



YOUR
SCHOOL
JOURNEY

YEAR 7

Design & Technology

Design and Technology: Mid Century Inspired Lamp

Be safe– Introduction to health and safety in the workshop and how to use tools and equipment's.

Think like a designer – Take inspiration from the work of existing designers to produce functional products using metal, wood and acrylic.

Have fun– Think out of the box and make a creative product that demonstrates individuality. Sample, test and investigate skills to see which fits your design focus best.

How is it done in industry? Develop new skills in Computer Aided Design and use professional software to design and make laser cut products

How does it work? Introduction into electronics, investigating circuits and soldering techniques to create a functional lamp

Client centred design– create a personalised product based on the requirements on the consumer

Know your equipment– Use a range of specialist engineering and wood work equipment and develop your knowledge of the functions of tools and how to work with precision and accuracy.

DT club — Aspire to be a professional and achieve your laser cutting badge to produce a range of products using the laser cutter and 3D printers

Food and nutrition

How to have a balanced diet- What are the positives and negatives associated with a varied diet and how eat well guide supports healthy minds and bodies.

Think like an athlete- investigation into macronutrients and how diet impacts on our physical health and food fuels the body.

Bacteria science investigation— what causes food pathogens and what are the conditions needed for bacterial growth?

Where does our food come from? Develop an understanding of the sources of food and the moral and social issues associated with food production including how food is processed.

Cooking on a budget- develop your knowledge of how to make nutritional dishes on a budget. Investigating seasonal and tinned food.

Assessment

This is based on a sustained piece of research, a range of design ideas and making skills. Students will be assessed at 3 points across a rotation of 12 weeks.

BUILDING EXCEPTIONAL YOUNG MEN



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YEAR 8

Design & Technology

Students participate in a carousel including art, each rotation consists of 16 lessons.

Product design: Brutalist plant holder and moisture detector

Client centred design– Problem solving is key to being innovative and creative, analyse a design brief to consider the needs of the product and consider what problems you will need to overcome.

Recall and advance– build on your prior knowledge of CAD to advance your manufacturing skills using 2D design and On Shape to support the design process

Know your materials– investigate into materials and their properties, are they polymers, metal, textiles fibre or wood? What are they used for and why? Are they suitable for your product or do you need to figure out alternatives?

Think like a designer– get inspired by the work of Brutalist architecture and this design movement.

Model, test and make– develop your problem solving skills by investigating possible design ideas through prototyping. Which design outcome is fit for purpose and why?

Technique, skill and accuracy– build on the skills you have developed to extend skills repertoire, demonstrating your understanding of metal fatigue and the constraints of materials.

Functional design– design, model and make a functional product that fits the needs of a client. Is the product fit for purpose? How could it be improved? Is it ergonomically successful?

Electronics- investigate electronic components and their functions to make a moisture detector.

Food

Healthy life styles- how do macro micronutrients impact on the body and what are the health implications associated with an unbalanced diet? (Coronary heart disease, obesity, type 2 diabetes, osteoporosis, anaemia and tooth decay)

What food does for your body?- recall and develop your knowledge further of the nutritional benefits of foods, focusing on unrefined sugars, the benefits of vitamin C/A and D and macronutrients.

Demonstrate your cooking skills and make a dish suitable for those with intolerances such as coeliac's and lactose intolerant.

How to cater for those who have alternative diets due to their moral or religious belief.

Workshop with the vegetarian society– Develop your understanding of alternative proteins and dietary groups.

Extra Curricula

Become a DT mentor and produce products for poppy day, mentor your peers and help to deliver extra curricula clubs and join STEM club.

Assessment

Is based on a range of design ideas and making skills and an evaluation. Students will be assessed at 3 points across a rotation of 12 weeks.

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YEAR 9

Design & Technology

Engineering - Tool Box inspired by Constructivism

Develop your skills– introduction into metal fabrication and engineering techniques. Investigating the properties of ferrous and non-ferrous metals.

Recall and advance– build on the skills and knowledge you have developed in year 7 and 8 to make a product that demonstrates precision while developing your knowledge of non- permanent and semi- permanent joints and powder coating.

Aim high– Extend you skills repertoire by making a wood turned handle using the wood lathe.

Design process– build on your design skills to produce a range of advanced, detailed and innovative designs using CAD and orthographic and isometric drawings

Research- independently research into Constructivism or a design movement of your choice to inspire your design process. While also reflecting on the work of others to adapt and develop your own prototype

Food and Nutrition

Develop your skills– learn how to portion a chicken and use all parts of cuts to make a range of dishes. Preventing food waste and developing technical skills and an understanding of how to work with a budget.

Advance and demonstrate– further your understanding of nutritional profiling and the functions of macro/micronutrients. Design and create dishes based on a person's nutritional needs and constraints.

Multicultural food—investigation into food from around the world, make a range of pastry dishes inspired by a culture of your choice. Develop your knowledge of shortening and the functions of gluten.

Science investigation into sugar and how much sugar is in our food. What is the function of sugar within our diet?

Get competitive– enter a national competition into food styling, use the skills your have developed through KS3 to make a dish that is presented to the highest possible standard.

Extra curricular

Students can attend STEM club and DT club once a fortnight developing their skills and participate in the Green Power competition.

Assessment.

This is based on a range of design ideas and making skills and an evaluation. Students will be assessed at 3 points across a rotation of 12 weeks.

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