

Springwood High School Design and Technology Curriculum Plan

Our Vision:

To improve young people's practical skills and subject knowledge in Design, Textiles (fabric) R.M (wood, polymers, metals) and Graphics (paper and card). New and emerging technologies, Sustainability issues and many more D&T topics.

Design and Technology Programme of study key stage three national curriculums in England: [National curriculum in England: design and technology programmes of study - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/publications/national-curriculum-in-england/design-and-technology-programmes-of-study).

Exam boards: KS4 – AQA GCSE 3D Design (Design & Technology):

<https://www.aqa.org.uk/subjects/art-and-design/gcse/art-and-design-8205/specification>

Brief overview of topics, themes, skills or key questions for each term:

Key Stage 3

Why are we teaching a knowledge-rich curriculum; how is it different?

At Springwood High School Design and Technology is a practical and valuable subject giving pupils the opportunity to learn how to design and make new and exciting products exploring and learning about materials and their working properties. We believe learning to design and develop practical skills through our knowledge enriched curriculum is an important life skill preparing pupils to be able to be resourceful now and later in life by being able to use their practical skills in real life context; potential designer, consider design problems, testing, experimenting and making prototypes, career in industry or being resourceful and using their practical repair skills in the home. We also believe it is vitally important to combine these practical skills with detailed knowledge which enables the pupils to be considerate when selecting materials considering sustainable issues and the impact on the planet being not just as a designer but also as a consumer. Being creative, communicating their own ideas fluently and influenced by real life context challenges and the work of other artists/designers both Internationally and British as a starting point encourages pupils to embrace cultures and the work of others' developing analytical skills when using existing products as a starting point for problem solving. By providing pupils with traditional and innovative skills, techniques and processes in many exciting practical projects encourages independent skills, team work, taking risks and problem solving.

Why are we teaching this content, in this order?

Design and Technology is taught in a carefully sequenced manner, ensuring that pupils build expert practical and design skills alongside developing a detailed understanding of the wide range of materials considering sustainable issues alongside every practical project. In Year 7, 8 and 9 our lessons are planned around activities linked to the Six R's, sustainability, fast fashion and recycling – Year 8's will be off timetable for Super Learning Day promoting the importance of reducing the social footprint of materials used and the impact this has on the planet. Introducing the sustainable issues in lessons prepares all pupils for the

day of being innovative designers, encouraging team work, problem solving and embracing the important message of using sustainable materials when being a designer in this fast-paced world of mass production/manufacturing.

How does our curriculum match the ambition of the National Curriculum?

In 2019 we introduced a redesigned knowledge-rich Design and Technology curriculum enabling all KS3 pupils to study D&T once a fortnight throughout the academic year. As set out in the National Curriculum, our KS3 curriculum balances practical skills in a range of materials and specialist techniques and processes, and the theory behind making good sustainable choices, to develop design or creative projects. Pupils will learn and understand where materials are sourced from and how to use them when designing new and innovative products for real life situations. They will problem solve, test and evaluate all work, refining their own ideas and making improvements.

How does the curriculum build on that from Key Stage 2?

Pupils will build upon their knowledge from KS2, increasing their variety of tools, techniques and materials that can be used to solve design problems. They will continue to improve their technical drawing skills, design sketched and begin to make high quality prototypes, ensuring their ideas are fit for purpose. Pupils will access and extend their understanding of new and emerging technologies through computer aided design and laser cutter.

By the end of Key Stage 3, what key knowledge should pupils need to remember and be able to apply in this subject?

Pupils will be aware of the various materials and tools, and how to safely use them, required to work in a variety of media. They will be able to complete a range of projects, from conception and design to the final product. Pupils will be able to problem solve real-life scenarios and formulate a design solution for a new and exciting product to make the users/client life easier to live with.

Throughout KS3 we have firmly embedded retrieval practice, using it as a springboard to embed and extend knowledge and understanding. We have knowledge organisers breaking down the D&T wide range of topics with dual coding of imagery to represent the key words and terminology making the content engaging, fun and educational. End of project evaluation sheets to help students to identify improvements and adaptations for practical work. The Department adheres to the model of presenting pupils with small amounts of new material and then assisting students as they practice this material (for example, leading on 'spot demonstrations' during a practical to reinforce the correct techniques) to avoid cognitive overload. Pupils take part in ongoing formative assessments (low stakes quizzing and verbal questioning) and summative assessments (end of topic tests) in line with the school policy.

Springwood High School Design and Technology Curriculum Plan

Year	Autumn One	Autumn Two	Spring One	Spring Two	Summer One	Summer Two
7	<p>Introduction to Health & Safety in the D&T workshop!</p> <p>Make: Introduction to Workshop: tools and machinery. Reiterating Health & Safety. Marking out, measuring, cutting and shaping timbers samples. Develop confidence, routines, skill, techniques and processes.</p> <p>Design & Theory: Tools & machinery dual coding mind map/poster creative task.</p>	<p>Theory: Timbers - Learn about hard/softwoods and particle boards, characteristics and their working functions.</p> <p>Design & Theory: Timber Retrieval task dual coding mind map/poster creative task.</p>	<p>Timber Make: Respond to the design brief to ‘promote love of reading’ Bookends. Develop carpentry skills using a range of specialist tools and machinery – learning how to shape and construct timber joints using pine and manufactured boards. A range of carpentry joints: Comb, mitre, dowel joints.</p> <p>Theory & Practical: Reinforce subject knowledge through practical tasks.</p>	<p>Artist Research: Willaim Morris art movement inspiration for design ideas for Bookends.</p> <p>Design: Inspired by art research. Target market/brief key words introduced. Design a range of creative Bookends with annotations. Link to Art.</p>	<p>Make: Workshop, carpentry skills using a range of specialist tools and machinery – learning how to shape and construct decorative manufactured boards inspired by secondary art research. Respond to the design brief to ‘promote love of reading’: Bookends.</p> <p>Surface Finishes: Learn about timber finishes and how they protect and provide an aesthetically overall appearance to the finish of the final timber product.</p>	<p>Theory: Introduction to Sustainability Issues: Six R’s Extended Reading and Writing Activity: about a local Environmental hero ‘Trash Girl’. Learn how to design fonts, illustrations and write a newspaper article.</p> <p>Technical Drawing: Develop drawing skills: Isometrics, Orthographic projections. Perspective drawing. Link to Maths.</p> <p>Theory: Smart Materials.</p> <p>Assessments: Timbers & H&S. Evaluations: Strengths and areas to develop.</p>

Year	Autumn One	Autumn Two	Spring One	Spring Two	Summer One	Summer Two
8	<p>Health & Safety in the D&T workshop (prior knowledge of workshop tools & machinery) & Introduction to textiles tools and equipment.</p> <p>Theory: Learn about natural and synthetic fibres, characteristics and their working functions.</p> <p>Design & Theory: Textile fabrics retrieval task - dual coding mind map/poster creative task</p>	<p>Textiles Make: Develop hand embroidery/appliques & embellishment skills - create textiles samples.</p> <p>Embroidery hoops: Cotton fabric sample: Anchor Running Backstitch.</p> <p>Theory & Practical: Reinforce subject knowledge through practical tasks.</p>	<p>Artist Research: Textile retro artist: Orla Kiely inspiration for embroidery sample.</p> <p>Make: Dying fabrics & applique activity: Fabric Paints/Dyes/Pens – inspired by textile artist.</p>	<p>Design: Respond to the design brief to ‘promote love of reading’ - Inspired by art research. Target market/brief key words introduced. Design a range of creative Bookmarks with annotations. Link to Art</p>	<p>Make: Felt bookmark practical activity: Plan paper template. Felt, stitches, applique/buttons. Learn how to deconstruct a product and create and draft paper patterns. Final make: bookmark applying textiles skills and techniques.</p> <p>Respond to the design brief to ‘promote love of reading’ Felt bookmarks.</p>	<p>Theory: Introduction to Sustainability Issues: Fast Fashion: Extended Reading and Writing Activity: Read the news article and watch the video. Story about reducing recycling, donating clothes and the life cycle journey in the UK and abroad. Learn how to design fonts, illustrations and write a newspaper article.</p> <p>Design & Theory: Learn how fabrics are made: Weaving & felt making practical.</p> <p>Assessments: Textiles. Evaluations: Strengths and areas to develop.</p>

Year	Autumn One	Autumn Two	Spring One	Spring Two	Summer One	Summer Two
9	<p>Health & Safety in the D&T workshop!</p> <p>D&T Theory Topics: Motion and Forces. Linkages and Levers.</p> <p>Make: Experiment with card modelling. Reinforce practical and retrieval practice.</p>	<p>Make: Developing and using a range of specialist textiles and timber techniques, skills and processes.</p> <p>Templates, manufacturing boards workshop tools and routine – geometric shapes inspired by Yinka Ilori (introduction to artist).</p> <p>Artist Research: Yinka Ilori inspiration for accessories mixed media project.</p>	<p>Mixed Media Project: Developing samples and experimentations with metals, acrylic, MDF, fabrics etc.</p> <p>Using a range of specialist tools and machinery: developing skills techniques and processes.</p> <p>Focus practical tasks: developing skills. Learn about materials and their working properties and functions.</p>	<p>Design: a range of accessories inspired by artist research.</p> <p>Make: Modelmaking, prototyping: iteration process using card to test scale, size, ergonomics and anthropometrics.</p> <p>Theory & Practical: Reinforce subject knowledge through practical tasks.</p>	<p>Computer Aided Design (CAD): Introduction to CAD 2D Design.</p> <p>Theory: Technical Textiles, learn about Kevlar, Gore-Tex etc. performance textiles characteristics and their working functions.</p> <p>Make: Batik surface finishes for accessories. Sewing machine practical.</p>	<p>Computer Aided Design (CAD): Introduction to CAD 2D Design.</p> <p>Make: Batik surface finishes for accessories. Sewing machine practical.</p> <p>Manufacturing plans: Step-by-step processes.</p> <p>Assessments: Textiles. Evaluations: Strengths and areas to develop.</p>

Springwood High School Design and Technology Curriculum Plan

Year	Autumn One	Autumn Two	Spring One	Spring Two	Summer One	Summer Two
10 GCSE AQA 3D Design Exam Board	<p>Introduction to Health & Safety in the D&T workshop! Specialist machinery focus.</p> <p>Graphics Skills: Freehand sketching. Tonal shading & mark making. 3D & 2D Shapes.</p> <p>Technical Drawing Skills: Isometric, orthographic, exploded drawings, perspective drawing. Packaging design.</p> <p>Make: Mixed Media Project: Developing samples and experimentations with metals, acrylic, MDF, fabrics etc. Using a range of specialist tools and machinery.</p>	<p>Make: Skills Box Project: A range of carpentry joints using timbers (recycled materials). H&S rules in the workshop implemented with every project.</p> <p>Computer Aided Design Skills: 2D Design CAD samples. Prototype card, plywood, and acrylic.</p> <p>Computer Aided Manufacturing (CAM): Learn how to use the Laser cutter. Samples and experimentations with models/prototypes.</p> <p>Art Movements: Learn about British and international artists and designers. Introduction secondary and primary research skills: to Mood boards and mind maps.</p>	<p>Design: Iterative design - develop fonts & typography design.</p> <p>Make: Architecture: T.V & film set design. Inspired by local shop fronts, model making</p> <p>Graphics Project: Learn about paper & boards: characteristics and their functions. Finishes for graphics. How paper is made.</p> <p>Make: develop costume design and practical skills using pattern drafting techniques, sewing machines, fashion construction skills.</p>	<p>60% sketchbook coursework AQA 3D Design: 'Biomimicry' GCSE COURSEWORK PROJECT component 1:</p> <p>Secondary Research: Research of designers/artists and mood boards.</p> <p>Mind maps exploring theme.</p>	<p>Secondary Research: Designer Research 2: Find a designer of their choice that links to their work. Analyse the work of the artist. This is then presented creatively across a double page with full page copy of the work.</p> <p>Primary Research: Observational drawings.</p>	<p>Designs: Initial design ideas inspired by research: of suitable products -lamps, furniture, jewellery, buildings, set design, props, book design, costume design, body adornment.</p>

Springwood High School Design and Technology Curriculum Plan

Year	Autumn One	Autumn Two	Spring One	Spring Two	Summer One	Summer Two
11 GCSE AQA 3D Design Exam Board	<p>Make: Samples in a range of materials inspired by research. Experimenting with ideas and materials: Students will explore their chosen designer and produce versions of their own work in their style with varying materials.</p> <p>Planning for the final outcome.</p> <p>Final make. Mock GCSE exam.</p> <p>Evaluations.</p>	<p>GCSE Externally set EXAM PROJECT component 2 introduced.</p> <p>Expectations for Exam project and deadlines.</p> <p>AQA GCSE 3D Design paper issued. All pupils choose 1 question to respond to independently. Investigate themes. Mood board exploring chosen themes.</p>	<p>Independently led project – work could include- Designer Reference 1/2/3: Pupils find a designer of their choice that links to the work they have produced and their chosen area of development. Pupils analyse the work of the designer. This is then presented creatively across a double page with a full-page copy of the work.</p>	<p>Independently led project - work could include- Experimenting with ideas and materials: Students will explore their chosen designer and produce versions of their own work in their style with varying materials. Experimenting with materials in response to the theme and designer references.</p> <p>Exam preparation and completing any 'preparatory work' Sitting Final GCSE EXAM.</p>	<p>AQA GCSE Moderator.</p> <p>Re-cap on areas in past. coursework. Complete areas and expand upon others.</p>	<p>Retrieval: Theory & Practical: Reinforce subject knowledge through design and practical tasks.</p>

Springwood High School Design and Technology Curriculum Plan

Enrichment Activities:

Super Learning Days: Year 8 Sustainable Awareness Day (learn about environmental issues, 6R'/fast fashion/renewable and non-renewable resources). Team work, creativity, solve a design problem, develop practical skills and presentation skills.

Competitions:

KS3 & KS4 Rotary Club D&T Competition (Venue KLA).

Fashion Show Design Competition: Open to all year groups.

Design & Technology - Design a Sign for the entrance of the Technology Block.

Trips: KS4 and D&T Trip – TBC. KS5 BTEC Fashion Trip: V&A London on SLD (TBC).

Open Evenings:

KS4 students can volunteer as ambassadors to promote D&T to Year 6's Open Evening.

KS5 BTEC Fashions can volunteer as subject ambassadors to promote 6th Form Open Evening.

Clubs & Support:

KS3: Fashion & Textiles Club with Miss Markwell in T4.

KS3: Design & Technology Club with Mr Sedgley in T2.

KS4 and KS5 Support: T4 is open every lunch-time for students who would like to work on their coursework. Support available by Miss Markwell.

Afterschool catch-up sessions every week.

Summer BTEC Fashion Show:

Year 12 and 13 BTEC Fashion students showcase their fashion collection in the end of year Summer Fashion Show! Models from all year groups can participate and model in the show. Date in the school calendar: July, 7pm in the PPH. Many volunteering opportunities with the event.

Social Media: Makewell with Miss Markwell YouTube channel, TikTok, Instagram account where you can see all her creative online adventures. School Twitter where the D&T department regularly showcase students' work.

Revision Guides:

AQA BBC Bitesize Design and Technology <https://www.bbc.co.uk/bitesize/examspecs/zby2bdm>

Makewell with Miss Markwell YouTube channel <https://www.youtube.com/c/MakewellwithMissMarkwell/videos>



Revision Guide: AQA GCSE Revision Design and Technology All-in-One Revision & Practice. ISBN 978-0-00-822740-1 Author Paul Anderson and David Hills-Taylor



ClearRevise AQA GCSE 8552 Illustrated revision and practice ISBN: 978-1-910523-24-7