

CURRICULUM SUBJECT: TECHNOLOGY

SUBJECT CONTACT: S.Dibley

“Enjoy failure and learn from it. You can never learn from success.”– James Dyson

CURRICULUM INTENT

Why is it important that pupils at Vale of York study Technology?

Understanding and immersing themselves in Technology is important for students' future paths. In our lessons Students will gain a better understanding that Technology is all around us and that problem solving starts with research, design and make/model.

Students will learn a lot of transferable skills from analytical skills, research skills to team working skills. Due to the versatility of Technology, students will find career paths within their community or further afield.

After completing KS3, students will be able to complete a variety of dishes that can sustain a healthy and varied diet. This will not only enable students to be more confident when cooking for themselves or others later on in life but could also lead to various career paths within the Food and consumer industry.

York is very fortunate to be a leading city in the UK for STEM, being home to York Science Park, Science City York , the National STEM Centre, and the National Science Learning Centre. This provides an abundance of additional opportunities for pupils with an active interest in this area of the curriculum.

CURRICULUM STATEMENT

At KS3: Students will design and make in a real life context and make products they can be proud of. We aim to ignite student's curiosity about product design, textiles and food preparation and nutrition. We create a real sense of achievement by allowing students to explore and take responsibility for their own learning. We allow students to think independently, make design decisions and prepare foods that are nutritious and cost effective to instill a love of cooking.

CURRICULUM SEQUENCE

Key Stage 3:

	Year 7	Year 8	Year 9
Curriculum time	<i>2 hours per fortnight</i> <i>Student will complete a 13 week project of Food, Textiles and DT at different points during the year</i>		
Curriculum framework	<i>National Curriculum</i>	<i>National Curriculum</i>	<i>National Curriculum</i>
Personal attributes evolved that support learning	<i>Independent study through homework and project work</i> <i>Resilience - Try, try and try again attitude</i> <i>Team work -sharing resources and helping each other</i> <i>Decision Making - judging information and ideas from the world around you</i> <i>Confidence - it's okay to get it wrong attitude</i>		
Disciplinary Literacy	<i>In KS3 Technology, literacy skills are integrated into lessons and activities as a way of enhancing students' understanding of the subject. For example, be taught how to write a sequence of making or annotate design ideas</i> <i>Students are also taught subject specific vocabulary and how to use it accurately in speech and written language. This involves the use of strategies such as skimming, scanning, and close reading.</i> <i>Overall, the goal of teaching literacy in KS3 Technology is to help students develop the skills they need to critically analyse and communicate Technology</i>		

	<i>based ideas and information terminology</i>
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KS3 Curriculum plan - Year 7		
Unit title	What is the key knowledge/understanding covered	Which key subject skills will be developed
<i>Handheld game</i>	<i>Understand the difference between softwoods and hardwoods Understand how materials be combined to enhance products</i>	<i>Sketching in 2d, Rendering, Marking out and measure on wood Follow a plan of manufacture Cutting wood safely Drilling holes safely using a pillar drill Preparing the surface safely using a vertical sander</i>
<i>Personal pennant</i>	<i>Introduction to types of textiles Introduction to methods of embellishment</i>	<i>Mark out and measure on textiles Safely cut textiles Use a variety of stitches for surface decoration and construction Evaluate a design</i>
<i>Kitchen Experts</i>	<i>Working safely in a kitchen Making products that are safe to eat Understanding of the eat well guide Understanding of the importance of each section of the eat well guide</i>	<i>Knife skills, mixing, chopping, combining Cooking and heat application through baking, roasting, boiling and simmering Hygiene and cleaning skills</i>
KS3 Curriculum plan - Year 8		
Unit title	Key knowledge covered	Subject skills developed
<i>Recycled Lamp Project</i>	<i>Product analysis Modelling design ideas Design in relation to reusing and recycling materials 6Rs</i>	<i>Use of Hand Tools Measuring Accurately Drawing and Sketching Accurately Product Assembly</i>

<i>Plushy Toy design</i>	<i>Design Specification Designing and Creating a product suitable for a specific age group Patterns, cutting, product assembly and decorating techniques</i>	<i>Decorative stitches Applique Hand and Machine sewing</i>
<i>The Eatwell Guide</i>	<i>Classifying nutrients and explaining their functions Menu planning Hygiene and Safety Practical cookery skills</i>	<i>Knife skills Dough making skills Sauce making skills Baking and decoration</i>
KS3 Curriculum plan - Year 9		
Unit title	Key knowledge covered	Subject skills developed
<i>Decorated Planner Pouch</i>	<i>Designing from inspiration of cultural events - Mexican Day of the Dead Theme Uses of Textiles products Planning, measuring, cutting out and product assembly</i>	<i>Using the sewing machine independently Adapting the settings on the sewing machine as required Introduce how to attach components and fastening securely to fabric Tye-dye</i>
<i>Drawing and Designing Techniques</i>	<i>6R's (rethink, repair, reduce, refuse, recycle and reuse) Smart and a modern materials Mechanical, pneumatic and electronic systems Embedded electronic systems Adapt designs for real life problems</i>	<i>Soldering more complex circuits Assemble pulleys and gears to change direction and increase or decrease speed Model and create frame structures and shell structures Program embedded circuits (BBC Microbit and Crumble)</i>
<i>Special Diets</i>	<i>Knowledge and understanding of Ethical, Religious and Medical diets Ability to adapt and substitute recipe ingredients</i>	<i>Knife skills Main meal preparation Advanced techniques in preparing and cooking multiple components</i>

CURRICULUM OPPORTUNITIES

Key stage 3:

	Year 7	Year 8	Year 9
Within the formal curriculum	<i>Students are introduced to Design Technology through a range of projects using a variety of materials. Lessons are taught in mixed ability classes and will focus on theory of materials and processes and focused practical tasks. In Food preparation students acquire basic food preparation skills that will enable them to follow a healthy lifestyle.</i>		
Links to other curriculum areas	<i>Measuring and orthographic drawing is taught in Technology and Mathematics. Technology uses the same methods and language as Mathematics to ensure students are able to see the link between the two areas.</i> <i>Science covers some elements of the Food Preparation and Nutrition such as nutrition, conducting Food investigation tasks or heat transfer models. Food and Nutrition also covers healthy eating and lifestyle which are also taught in PSHE and Physical Education.</i> <i>Sustainability is a key topic within Technology that is also covered in Geography.</i>		
Preparation for adult life	<i>Industrial processes are always referenced and pupils are shown how everyday products are manufactured in different scales of production and by different industrial processes. Sustainability and the role of a designer is also stressed as environmental issues are a hot topic. Students design and make products that can be put to practical use. Students are reminded, constantly, of the need to produce sustainable products and what the role of a designer is in our battle to reduce the carbon emissions that are contributing to global warming. Students have got a wealth of courses in post16. Apprenticeships in construction are currently delivered through Yok College. Other course in post 16 range from A-level Graphics, Design Technology to Electronics to name a few.</i> <i>Food and Nutrition will equip students with the knowledge, understanding and skills required to cook and apply the principles of food science, nutrition and healthy eating. The curriculum will encourage students to cook and enable them to make informed decisions about a wide range of further learning opportunities and career pathways as well as develop vital life skills that enable them to feed themselves and others affordably and nutritiously, now and later in life.</i> <i>Students can continue with A-level science if they want to pursue a career in Food Science in Nutrition. Another possible path would be Catering and Hospitality at York College or apprenticeships.</i>		

CURRICULUM IMPLEMENTATION

As an Academy we have a range of clear standards and expectations of our pupils however each subject area has its own individual practices and habits that ensure that it can function to its optimum.

Curriculum delivery:

In KS3, students are introduced to Technology through a range of projects using a variety of materials. Lessons are taught in mixed ability classes and will focus on theory of materials and processes, focused practical tasks leading to more open ended design challenges. During Food and Nutrition lessons, students are taken through a range of practical work using a variety of skills. Lessons are taught in mixed ability classes and will focus on theory of ingredients, methods and skills. The skills set are developed from Y7-Y9 in a sequential manner allowing progression and development of key cooking skills.

Homework:

	Frequency	Expected time to complete	Completion notes and handing in	What to do if stuck
7	<i>once per half term</i>	<i>Up to 30 min</i>	<i>Google classroom based. Homework is usually based around evaluation, additional research or a manufacturing diary.</i>	<i>Ask the classroom teacher or homework club</i>
8				
9				

SUPPORTING YOUR CHILD

	Resources to support your child	Relevance - How it helps
Key Stage 3	<i>DT- measuring exercises, free hand sketching, modelling on card, repairing</i>	<i>Help with organisation of child</i>

	<i>items rather than throwing away.</i> <i>FPN- ingredients and container for food</i> <i>Allow your child to help in the kitchen with preparing ingredients towards the family meal</i>	<i>To improve technical skills for practical lessons.</i>
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Link above

<https://www.focuseducational.com/login-to-focus-elearning/>

WIDER INTEREST

CAD program for designing if you would like to design create like a professional

<https://www.onshape.com/en/>

<https://www.sketchup.com/>

Website for York Society of Engineering

<https://www.yorksocietyofengineers.org/>