

Curriculum Overview – DT - Resistant Materials.

Design Technology is taught as a carousel in KS3. Across the 3 year groups there are units of Food, Electronics, Resistant materials, Robotics and Graphics design. (Graphic design runs in Year 8 and adds to the learning for DT - [Graphics KS3](#) The curriculum covers all aspects of the NC and schemes of work to ensure skills and knowledge are built upon throughout KS3 - https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/239089/SECONDARY_national_curriculum_-_Design_and_technology.pdf and [KS3 NC Audit](#)

In Resistant Materials, pupils are taught how to design and make products that solve real and relevant problems. They begin to develop understanding of products, material selection and their impact upon daily life and the wider world. They learn skills to help them succeed in everyday life and cope with the increasing complexity of technology encountered. They gain analytical skills to judge the products around them <http://filestore.aqa.org.uk/resources/design-and-technology/specifications/AQA-8552-SP-2017.PDF> and [DT KS4\D&TSOW Design and Technology 9 - 1.htm](#)

Theory

Practical

<p>Year 7</p>	<p>Health and Safety of the use of tools and machinery. Research relevant to a particular product. Material classifications (wood). Material properties. Analysing with regards to the product and user. Developing specifications. Creative designing in 2D and communicating ideas. Evaluating completed products RM KS3\D&TSOWYr7 Desk Tidy 2019.htm</p>	<p>Production of a prototype product involves the use of hand tools and machinery. Students mark out designs, use work holding equipment. Use hand saws for cutting and files for shaping. Use a pillar drill and drilling jig for drilling. Carefully finish their components with sandpaper and then decorate their parts. This is followed by final assembly of their components into a finished product.</p>
<p>Year 8</p>	<p>Health and Safety of the use of tools and substances. Market Pull and Technology Push. Designing for target markets. Research relevant to a particular product. Material classifications (plastic). Material properties. Analysing with regards to the product and user. Developing specifications. Concept designing in 2D to suit particular target markets. Planning for one-off production. Evaluating completed products RM KS3\D&TSOWYr8 Memo Holder 2019.htm</p>	<p>Modelling of possible outcomes and testing of models produced. Production of a prototype product involves the use of hand tools. Students mark out designs using their template. They use work holding equipment. Use hand saws for cutting and files for shaping. They carefully finish their components with sandpaper and then decorate their parts. Use of bought in components and adhesives for the final assembly of their components into a finished product.</p>
<p>Year 9</p>	<p>Health and Safety of the use of tools and machinery, additional hazards of metal. Material classifications (metal). Material properties in relation to metal and product produced. Reading a drawing. Evaluating completed products. Motion and Mechanisms used to change the type and direction of motion. 3D Computer Aided Design skills introduction RM KS3\D&TSOWYr9 Clothes Hook Make Only 2019.htm and RM KS3\D&TSOWYr9 Key Rings</p>	<p>Production of a set product from a drawing and sequence provided. Students mark out their material before shaping with the use of use work holding equipment and files. Use of a pillar drill and drilling jig for drilling, letter stamps for marking work. Products are formed with metalwork bending and folding equipment. Carefully finish their components with emery cloth.</p>
<p>Year 10</p>	<p>https://www.aqa.org.uk/subjects/design-and-technology/gcse/design-and-technology-8552/specification-at-a-glance</p> <p>Technical Drawing techniques.</p> <p>Materials and their properties.</p>	<p>3D CAD drawing and development techniques.</p> <p>NEA practice of design opportunities.</p> <p>NEA start - Identifying and investigating design possibilities Producing a design brief and specification</p>
<p>Year 11</p>	<p>Generating design ideas Realising design ideas</p> <p>Developing design ideas Analysing & evaluating</p>	<p>STP – Material Selection, Forces, Footprint, Sources and Origin Stock forms, types and sizes scales of production surface treatments and finishes</p> <p>Final exam revision and practice</p>