Subject:	Design Technology	**Lead Teacher:**	R Williams	**Year:**	9

Curriculum organisation

Students are taught in mixed groups of **24** for **two** 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**	• 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 Rosenshines principles of instruction-strategies for student autonomy with student led projects and design work, effective and meaningful feedback to increase progress.
Autumn Term	Jewellery Project – themes (Travel/cultures/fashion/ science/mathematics/nature) Unit 5D- Polymer Theory (taught alongside Jewellery Project)	• How do trends and culture impact design? • Why does choice of material impact design? • Where do polymers come from? • What are the ethical choices that are made in the production of plastics products	• The Design Process • Research • CAD (2d Design) • Modelling/testing (Polymer Clay) • Modelling/testing (Laser outcome) • Branding/advertising (graphic design elements) • Plastic sources and origins • Polymers and properties (Thermoforming/ Thermosetting)	• How to use the work of others to inspire designs. • Successfully communicate different design proposals. • Understand the different sources of polymers	
Spring Term	Unit 6- Designing principles- Graphical communication Unit 5D- Commercial manufacturing	• How can polymers be manufactured? • Why are different polymers appropriate for different commercial applications? • What quality control measures are used in manufacturing?	• Isometric • 1 point perspective • 2 point perspective • Orthographic projection • Injection Moulding • Extrusion • Blow Moulding • Plastic surface Treatments and Finishes • Quality Control	• Graphic communication. • Engineering design techniques. • Accurate planning of a project. • Be able to identify the different types of manufacturing.	
Summer Term	Structural adventure playgrounds design project Commercial design and planning techniques Unit 7- making principles	• What factors can impact a design? • How can we use the iterative design process? • Why is modelling important? • How can we present our outcomes?	• Theory – Forces and structures • Research – Product analysis • Design/development of outcomes • Modelling techniques • Testing • End testing and evaluation techniques.	• Investigation into parallel products. • Communication of ideas. • Sketch modelling. • Selecting and evaluating materials based on key qualities.	

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 • http://www.technologystudent.com/ for supportive revision tasks and flash cards • 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 • 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. • 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.	• 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. • 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.