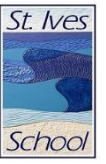




St Ives School – Design & Technology Curriculum Statement



“Design is not just what it looks like and feels like. Design is how it works.” Steve Jobs

Curriculum Intent

The St Ives School Curriculum ensures that all our students have the opportunity for academic and personal development across a broad range of subjects and experiences. It combines equality of opportunity to our core learning with opportunities for students to make individual choices regarding their learning experiences. Acquisition of knowledge and transferable skills are the cornerstones of our student's progress and we place a high value on building their understanding of community, place and social justice. Lessons and other learning experiences are sequenced to build on students' prior knowledge, and to ensure that students deepen their understanding of each subject, and the interconnection between subjects and their global context.

Our Curriculum is the foundation to achieving our Core Principles:

- Students leave St Ives with high value achievements and the life skills and resilience that provide a platform for future success and happiness.
- We are inspired to work together to research, design and implement highly effective and sustainable solutions to develop and maintain our thriving school community.
- Continuous improvement is achieved through a whole school culture of, and commitment to, creativity, engagement and professionalism.

What is unique about the study of Design & Technology?

Design & Technology is a subject that enables students to develop fundamentally important skills that allow them to express their creativity, demonstrate practical abilities and enhance their academic progress.

In D&T at St Ives School, students gain valuable insights into the work of designers and creative professionals by responding to realistic briefs. They complete projects using a variety of designing techniques and utilise resistant materials within the contexts of an investigative and iterative approach to designing.

Our curriculum covers, and goes beyond, the National Curriculum. We emphasise innovative thinking, creativity, collaboration, problem solving, and high-quality practical outcomes. This is reinforced by the theoretical aspects of the curriculum and ensure that the key concepts of the subject are understood as part of a 'hands-on' and enjoyable experience. Where applicable, the curriculum content is contextualised with links to the local community, local businesses and tradespeople to give real-life relatable examples of how D&T skills and knowledge are applied. As a truly cross-curricular subject, Design & Technology supports the sciences, mathematics, humanities and the arts as well as providing opportunities for enrichment activities where students can further develop crucial life skills and gain a deeper understanding of the natural and built environments around them.

Curriculum Implementation

General principles

- The Design and Technology Curriculum is sequenced based on core threads from the National Curriculum programme of study.
- The KS3 curriculum takes a blended approach to exposing pupils to new knowledge and allowing them to practice and further develop skills. Repeat knowledge and skills are taught through KS3, within different contexts and with increased complexity.
- An iterative approach to designing and making is followed wherever possible and students are encouraged to experiment with an increasingly diverse range of materials and processes to achieve high quality outcomes.
- Self-reflection and improvement forms an integral part of development across the key stages and students are encouraged to learn from their perceived 'failures' and aim to improve each time they revisit a topic, or work with a given material or process.
- Personal development and wellbeing sits at the heart of the D&T curriculum and students are given the opportunity to express themselves creatively, feel supported, safe and secure, and develop important social skills through team building and problem solving exercises. Students also develop personal attributes such as leadership, organisation, resilience, independence and communication skills.

Student organisation

- Students across all five year groups are taught in mixed ability classes. All classes receive the same curriculum but teaching and learning activities will vary as appropriate to suit each individual class with challenges added to lessons to stretch the students where required.
- KS3 Class groupings are reviewed frequently across the creative block of timetabled lessons (D&T, Art, Graphics, Food, Music & Drama) and any changes made are arrived at collaboratively with subject and pastoral experts to ensure students are placed correctly.

Accumulation of knowledge

- Repeat concepts of *Investigation, User Centred Design, Design Development, Technical Knowledge & Skills and Testing & Evaluation* have been identified and are used to link the components of the National Curriculum strands together and to provide a framework for ongoing assessment and feedback.
- Repeat concepts also cover all aspects of the traditional 'designing and making process' and students encounter them multiple times throughout each key stage providing opportunity for each concept to be developed and built on as student skills, knowledge and competence grows. This contributes to the aim of preparing students for further study of a Design-based subject at post 16.
- Within each year, topics are carefully sequenced to allow for transfer of learning between Design and Technology ideas and principles. The ordering of topics also allows for prerequisite knowledge to be obtained that is more 'teacher-led' to begin, before encountering novel concepts that require more autonomy later on in the key stages.

Time allocation

Each year group will have the following allocation for hours where that are taught the Design and technology Curriculum across a two-week cycle:

Year Group	Year 7	Year 8	Year 9	Year 10	Year 11
Hours allocated	75 mins	75 mins	75 mins	5 hrs	5hrs
Percentage of curriculum time	2.5%	2.5%	2.5%	10%	10%

Teaching and learning provision

- Lessons start with a 3 question retrieval practice in the form of; *last lesson, last month, last year* - a spaced retrieval based activity.
- Learning objectives are shared at the start and revisited throughout the lesson as appropriate.
- Literacy displays and resources are developed for students to use independently as required and referred to frequently in teaching episodes.
- Practical demonstrations are used with high frequency to introduce skills and model correct techniques for using new equipment, as well as to provide important health and safety training. Demonstrations are also used as a vehicle to provide whole class feedback to address misconceptions as and when they arise. Question and answer sessions are often used as part of these demonstrations to check understanding before students attempt the tasks.

- Lessons include a strong emphasis on reviewing outcomes and performance whilst setting next steps. This enables students to become reflective practitioners who are able to evaluate their design performance and have a better understanding of the metacognitive process they go through when solving problems in D&T.
- Feedback is provided to students 'live' throughout the lessons via one to one support, (especially when using machinery) to ensure students make rapid progress through activities, and develop the necessary confidence to work with increasing autonomy over time.

Adapted provision

- SEND and LPA students benefit from increased levels of one to one support from subject teachers and technicians to ensure they make good progress in line with their peers.
- A variety of alternative materials, tools and equipment are available to support SEND and LPA students (if needed) to give them different ways of producing successful outcomes.
For example - a hand tool could be used in place of machinery if the student is sensitive to noise, thinner materials that are easier to cut could be used if the student has a physical disability.
- Writing frames, including templates and sentence starters are used to help SEND and LPA students when completing extended NEA's (coursework) or analysing or evaluating in lessons.

Enrichment provision

- The majority of D&T project work involves an element of students customising outcomes to their own themes and concepts, thereby allowing students to make links to areas of personal interest and hobbies away from school. This enables students to explore new pathways and in many cases to attempt more complex or demanding work to achieve their goals.
- Students are given the opportunity to use a wider range of materials and machinery as their experience levels grow. Schemes of learning are adapted to facilitate this and higher end equipment (such as CAD/CAM) can be utilised to meet student needs whenever needed, and not just at set points in the key stage. Technician support can be deployed to work with individual students to meet more bespoke student requests to enhance outcomes.
- Where possible, workshop access is provided is social time and after school for students who wish to further develop their skills and experience.
- The Be Inspired programme always has a D&T or STEM activity available for students who wish to further their knowledge in these areas.

Curriculum impact

Formative assessment

- Formative assessment is used to monitor student learning style and ability (metacognition) and to provide on-going feedback for student development.
- Planning and teaching methods are adapted to aid students to improve their learning rapidly.
- Formative assessment strategies include:
 - Whole Class Feedback – used with discretion at key points in the year as appropriate.
 - 'Live Feedback' ongoing each lesson, supporting students on a one-to-one and/or small group basis.
 - Ongoing completion of the 'Assessment Progression Matrix' document.

Progress

- Progress is monitored through the 'Assessment Progression Matrix' document which has been customised to match the repeat concepts.
- The quality of teaching and learning is monitored through lesson visits by the faculty lead and by senior leaders.
- Visits are recorded using Sisra Observe, where follow up action points are actioned as necessary.
- In link meetings between the faculty lead and senior leaders, teaching and learning is a standard agenda item and where any necessary action is discussed and agreed.
- Work scrutiny is also completed and recorded on Sisra Observe by the faculty lead and senior leaders. HOF work scrutiny has a strong focus on tier 2/3 vocabulary being used and student productivity.
- Assessments are moderated and standardisation takes place for the marking of GCSE NEA portfolios to ensure consistency and understanding in applying the mark scheme.
- Peer book reviews are also completed in faculty meetings as a form of moderation and to ensure all faculty staff are consistent in their approaches and monitoring progress across the Creative Technology suite of subjects.

Summative Assessment

- Students are given feedback on their progress from the Assessment Progression Matrix document at least twice a year in KS3.
- In KS4 exam-style questions are used to give students an opportunity to evaluate their own strengths and developments.
- During the summer term of Yr 10, and autumn and spring terms of Yr11, GCSE past papers are used and students are given a 9 – 1 grade alongside their score/percentage using grade boundaries for that exam series.

Student Feedback

- Student voice activities are completed as distinct exercises set online using platforms such as Satchel One and Google classroom, and meetings away from the classroom in school with targeted groups and cohorts. Elements of student voice are also incorporated into learning walks and lesson observations. The findings are used to monitor student's understanding and as part of a collaborative approach to curriculum implementation and improving impact by feeding into subsequent faculty improvement plans and team meetings.
- Students have the opportunity to communicate with teachers during the school day and by using Show My Homework and Google Classroom.