

Curriculum Overview: Year 7 DT

Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Topic <u>Inspired by food cultures</u> <i>How cultures can impact food choices and iterative design.</i>	Topic Making Specialism 1 <i>Developing knowledge and practical skills.</i> <i>Students will complete 4 making specialisms throughout the year in the following topics:</i> - Resistant Materials - Textiles - Mixed Media (CAD/CAM) - Food Preparation and nutrition	Topic Making Specialism 2 <u>Bridges</u> <i>Forces, stresses, iterative design</i>	Topic Making specialism 3 <u>Sustainability</u> <i>How materials, products, and manufacture impact the world</i>	Topic Making specialism 4 <u>End of year 7 exam</u>	Topic – now into year 8 Making Specialism 1 <i>Developing knowledge and practical skills.</i> <i>Students will complete 4 making specialisms throughout the year in the following topics:</i> - Resistant Materials - Textiles - Mixed Media (CAD/CAM) - Food Preparation and nutrition
Links to prior learning n/a Stretch and Challenge Enquiry Can I use my knowledge of the iterative design process to make high standard adaptations to my prototypes?	Links to prior learning n/a Stretch and Challenge Enquiry Can I use specialist tools and materials safely and correctly to create high-quality outcome?	Links to prior learning What are the 6Rs of sustainability: Recycle, reuse, refuse, reduce, rethink, repair. Stretch and Challenge Enquiry What is the impact of manufacturing on our environment and how can we solve the issues?	Links to prior learning Skills of designing, making and evaluating. Stretch and Challenge Enquiry Can I use my knowledge of forces to create a high quality and structurally stable bridge with an justification of how the forces have impacted my decisions?	Links to prior learning n/a Stretch and Challenge Enquiry Can I use specialist tools and materials safely and correctly to create high-quality outcome?	Links to prior learning Develop skills and knowledge from the year 7 making specialisms. Stretch and Challenge Enquiry Can I use specialist tools and materials safely and correctly to create high-quality outcome?
Equipment Needed		Wider Reading		Family activities	
Pens Pencils Rulers Rubber Crayons Scissors Glue		Websites: http://www.technologystudent.com/ https://www.educationquizzes.com/ks3/d-and-t/ BBC bitesize DT		Discus with your child, which products in the home have used effective principles of design. This can be appearance and functionality. Encourage your child to explain why they think designers have made certain decisions and if there are any ways they would improve them. Encourage them to practice their drawing, colouring and rendering skills at home.	

Curriculum Overview: Year 8 DT

Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Topic Making Specialism 2 <u>Futures</u> <i>New and emerging technologies and smart materials</i>	Topic Making Specialism 3 <u>Humans in Design</u> <i>Ergonomics and anthropometrics in design</i>	Topic <u>Biomimicry</u> <i>How nature inspires design.</i>	Topic Making Specialism 4	Topic <i>End of year 8 exam</i> <u>Architecture</u> <i>Technical drawing building scaled models.</i>	Topic – now into year 9 <i>See next page.</i>
Links to prior learning Design skills Working to a brief Stretch and Challenge Enquiry What are smart materials and how can they be used effectively?	Links to prior learning Design skills Working to a brief Maths Stretch and Challenge Enquiry How can ergonomics and anthropometrics be used to respond to user needs?	Links to prior learning Reflecting on drawing skills by design using investigation Stretch and Challenge Enquiry How can I be inspired by nature to create an innovative design with justifications of my design choices?	Links to prior learning Develop skills and knowledge from the year 7 making specialisms. Stretch and Challenge Enquiry Can I use specialist tools and materials safely and correctly to create high-quality outcome?	Links to prior learning Technical Design skills Working to a brief Maths Modelling card Stretch and Challenge Enquiry Can I create an accurate scaled model based on my designs?	Links to prior learning Stretch and Challenge Enquiry
Equipment Needed		Wider Reading		Family activities	
Pens Pencils Rulers Rubber Crayons Scissors Glue		Websites: http://www.technologystudent.com/ https://www.educationquizzes.com/ks3/d-and-t/ BBC bitesize DT		Discuss with your child, which products in the home have used effective principles of design. This can be appearance and functionality. Encourage your child to explain why they think designers have made certain decisions and if there are any ways they would improve them. Encourage them to practice their drawing, colouring and rendering skills at home.	

Curriculum Overview: Year 9 DT

In year 9 students carousel around 4 different making specialisms:

- Resistant Materials
- Food Preparation and Nutrition
- Mixed Media (CAD/CAM)
- Textiles

Topic: Resistant Materials

In this module, students will work through the iterative design cycle to:

1. Investigate the context 'mechanisms and motions', working to a design brief and client specification.
2. Design their own children's toy inspired by mechanisms
3. Manufacture a final prototype using skills they have developed throughout year 7 and 8.
4. Evaluate their prototype against the project brief and specification.

Links to prior learning

Develop skills and knowledge from year 7 and 8 making specialisms. Using specialised machinery, techniques, and processes for different tasks.

Stretch and Challenge Enquiry

Can I design and manufacture a high-quality prototype in response to a client's specifications?

Topic: Food Preparation and Nutrition

Students will be able to discuss the principles of nutrition and health, cook a variety of savoury dishes, source seasonality and characteristics of ingredients. They will learn about the Eat well guide and the 5 areas of nutrition they will need to use. They will be able to use knives to demonstrate safe cutting techniques, use a variety of other equipment e.g. hob, oven and grill, food processors, whisks, scales, kettles etc. They will learn about hygiene and safety, the Eatwell guide, understand about different nutrients, where food comes from and about seasonality.

Links to prior learning

Students will be building upon the practical skills they developed in Y7&8 and be introduced into new skills such as grilling, use of electrical equipment, decorating and layering. They will also build upon knowledge learnt in Y7&8 linked to healthy eating and food provenance, whilst going into more depth about the functions of nutrients in our body.

Stretch and Challenge Enquiry

Evaluate the long-term consequences of eating an unhealthy diet and how can it significantly impact your health to do so.

Topic: Mixed Media (CAD/CAM)

Students will learn how to apply the Design Cycle and knowledge of anthropometrics to produce bespoke jewellery. They will explore a range of tools, materials and techniques including laser cutting, digital design and metal manipulation.

Links to prior learning

This course will incorporate elements from Science and Maths in order to demonstrate how knowledge from other areas is used in design. Students will be able to use CAD/CAM when designing and making their product.

Stretch and Challenge Enquiry

Can I apply my knowledge of new and emerging materials to manufacture a high-quality product?

Topic: Textiles

In this topic, students will apply their knowledge to develop a fidget blanket. The project explores:

- investigation of other products in the market to inform the design and development of an innovative and functional product which addresses specific user needs.
- e-textiles and the application of circuits within a product
- sustainability and the 6R's
- evaluation of the blanket using ACCESSFMM.

Links to prior learning

Further develop skills and knowledge from year 7 and 8 making specialisms. Students will build upon prior sewing and sustainability knowledge, with specific focus on use of the sewing machine, incorporating conductive textiles and further exploring their evaluation skills.

Stretch and Challenge Enquiry

Can I use innovative techniques to produce a product to meet the needs of a consumer?

Equipment Needed

Wider Reading

Family activities

The Bemrose School Curriculum



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