

Design and Technology

Course Description	<p>Design and technology is an inspiring, rigorous and practical subject. Using creativity and imagination, pupils design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. They acquire a broad range of subject knowledge and draw on disciplines such as mathematics, science, engineering, computing and art. Pupils learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens. Through the evaluation of past and present design and technology, they develop a critical understanding of its impact on daily life and the wider world. High-quality design and technology education makes an essential contribution to the creativity, culture, wealth and well-being of the nation.</p>
---------------------------	--

Course Aims	<p>The national curriculum for design and technology aims to ensure that all pupils:</p> <ul style="list-style-type: none">• develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world• build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users• critique, evaluate and test their ideas and products and the work of others• understand and apply the principles of nutrition and learn how to cook. <p>By the end of key stage 3, pupils are expected to know, apply and understand the matters, skills and processes specified in the program of study.</p>
--------------------	--

<p>Course Content</p> <p>(Major Concepts and Areas Covered)</p>	<p>Throughout key stage 3, pupils are going to be introduced to the topics of Food Technology, Textiles Technology and Resistant Materials Technology. Each topic will span one school year and will have the following content:</p> <p>Year 7: Food Technology</p> <ul style="list-style-type: none">• Deciding what needs to be made• Sustainability• Design influences• Preparation• Evaluation• Healthy eating and nutrition• Ingredients• Making• Case studies <p>Year 8: Resistant Materials Technology</p> <ul style="list-style-type: none">• Deciding what needs to be made• Sustainability• Design influences• Presenting design ideas• Preparing for making• Evaluation• Materials and components• Making• Case studies <p>Year 9: Textiles Technology</p> <ul style="list-style-type: none">• Deciding what needs to be made• Sustainability• Design influences• Presenting design ideas• Preparing for making• Evaluation• Materials and components• Making• Case studies
--	--

Suggested Texts and Materials	<p>Textbook(s) / workbook(s) / worksheet(s):</p> <ul style="list-style-type: none">• Design and Technology Foundations – Food Technology KS3 by Pauline Parkman, Sue Forshaw, Gemma Alldritt, Paul Anderson and Kay Grey, Nelson Thornes Ltd 2011• Design and Technology Foundations – Textiles Technology KS3 by Julie Boyd, Geraldine George, Paul Anderson and Debbie Eason, Nelson Thornes Ltd 2011• Design and Technology Foundations –Resistant Materials Technology KS3 by Paul Anderson and Jeff Draisey, Oxford University Press 2014 <p>Stationary and supplementary materials:</p> <ul style="list-style-type: none">• computer workstations capable of running professional graphic and CAD programs• computer software: Photoshop, Illustrator, Sketchup• model building materials (cardboard, glue, cutter knife, cutting mat, steel ruler)• drawing materials (mechanical pencils 2H, H, B and 2B, pencil sharpener for mechanical pencils, eraser, tracing paper, A3 paper, graph paper, illustration markers e.g. Copics or Touch markers, technical drawing pens in different line weights)• kitchen equipped with cooking tools and stations, ingredients for specific meals, aprons for teacher and pupils• high quality colour printer capable of A4 and A3 printing• If possible: 3D Printer and printing material <p>Alternative sources/websites:</p> <ul style="list-style-type: none">• archdaily.com• dezeen.com• cgsociety.org• deviantart.com• fengzhudesign.com• https://www.youtube.com/user/bluefley00/videos• youtube.com
--------------------------------------	---

Delivery and Methodology	<p>Length of course: 3 years Number of hours taught per week: 2</p> <p>How to teach this subject? / What is the teacher supposed to do? (present/instruct/observe)</p> <p>The teacher presents the students with basic design principles, processes, materials, tools and examples of design work by successful designers. He instructs them in analyzing successful design work, researching for their own projects and in the use of tools and processes and supervises them in executing design tasks on their own.</p> <p>(Food Technology: same as above with food as the topic)</p> <p>What are the students supposed to do? (learn/practice/produce)</p> <p>The students are supposed to learn the key steps and processes to successfully design products on their own, as well as to analyze existing design work and to critically question the strong and weak points of a product/its design.</p> <p>They should practise the use of essential design tools (traditional and digital) and processes, and to present projects in a convincing manner using digital or physical presentation material.</p> <p>The students should produce digital and physical drawings of personal design projects, as well as physical models.</p> <p>(Food Technology: The students are supposed to learn the skills to design, plan and produce healthy meals. They should also learn about the impact of ingredients/their production on the body and the environment)</p> <p>Types of classroom activities (theoretical/practical)</p> <p>During class, students analyze existing design work presented by the teacher (all together or in teams), practise the use of essential software in the computer lab, draw technical/presentation drawings and plans of their design work.</p> <p>(Food Technology: Analyse meals and their ingredients, produce meals on their own, prepare and clean the cooking environment, create shopping lists)</p> <p>External activities (projects? assignments? homework? field trips?)</p>
---------------------------------	--

	Students are supposed to do research and analysis as homework assignments and work on their own design projects/models. Field trips to design offices/manufacturers are a possibility
--	---

<p>Assessment Objectives</p> <p>(Specifications and Standards)</p>	<p>AO1: Knowledge with understanding Recall, select and communicate knowledge and demonstrate understanding in design and technology including their wider effects.</p> <p>AO2: Skills and application Apply knowledge, understanding and skills in a variety of contexts and in designing and making products.</p> <p>AO3: Analysis and evaluation Analyse and evaluate products, including their design and production.</p>
---	--

<p>Scheme of Assessment</p> <p>(Evaluation of Student Performance)</p>	<p>Approximate weighting of assessment objectives for qualification:</p> <p>AO1: 30 % AO2: 50 % AO3: 20 %</p> <p>Weighting of formative and summative assessments (Y7-9):</p> <p>Formative (progressive) assessments: Before midterm: 20% After midterm: 20% Midterm Examination: 30% Final Examination: 30%</p>
---	--

Grading Policy and Additional Expectations (if any)	90-100%: A* 80-89%: A 75-79%: B+ 70-74%: B 65-69%: C+ 60-64%: C 55-59%: D+ 50-54%: D 0-49%: F
---	---