills with respect to developing arguments and persuasive writing. You will need to have practised the necessary skills in order to access these grades.	The writing of the paragraphs links multiple points and look past the obvious effects on the user.

Three Year Data Overview:

Breakdown of subject cohort

Year group	Total students	% of PP students	% of SEND students	% of male students	% of female students	% of HA students
7	210	27%	19%	52%	48%	25%
8	210	29%	21%	52%	48%	27%
9						
Food & Nutrition	102	33%	28%	41%	59%	23%
Systems	107	28%	19%	58%	42%	29%
Timber	106	22%	23%	52%	48%	31%
Textiles	101	31%	31%	37%	63%	31%
10						
Food & Nutrition	16	25%	31%	25%	75%	19%
Systems	19	16%	11%	84%	16%	58%
Timber	13	23%	54%	69%	31%	23%
Textiles	15	13%	13%	13%	67%	27%
Engineering Design	17	24%	35%	76%	24%	5%
11						
Food & Nutrition	16	19%	25%	19%	81%	19%
Systems	18	5%	11%	94%	6%	39%
Timber	10	20%	50%	90%	10%	20%
Textiles	18	11%	5%	0%	100%	11%
Engineering Design	17	35%	53%	82%	18%	5%
12						
Design & Technology	2	50%	50%	100%	0%	0%
Textiles						

Electronics	1 3	0% 33%	0% 33%	0% 67%	100% 23%	0% 0%
13 Design & Technology Textiles Electronics	1 2 2	0% 0% 0%	0% 0% 0%	100% 0% 100%	0% 100% 0%	100% 50% 50%

Past 4 years results

Year 11

DT: Systems	2018	2019	2020	2021
Cohort number	19	23	20	30
% above target	47.4%	56.5%	80%	43.3%
% on target	26.3%	30.4%	15%	20%
% below target	26.3%	13%	5%	36.7%
DT: Textiles	2018	2019	2020	2021
Cohort number	15	17	0	0
% above target	20%	52.9%	-	-
% on target	26.7%	23.5%	-	-
% below target	53.3%	23.5%	-	-
DT: Timber	2018	2019	2020	2021
Cohort number	17	11	20	0
% above target	0%	36.4%	40%	-
% on target	23.5%	27.3%	20%	-
% below target	76.5%	36.4%	40%	-
DT: Food & Nutrition	2018	2019	2020	2021
Cohort number	16	19	16	15
% above target	12.5%	15.8%	37.5%	13.3%
% on target	25%	10.5%	18.8%	20%
% below target	62.5%	68.4%	43.8%	66.7%

Year 13

Electronics A level	2018	2019	2020	2021
Cohort number	5	4	5	2

% above target	20%	25%	40%	50%
% on target	40%	50%	20%	50%
% below target	40%	25%	40%	0%
Product Design A level	2018	2019	2020	2021
Cohort number	8	4	5	4
% above target	25%	0%	40%	25%
% on target	12.5%	75%	0%	50%
% below target	62.5%	25%	60%	25%
Textiles A level	2018	2019	2020	2021
Cohort number	0	3	0	2
% above target	-	0%	-	100%
% on target	-	0%	-	0%
% below target	-	100%	-	0%