



## Design and Technology Curriculum Overview

### Department Vision

Preparing students to participate independently, confidently and successfully in an increasingly creative and technological world. Providing opportunities to research, analyse, create and evaluate; expressed through a creative journey.

This will be achieved through:

- Providing high quality teaching and learning which challenges preconceptions of traditional elements of design.
- Assessment, reflection and improvement opportunities built-in to a varied and inspiring curriculum.
- Chances to study and explore creative and core technical designing/making principals. Encouraging students to develop creative responses to "real world" scenarios through Research, Analysis, Creation and Evaluation; Including investigating a broad range of processes, material techniques and equipment.
- Providing learners with the expertise and life skills needed to prepare them for their next stage in education and life. This will be done through innovative curriculum and extra-curricular activities that will broaden the enrichment opportunities.
- Building students confidence in communicating their own ideas in a range of formats. Including oracy, numeracy, literacy skills and developing the use of appropriate technical language.

### Design and Technology Curriculum Offer @ SNA

Year 7 – Technology – one period per week – all students

Year 8 – Technology – one period per week – all students

In addition, we offer the following optional courses:

Key Stage 4 – Years 9-11

GCSE Design and Technology

	Half Term 1	Half Term 2	Half Term 3	Half Term 4	Half Term 5	Half Term 6
<b>Year 7</b>	<b>Rotation 1: Sweet dispenser project</b> <b>Rotation 2: Textiles monster phone case/Food</b>					
<b>Year 8</b>	<b>Rotation 1: Design style inspired CAD/CAM Clock</b> <b>Rotation 2: Textiles sensory book/Food</b>					
<b>Year 9</b>	<b>Block head Project</b> <b><i>Theory (New technologies)</i></b>		<b>USB Lamp project (including CAD/CAM)</b> <b><i>Theory (Energy, Materials, systems and devices)</i></b>			



<b>Year 10</b>	<b>Iterative design challenges Theory (Polymers) (Materials and their working properties)</b>	<b>Iterative design challenges Theory (Common specialist technical principles) Theory (Designing principles)</b>	<b>Begin GCSE NEA coursework Theory (Making Principles)</b>
<b>Year 11</b>		<b>NEA coursework project (Easter deadline) Theory (Revision of all topics)</b>	<b>Exam technique and Theory</b>

### Assessment Approach

Within our curriculum, we look at a variety of methods to assess our students. Below is the assessment plan which gives an overview of our assessment approaches with each year group.

<b>Assessment Approach</b>	<b>Description</b>	<b>Year 7</b>	<b>Year 8</b>	<b>Year 9</b>	<b>Year 10</b>	<b>Year 11</b>
Low Stakes Quizzing	Short answer questions from current or previous topics which is peer marked					
Practical Skills Assessment	Individual practical skills and final products are assessed based on the assessment criteria for each year.					
Lesson Review	Reflection on graded lesson outcomes (based on objective slide)					
Teacher, Peer and Self assessment of Research, Designing and Evaluation	Designing, Research and Evaluation work is graded by either the teacher, student or a peer using the assessment criteria, feedback is given to allow students to improve their work.					
Past Paper Question Booklet and Exams	In house built test papers using GCSE past exam questions (using PG ONLINE or equivalent). Style and level of demand of the questions to mirror a real exam paper. Students reflect and improve incorrect questions.					
6, 8, 12 Mark exam style questions	Past GCSE 6, 8, 12 mark questions. Structure and support is provided in year 9 and gradually removed over the GCSE course as students become more accomplished in this style question. Students reflect and improve upon their answer.					
Non-Examined Assessment	Mini NEA style projects are built in throughout y9 and 10 to prepare students to complete the final GCSE exam board set NEA in y11.					

### Cross Curricular links

Within our Design and Technology curriculum, we offer a variety of opportunities for cross curricular links, that benefits students at all levels. Our cross curricular links are as follows;

- Literacy - Students write extended answers around different topics within the 5 year. These are often linked to environmental, ethical and cultural issues with emphasis on quality of written communication.
- Numeracy – Students use their numeracy skills to convert different measurements. Pupils need to use basic arithmetic skills including working to scale, converting scale and calculations to work out volume, area and circumference ect.
- SMSC – Students will be exposed to a variety of the best male and female designers and architects in the world through the theory work on designing principles, and through using the work of others to inspire their own designs. The “300 minute” project is designed to get the students to collaborate to solve a real world problem in Nepal – this give students an insight into the life of others and gives them opportunities to develop leadership skills in a small group practical task. The curriculum within design and technology is focused on problem solving and gives students opportunities throughout to



explore creative solutions to problems faced by others. This encourages the students to research the context of the problem and be empathetic towards the needs of others. Students will look at the best products on the market and compare them to "lesser" products to analyse them fully.

Throughout every project there is a focus on sustainability and the impact that poor design can have on the environment. Students will need to consider the environmental impact of all material and design choices including the Social, Moral and ethical impact. They should be aware of these factors and make decisions based upon research that they independently undertake. This will include: Energy sources, finite v's renewable materials, sources of materials, impact of manufacture (including waste), impacts of packaging, carbon footprints of products, durability, planned obsolescence, the 6R's of sustainability, product life cycles and disposal of products. They will look at the social, moral and ethical impact of new technologies within designing and manufacture and how the development of new bio plastics and modern materials can positively impact the environment and people's lives.

### Preparing for Life

At SNA, our Design and Technology curriculum supports and further develops the following skills within students to prepare them for life beyond school and the world of work. These include:

- Problem Solving – Students are able to see a problem or scenario and use a variety of creative designing and practical skills to suggest and develop solutions. Students will be expected to overcome a variety of challenges and problems that may occur when tackling a client lead design brief.
- Creativity – Chances to study and explore creative and core technical designing/making principals. Encouraging students to develop creative responses to "real world" scenarios through Research, Analysis, Creation and Evaluation; Including investigating a broad range of processes, material techniques and equipment.
- Listening/Speaking – Within lessons, students use their listening skills to decipher issues and problems which they come across. An important concept within our lessons is also listening to each other when pupils are expressing their points/findings.
- Team work – Collaboration is key within design and Technology and is something that is frequently used within lessons from using peer feedback to develop a design idea to paired research activities. These group tasks allow students to effectively build their communication skills as well as discover their main strengths and weaknesses when working in a group.
- Staying positive – Within our curriculum, we place an emphasis on being positive and resilient as designing and manufacture can through up numerous errors/issues, which can take a lot of time to find a solution. Attention to detail is an important skill we teach students and being patient when doing this makes them even more successful.

### Extra-Curricular

At KS4, we offer extra intervention sessions for students who want extra support or want to learn beyond the curriculum. The aim of this is to support the students to achieve highly in their GCSE exam and NEA coursework.



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