

Developing independent problem solvers

In Design and Technology at Key Stage 3 and Engineering at Key Stage 4, students independently produce bespoke products in response to a given design brief. In Cooking and Nutrition at Key Stage 3 and Hospitality and Catering at Key Stage 4, students develop expertise to respond to challenges in food preparation and create nutritionally balanced menus. As a department, we have a commitment to sustainability; the polymers we use in the department are predominantly recycled and repurposed in-house with our granulator. KS3 DT projects have a thread of sustainability throughout from frisbees in Year 7 to sustainable architecture in Year 9. Sustainable food choices are encouraged in C&N/H&C, with our garden providing some of our vegetables and our food waste providing compost in a cyclical pattern.

Designing, making, and evaluating are key components of the Technology curriculum.

- **Designing:** researching, planning, generating ideas, communication, modelling, and presenting.
- **Making:** using specialist equipment, selecting materials/ingredients.
- **Evaluating:** testing, analysing, consulting, assessing impacts.

Through these aspects, students develop their technical knowledge and skills, understanding properties of materials, production systems, programmes, and manual skills.

Curriculum Principles

Schemes of learning and lessons are sequenced to support students' progression in these areas throughout study, which has been constructed based on the following principles:

Entitlement: All students learn the knowledge and develop the skills in the SCA Technology curriculum. This supports all students to progress and develop their expertise in the different Technology disciplines. The technology curriculum provides students with the skills and knowledge to confidently develop and produce products in a variety of materials, from traditional resistant materials to modern 3D printed products. In Cooking and Nutrition, the students will develop a love of cooking through focused practical lessons producing products with a local and international focus.

Coherence: The SCA Technology curriculum is a progression model and is carefully sequenced in-line with the National Curriculum so that powerful knowledge and an expertise in skills is built over time. Schemes of learning ensure that knowledge, skills, assessment and a consideration of misconceptions are addressed strategically. The fundamentals of the National Curriculum of design, make, evaluate and technical knowledge will embed the skills and knowledge needed to design and make a variety of products, building on previous learning to develop products of increasing complexity as they progress through the key stages. A similar module is followed in Cooking and Nutrition, where the students will develop their practical preparation and making skills to produce food products that will build on previous learning and develop knowledge of various nutrients and ingredients whilst making dishes of increasing complexity.

Mastery: We ensure that knowledge and skills are secure before moving on. Through interleaving and spaced repetition, students revisit prior learning to embed it into their long-term memory and apply their knowledge and skills to new situations. Technical knowledge and making skills develop and improve through each key stage, providing the knowledge and skills to independently produce products using a variety of different materials and media, or combine ingredients to develop and adapt their own recipes.

Adaptability: The core knowledge and skills of the curriculum are consistent across the curriculum. Teachers ensure that all students can access these effectively by removing barriers to the curriculum for classes and individual students. The variety and specificity of these adaptations range from provision for SEND students to appropriate challenge for all.

Representation: Technology is universal, and the curriculum has been designed to ensure that all students see themselves in it. The selection of topics, resources, examples, and project briefs recognises context and takes all students beyond their immediate experience. The skills developed within technology at SCA provide transferable skills for our students for life in Salford and beyond. Computer Aided Design is a focus of designing from Year 7, students will develop from school-based 2D programs to industry-standard 3D modelling software, used by product designers and engineers worldwide. In Cooking and Nutrition, they will understand the source, seasonality, and characteristics of a broad range of ingredients with a focus on the local environment, providing the knowledge and skills that enables pupils to feed themselves and others affordably and well, now and in later life.

Education with Character: Our curriculum is intended to spark curiosity and enjoyment. Spiritual, moral, social and cultural development are intertwined with subject specific knowledge and skills and the Technology extra-curricular provision provides opportunities for students to pursue their passions. We have successful extra-curricular clubs - Catering Club where students further develop their preparation and making skills, and the Pioneer program where students build and race a petrol Go Kart as part of the STEM on Track competition.