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Careers across the curriculum
in DESIGN AND TECHNOLOGY

Soft Skills Development (these are the skills we are committed to developing in the Careers Department)	
All Years	**Communication and teamwork** skills are developed in Design and Technology lessons through collaborative design projects, practical activities, and opportunities to present and evaluate ideas. Pupils learn to communicate effectively with others while working towards shared goals, reflecting the collaborative nature of modern design and engineering industries. Examples of how pupils develop **communication skills** can be seen when: · **Explaining and justifying design ideas** during discussions, presentations, and design reviews. · **Producing annotated sketches, technical drawings, CAD models, and design specifications** to communicate ideas clearly and accurately. · **Using subject-specific technical vocabulary** when discussing materials, manufacturing processes, and design decisions. · **Listening to and responding to feedback** from teachers and peers, using constructive criticism to improve their work. · **Presenting finished products and evaluations**, explaining how their designs meet the needs of the intended user and identifying areas for improvement. Examples of how pupils develop **teamwork skills** can be seen when: · **Working collaboratively on design challenges**, sharing ideas and responsibilities to achieve a common objective. · **Cooperating safely in practical environments**, taking turns to use shared tools, machinery, and equipment responsibly. · **Supporting and encouraging peers**, offering advice, sharing skills, and helping to solve design or manufacturing problems. · **Negotiating and compromising** when selecting ideas, materials, or production methods within group projects. · **Respecting different perspectives**, recognising that successful design often benefits from a range of viewpoints and expertise. Through these experiences, pupils learn to communicate confidently, collaborate effectively, and contribute positively.

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Years 8, 9, Middle School and Sixth Form	**Time management** is developed in Design and Technology lessons by requiring students to plan, organise, and complete projects within set timescales. As design projects often involve multiple stages, pupils learn to manage their time effectively to meet deadlines while maintaining the quality of their work. Examples of how pupils develop time management skills can be seen when: · **Planning project timelines** that break work into manageable stages, such as research, design, manufacture, testing, and evaluation. · **Setting priorities** by deciding which tasks need to be completed first and allocating sufficient time to each stage. · **Meeting deadlines** for design folders, practical outcomes, and evaluations, helping students develop responsibility and accountability. · **Monitoring progress** throughout a project and adapting plans if tasks take longer than expected. · **Preparing materials and equipment** before practical sessions to maximise productive workshop time. · **Working efficiently** during practical lessons by following manufacturing plans and minimising wasted time and resources. · **Balancing quality with time constraints**, learning when a design is fit for purpose while recognising opportunities for future improvement. Through these experiences, students develop the ability to organise their workload and complete tasks independently.
Year 9, Middle School and Sixth Form	**Creative thinking** is developed in Design and Technology lessons by encouraging students to explore ideas, solve problems, and design innovative products that meet the needs of users. Pupils are challenged to think imaginatively while applying technical knowledge and practical skills to real-world design contexts. Examples of how pupils develop creative thinking skills can be seen when: · **Investigating design problems** and identifying opportunities to create effective solutions. · **Generating a range of ideas** through sketching, brainstorming, mind mapping, and modelling before selecting the most suitable concept. · **Experimenting with different materials, components, and manufacturing techniques** to discover new possibilities. · **Using iterative design** by testing prototypes, evaluating their effectiveness, and refining ideas based on feedback and results. · **Applying knowledge from science, mathematics, engineering, and technology** to develop innovative and functional solutions. · **Considering the needs of users and clients**, encouraging empathy and original thinking when designing products. · **Taking creative risks** by exploring unconventional ideas while learning from mistakes and adapting designs. · **Using digital design tools**, such as CAD software, to visualise, modify, and improve creative concepts efficiently. Throughout the design process, pupils learn that creativity is not simply about producing original ideas but also about developing practical, purposeful solutions to real problems. They build confidence in thinking independently, exploring alternatives, and evaluating the strengths and weaknesses of different approaches.

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In Middle School	**Problem-solving** skills are developed in Design and Technology lessons by engaging pupils in the design process, where they identify problems, develop solutions, test ideas, and refine their work in response to feedback. Pupils are encouraged to think critically and apply knowledge from a range of disciplines to overcome practical and design challenges. Examples of how pupils develop problem-solving skills can be seen when: · **Identifying design problems** through research into the needs and wants of users or clients. · **Analysing design briefs and specifications** to determine the criteria and constraints that a successful product must meet. · **Generating and evaluating multiple solutions**, comparing ideas before selecting the most appropriate approach. · **Testing prototypes and products** to identify strengths, weaknesses, and areas for improvement. · **Refining designs** using an iterative process, making informed modifications based on testing, evaluation, and user feedback. · **Overcoming practical manufacturing challenges**, such as selecting suitable materials, improving accuracy, or adapting production methods. · **Applying technical knowledge** of materials, mechanisms, electronics, structures, and manufacturing processes to solve real-world problems. · **Managing constraints** such as time, cost, sustainability, safety, and available resources when making design decisions. Through these experiences, pupils learn to approach problems logically and systematically while remaining flexible and creative when initial ideas are unsuccessful. They develop resilience by recognising that testing, failure, and refinement are valuable parts of the design process rather than setbacks.
In Sixth Form	**Networking** skills are developed in Design and Technology lessons by providing students with opportunities to engage with a range of people beyond their immediate peer group and to communicate professionally with individuals involved in design, engineering, and manufacturing. While networking is not usually taught explicitly, many activities help students build the confidence and communication skills needed to establish and maintain professional relationships. Examples of how students develop networking skills can be seen when: · **Participating in design competitions such as the Arkwright Scholarship and Industrial Cadet Gold Award**, where students showcase their work and interact with judges, employers, and members of the wider community. · **Presenting ideas to different audiences**, including teachers, classmates, employers, or visiting professionals, and responding confidently to questions and feedback. · **Engaging with industry professionals** through guest speakers, workplace visits, design competitions, careers events, or employer-led projects, gaining insight into different career pathways. · **Seeking and using feedback** from users, clients, teachers, and peers to improve designs, demonstrating the importance of professional communication and constructive relationships. These experiences help students understand the value of building positive professional relationships, learning from others, and making connections that can support future education and career opportunities.

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Development of Subject Specific Skills which are Relevant to Next Steps / the Workplace

Communication / teamwork skills
Developing communication and teamwork skills through Design and Technology lessons prepares students for the expectations of the workplace by helping them become confident, effective, and collaborative professionals. By explaining and justifying design ideas during discussions, presentations, and design reviews, students learn how to communicate their thoughts clearly, defend their decisions, and engage in professional conversations. Producing annotated sketches, technical drawings, CAD models, and design specifications develop their ability to communicate complex ideas accurately using a range of visual and technical methods, which reflects how designers, engineers, and other professionals share information in industry. Using subject-specific vocabulary helps students communicate confidently within a specialist environment, while listening to and responding to feedback develops their ability to accept constructive criticism, reflect on their performance, and make improvements. Presenting finished products and evaluating outcomes allows students to develop confidence in explaining their work, considering user needs, and identifying opportunities for improvement.

Teamwork skills developed through D&T are equally important for future employment, as most careers require individuals to collaborate with others to achieve shared goals. Working collaboratively on design challenges teaches students how to contribute ideas, take responsibility for tasks, and support the success of a team. Practical workshop activities develop an understanding of cooperation, communication, and responsibility, particularly when sharing tools, equipment, and resources safely. Supporting peers and sharing skills encourages students to value the strengths of others and work together to overcome challenges. Negotiating and compromising during design decisions helps students develop problem-solving and interpersonal skills, while respecting different perspectives teaches them that diverse ideas and experiences can lead to more successful outcomes. These skills prepare students for the workplace by developing their ability to communicate professionally, collaborate effectively, and contribute positively within a team environment.

Time Management
Developing time management skills through Design and Technology lessons helps students prepare for the demands of the workplace by teaching them how to organise, prioritise, and complete tasks effectively. By planning project timelines, setting priorities, and managing different stages of a project, students learn how to structure their workload and use their time efficiently. Meeting deadlines for design work, practical outcomes, and evaluations develops responsibility, accountability, and the ability to deliver work on time. Monitoring progress and adapting plans when challenges occur helps students become flexible problem-solvers who can respond to changing situations. Preparing resources, following manufacturing plans, and working efficiently encourages good organisation and resource management. These skills are essential in the workplace, where employees are expected to manage projects, meet deadlines, use resources effectively, and balance quality with time and cost considerations.

Creative thinking
Developing creative thinking skills through Design and Technology lessons prepares students for the workplace by encouraging them to become innovative, adaptable, and effective problem-solvers. By investigating design problems, generating ideas, and exploring different solutions, students learn how to approach challenges logically while thinking creatively. Experimenting with materials, processes, and technologies helps them develop confidence in trying new approaches and learning from mistakes. The iterative design process teaches students to test, evaluate, and improve their ideas based on feedback, reflecting the way professionals develop and refine products in industry. Applying knowledge from different subjects and considering the needs of users helps students create practical solutions that are purposeful and effective. Using digital design tools such as CAD also develops valuable skills in modern technologies. These creative thinking skills are essential in the workplace, where employees need to innovate, adapt to change, solve problems, and develop solutions that meet the needs of customers and organisations.

Problem-solving
Developing problem-solving skills through Design and Technology lessons prepares students for the workplace by teaching them how to analyse challenges, make informed decisions, and develop effective solutions. By researching user needs, interpreting design briefs, and identifying requirements and constraints, students learn how to understand problems before attempting to solve them. Generating, testing, and refining ideas helps students develop a methodical approach to decision-making, while overcoming practical challenges builds resilience and adaptability. Applying technical knowledge of materials, processes, and technologies enables students to create realistic and functional solutions. These skills are highly valuable in the workplace, where employees are expected to evaluate problems, manage constraints such as time, cost, and resources, and develop innovative solutions that meet the needs of clients, customers, and organisations.

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Development of Subject Specific Skills which are Relevant to Next Steps / the Workplace

Networking
Developing communication and industry engagement skills through Design and Technology lessons helps students prepare for the workplace by building confidence, professionalism, and the ability to interact effectively with others. Taking part in design competitions, presentations, and employer-led projects gives students experience in showcasing their ideas, explaining their decisions, and responding positively to questions and feedback. Engaging with industry professionals helps students understand workplace expectations, explore career opportunities, and develop an awareness of how design and innovation are applied in real-world settings. By seeking and acting on feedback from a range of audiences, students learn the value of collaboration, continuous improvement, and maintaining positive professional relationships. These experiences help students develop the confidence and communication skills needed to succeed in future education, training, and employment.

Extra-curricular Opportunities

Tech club	Helps to fill in gaps in learning, develop resilience and curiosity.
Ef00d society	Provides further development to carry out specific techniques and basic skills.
Gastronomy Society	Provides mentoring opportunities to teach high level skills to lower pupils.
Robotics Club	Prepares students for technological advances worldwide, opening opportunities for automation and computer coding as a career path. It also gives students the chance to socialise with like-minded people who share the same interests.
Arkwright Scholarship	Students learn to stick to strict deadlines and criteria fulfilments. Interview techniques are taught in preparation for their main interview where they will present their aspirations to become an engineer.
Gold Crest Award	Gives students the opportunity to work together as a team to create a product that displays high levels of motor, coding, design and manufacturing skills. It also develops communication, problem solving and leadership skills.
Enrichment Activity (Food Technology)	Enables students to enjoy an activity that helps with their wellbeing and encourages work life balance. It also provides an opportunity for positive social interaction over a shared interest: cooking.