



Subject:	Design Technology
-----------------	-------------------

Lead Teacher:	R Williams, T Wells
----------------------	---------------------

Year:	10
--------------	----

Curriculum organisation

Students are taught in mixed groups for **three** hours per week. They are not grouped by ability.

Overview of Topics & Key Information					How will your child be learning?
Term	Unit(s) of Work	Key Enquiry Questions	Key Content/ Terminology	Skills developed	
Autumn Term	Unit 3- materials and their working properties Timbers Focused Practical Tasks	- How are materials and components selected to be used in commercial products and how do properties affect performance? - What are the physical and mechanical properties in commercial products and how are they modified for specific purposes? - What are the correct tools, equipment and processes for a process in the workshop? - What manufacturing processes are suitable to create a commercial product through shaping, fabricating, constructing and assembling? - What is tolerance?	- Materials and their properties - Manufacturing processes - Scales of Production and Industrial Manufacturing systems - Quality Control - Material Physical Properties - Material Working Properties - Specialist tools in the workshop - Hardwoods, Softwoods, Manufactured Boards - Finger, Housing, Lap, Dowel joints - Measuring, Marking, Cutting - Workshop Health & Safety	- Examination Technique - Research Skills - Practical woodwork skills - Tool handling - Quality assurance - Evaluation - Problem solving	- Whole class discussion - Pair work - Practical activities - Problem-solving tasks - Watching short video clips - Research tasks - Individual focus Practical Tasks and activities (building blocks) - Investigation and Research activities. - Demonstration activities - Health and Safety discussions - Use of whole school metacognition and Rosenshines principles of instruction-strategies for student autonomy with student led projects and design work, effective and meaningful feedback to increase progress.
Spring Term	Unit 3- materials and their working properties Unit 4- common specialist technical principles	- How do different materials compare in terms of properties and uses? - What are the environmental impacts of material choices? - How can we test and evaluate materials effectively?	- Properties of woods, metals, polymers, textiles, paper/board - Material testing methods - Sustainability and lifecycle analysis - Designers and companies	- Examination Technique - Comparative analysis - Research and documentation - Presentation skills - Problem solving - Understanding the environmental impact of design on the world	

Summer Term	Unit 2- energy, materials, systems and devices NEA Start – AQA Design Technology	• What are the different methods of energy generation and storage? • How can designers reduce environmental impact? • What role do smart, modern and composite materials play in sustainable design? • How do we interpret a design context? • What research methods help us understand user needs? • How do we profile a client effectively? • What makes a strong design brief and specification?	• Energy generation and storage • Mechanical devices • Smart, modern, composite materials • Sustainability principles • Ergonomics and anthropometrics • Contextual challenge • Primary and secondary research • Client profiling • Design brief and specification • Work of others	• Systems thinking • Design ideation • Environmental awareness • Research and analysis • Communication of findings • Portfolio development • Independent project planning	
-------------	---	---	--	---	--

Equipment needed for lessons		How will learning and progress be assessed?	
• Standard school stationery • Exercise book • Calculator • Colouring pencils		• End of unit tests (subject knowledge focus) • Formal assessment week (May) • Peer and self assessment • Homework tasks (often research or project based) • Retrieval practice activities • Tutorials small group or one to ones. • Questioning (What, Why, How) and recall of information • Examination question responses	
Extension & Enrichment opportunities		What can you do to support your child?	
• Arkwright Scholarship Trust Application support to appropriate students • Communication of Small Piece Trust short courses • Communication of local/National Competitions • STEM workshop activities • Opportunity to lead a club for the lower years		• Utilise student 'in' and 'out' and Teams folders for additional support materials set up by your teacher • Animations of manufacturing processes accessed online can be supportive in gaining a clear understanding in each material area, this is encouraged from year 9 • How's it made (selection of videos to support visual learning) • AQA GCSE (9-1) Design and Technology Text book, revision books and revision cards. • Parental support is always helpful, taking an active interest in design briefs, students work and time management of independent non-exam assessment.	
Inclusion		Inclusion within Design Technology	
• Teachers follow student passports to ensure that the needs of all students with SEND are met. • Work is enlarged to the necessary size for visually impaired students. • Teachers will ensure that classrooms are quiet learning environments where possible and will dim lights to support students with sensory needs. • Students have the use of laptop if they have a SEND need whereby use of a laptop supports them. • Hearing impaired students are supported through use a radio aid and teachers ensure that students can lip read at all times during lessons.		• Within projects students learn about a range of designers with a full range of backgrounds. • Students are supported practically by the teacher or TA if a student requires this. • Equipment I adapted where necessary to accommodate the needs of the students with SEND. • Where necessary students are given frequent one to one tutorials and demonstrations to revisit previous techniques and processes taught to support their understanding. • Students are encouraged during designing to think about their own experiences and how these interact with the material/ project they encounter. • Dyslexic students are provided with knowledge organisers for each topic in order to have reference to key terminology and definitions.	

• Dyslexic students are encouraged to use coloured overlays when they are required to read long passages. • Use of dyslexic friendly fonts and coloured backgrounds used in PowerPoints/resources. • Students with ADHD are given movement breaks, fidget toys and lessons are 'chunked' to aid concentration. • Students are seated according to their needs, students work with the SENDCo to decide upon this.	• Use of visual and audio cues to support processing of written text. • Keywords/ subject specific vocabulary displayed on walls to aid memory. • All teachers employ inclusive pedagogy so not just what they teach but how they teach is inclusive through a variety of delivery techniques (step-by step guides, mindmaps, multiple choice questions, placemats/ written task instructions) and assessment design which contributes to the achievement of all pupils (use of model examples, scaffolder responses)
--	--

If you have any questions about this Learning Overview, please contact the named Teacher above.