


PADGATE ACADEMY

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Design & Technology





Design & Technology at Padgate Academy

Vision

The Design & Technology (D&T) department is fundamentally centred on student engagement and a passion for creative problem-solving and innovation. It creates a vibrant, inclusive environment where students are encouraged to express their ideas visually and practically, explore design challenges confidently, and immerse themselves in the iterative process of developing real-world solutions. By fostering curiosity and creativity, the department supports students in developing not only technical abilities, but also their confidence, resilience, and critical thinking skills.

Curriculum Intent

At the core of the Design & Technology curriculum is the development of practical design and making skills, underpinned by a strong understanding of the theoretical principles behind successful products and systems. Students are introduced to key design methodologies, materials theory, and influential designers, enabling them to apply a range of strategies, tools, and design approaches in their own work. This foundation strengthens their design thinking and deepens their appreciation of technology's role in society and industry.

Students engage in a wide variety of projects to ensure a broad and balanced experience. Iterative design work allows them to analyse user needs, generate creative concepts, and develop prototypes. Focused practical tasks enable them to refine skills in areas such as CAD, hand tools, and digital manufacturing. Evaluative tasks and testing promote critical thinking and help students understand how products can be improved for function, form, and sustainability.

Success criteria are clearly defined and play a vital role in helping students understand what excellence looks like. They provide a roadmap for learning, allowing students to measure progress, identify areas for development, and celebrate their achievements. Through consistent use of success criteria, students develop ownership over their learning and are better equipped to succeed in both design portfolios and practical project work.

Implementation

Our Design & Technology curriculum is carefully structured to ensure clear progression and depth across all Key Stages. Students experience a range of activities including user research, idea generation, prototyping, testing, and evaluation.



Key elements of implementation include:

- Sequenced curriculum plans that build on prior knowledge, enabling deeper technical understanding and design application.
- A strong focus on inclusive pedagogy, ensuring all students are supported and challenged through differentiated tasks and feedback.
- Emphasis on student voice, creativity, and independence through collaborative projects and real-world design contexts.
- A thriving extracurricular programme including STEM challenges, maker clubs, and national competitions to promote talent development.

Impact

The D&T curriculum has a lasting impact on students' personal development and future readiness. It enhances problem-solving, creativity, and practical reasoning by encouraging students to develop innovative solutions that respond to real user needs.

Design & Technology promotes confidence as students work both independently and in teams to create tangible outcomes. It supports the development of resilience and adaptability as students learn to manage time, refine their designs, and overcome challenges during the making process.

Students also gain an understanding of sustainability, ethics, and technological change, enabling them to make informed choices and contribute to a more responsible future. Ultimately, D&T nurtures capable, thoughtful individuals by blending technical skill with human-centred design thinking.

Character Development through Design & Technology

Design & Technology plays a powerful role in character development by fostering creativity, critical thinking, and resilience. Through the design process, students learn to approach problems systematically, test their ideas through iteration, and accept and act on feedback constructively. Working collaboratively on design briefs teaches communication, negotiation, and leadership. Prototyping and working with materials develop patience, precision, and perseverance. These experiences not only build technical skill but also shape students into adaptable, self-aware individuals who value innovation and teamwork.



Enrichment & Cultural Capital

At Padgate Academy, we offer a vibrant selection of extracurricular opportunities that extend students' experiences beyond the classroom. Our Design club allows students to explore advanced design challenges and enter national competitions. Students also take part in themed design projects tied to global issues like sustainability, inclusive design, and smart technology.

In addition, our access to 3D printing, laser cutting, and digital CAD tools ensures that students can explore modern making technologies and develop industry-relevant skills, helping to build a culture of aspiration, independence, and design excellence.

Careers and Next Steps

We ensure students are fully informed of the range of opportunities available after studying Design & Technology. This includes visits to colleges such as Priestley and Cronton, as well as technical taster days.

Students are introduced to different career pathways within D&T, including product design, interior design, fashion, civil engineering, CAD drafting, and user experience design. Through curriculum links and exposure to professional environments, students develop a strong sense of the transferable skills and future potential of the subject. Even for students who do not pursue a design-related career, the subject equips them with essential life skills such as time management, critical thinking, project planning, and teamwork — all highly valued in sectors ranging from business and healthcare to media and education.