	Design Technology
Dallam School	Curriculum Intent

Why we teach what we teach

The intent of the Design & Technology department is to nurture pupils to develop the skills & knowledge that allow them to become independent learners & discerning consumers. Through the design process pupils develop their creativity, thinking skills, practical abilities & a sense of pride in their own work, in an iterative way. They grow in confidence, working individually & as members of a team, being able to appreciate the technological advancements that have contributed to the way of life they experience today in modern Britain, studying designers, both current & in the past. They also gain an insight into the classification & properties of materials & the sustainability issues that are faced by the planet, our use of the resources we harvest from it & the social, moral, cultural & ethical issues associated with designing & manufacturing for a range of users in a contemporary society. Pupils also develop an understanding of the increasing use of computer automation in the production of products & experience the use of CAD/CAM in lessons. Pupils have the opportunity to work creatively when designing & making & apply technical and practical expertise.

Core concepts	**Core technical principles:** • new & emerging technologies • energy generation & storage • developments in new materials • systems approach to designing • mechanical devices • materials & their working properties. **Specialist technical principles** • selection of materials or components • forces & stresses • ecological & social footprint • sources & origins • using & working with materials • stock forms, types & sizes • scales of production • specialist techniques & processes • surface treatments & finishes. **Designing & making principles** • investigation, primary & secondary data • environmental, social & economic challenge • the work of others • design strategies • communication of design ideas • prototype development • selection of materials & components • tolerances • material management • specialist tools & equipment • specialist techniques & processes
How our curriculum builds over time	Our broad & diverse curriculum provides students with the required knowledge & practical skills for them to thrive in their studies but also in their life beyond school. Our curriculum is carefully sequenced by backward planning based upon the requirements of the national curriculum at KS3 & the requirements of the KS4 qualifications we offer. During a student's time in KS3 we expect them all to attain the best they can achieve which is supported by the curriculum offer being underpinned by breadth, depth & challenge. We focus on teaching a range of carefully selected key skills, across each year group, which will ensure we are exposing students to the richness of Design & Technology whilst also revisiting key knowledge & skills at deeper levels.

Key ingredients of a lesson	Students are welcomed into the classroom or workshop & are engaged in a purposeful starter activity with a clear time frame for completion, in a practical lesson, students are also instructed to prepare themselves for a safe practical lesson, this is established in regular routines & consistency. Afl or follow up questioning about the starter activity enables the teacher to gage understanding & direct the remainder of the lesson. Students are engaged & can access work independently, support material, excellent examples & extension tasks available, These should be designed to stretch the most able as well as differentiated tasks to support the learning of low ability students or students with SEN. Questioning is used to uncover misconceptions & correct these incisively. The teacher uses a variety of questioning techniques to ensure all students have to "think" .Students know what they need to do to make progress & can demonstrate this by referring to marking & feedback (self, peer and teacher). High expectations of behaviour are enforced consistently in line with the schools Behaviour policy. A plenary assesses what students have learnt, giving the teacher data/feedback needed to address gaps in knowledge or any misconceptions in the next lesson. Students ensure workspaces & uniform are tidy, leaving in an orderly fashion.
How we assess the knowledge, understanding & skills of students	Students are assessed through a variety of creative & practical activities, pupils are taught the knowledge, understanding & skills needed to engage in an iterative process of designing & making. Students are assessed throughout on 4 key areas which are **Design, Make, Evaluate** and **Technical knowledge.** . In KS3 we provide success criteria for students to understand what is expected. We use formative & summative assessment, peer & self-assessment & practical marking assessment sheets which are in line with the schools marking policy.
How we provide cultural capital & extra-curricular opportunities	Design Technology allows students to be creative & resilient through positive experiences of problem solving. A variety of clubs to enrich the students' learning & skills are offered throughout the year. Throughout their study, students learn about their responsibilities to reducing waste & conserving energy, look at their individual carbon footprint & how their choices as a consumer makes a difference. They develop the ability to take risks & solve problems through their designs. We also often work in teams & have group evaluations which build strong communication skills
How we provide stretch & challenge enrichment	All our projects have extension tasks that allow students to develop & refine their skills & knowledge. Pupils are encouraged to take part in clubs or attend extra-curricular sessions for their NEA coursework to help drive them to achieve their full potential.
How we adapt our curriculum to meet the needs of all students	Students with SEN are supported by careful seating to optimise success, keyword mats, & visual help sheets are provided to support students' learning. The help sheets, & visual tick sheets allow students to be more independent & build their confidence. Workbooks are provided in a personalised colour for dyslexic students where required. Students across all Key Stages are provided with WAGOLL examples to show what to aim for alongside success criteria. Visual help sheets are provided for some tasks in the workshop if a student has issues with their working memory, & QR codes for step by step guidance is on every machine in the workshop for students to refer back to in addition to teacher demonstrations with access to the department tablet
How we link our subject knowledge to the world of work & further study	Throughout the Design Technology course, students are required to look at solutions for different problems this leads them to become good problem solvers. This is a valuable transferable skill that leads its way into all aspects of work & further studies. Students are invited to attend talks with local construction companies, engineers, designers and industry experts from all fields. SOL's are linked to real world applications & industry techniques
How we provide personal development for students	In design & technology we seek to develop a sense of 'moral conscience' in our students, through focusing upon the moral dilemmas raised in designing & making new products. We teach students to understand the wider impacts on the environment when designing & making new products & expect them to consider carefully the materials & components they will use when designing & making. We encourage sustainable thinking through the active application of the '6 R's' & to highlight the impact on environmentally sensitive areas of the world. We teach the concept of self-regulation to ensure that students accept responsibility for their behaviour & the safety of others. We encourage students to give each other reminders when standards fall short of the collective expectation. This establishes & maintains a safe, secure, learning environment. We place an emphasis on developing the ability to work with other & to accept each other's unique personality. We encourage effective conversations about the work we do through self & peer evaluation, & to give & accept constructive criticism as a vehicle to improve students learning outcomes.