KS3 Curriculum Map
Design & Technology

(students will rotate during the year to cover all areas of the curriculum, they may not be studied in this order)

Knowledge

Designing

Making

Evaluation

Year 7				
Rationale: The Year 7 curriculum has been designed to provide knowledge and understanding of materials and processes exploring a range of subjects available within Design Technology which develops creativity both in 2D and 3D form. This is further established in Years 8 & 9.				
	Unit Of Work	**Knowledge**	**Skills**	**Key Concepts**
Autumn Term	Product Design - Puzzle	**What makes a successful vacuum formed puzzle?** Why is MDF a good material for vacuum forming? Why do we need to work to a design brief & specification? What is innovation? How can I use tools and equipment safely? Why is planning and evaluating important? Why is asking others important?	• Write a design brief and specification. • Annotate design ideas using a specification • Evaluate the work of others (Peer feedback) • Develop ideas through drawings and models. • Develop safe making skills in timber and polymers. • Produce a plan of make • Describe how a product was made.	Designing Making Evaluation
Spring Term	CAD/CAM - 2D Design	**Will robots take over the world**? How can I produce high quality CAD drawings? What is CAD and CAM? How is CAD/CAM used in industry? What are the positives and negatives of using CAD/CAM?	• Write a design brief and specification. • Evaluate the work of others (Peer feedback). • Use 2D Design to develop ideas and models. • Create CAD files for Laser Cutter	Designing Making Knowledge
Summer Term	Drawing Skills - Designing & Modelling	**Can you draw like this?** What is a formal drawing style? How can you communicate your design? How can I produce high quality drawings? Is a product ever perfect? What is 'Good Design'? What is iteration? Can I be a super modeller?	• Develop drawing skills in One Point Perspective, Two Point Perspective, Isometric and Orthographic Projection. • Develop rendering skills. • Develop ideas through drawing and modelling. • Develop safe modelling skills	Designing Evaluation

Year 8				
Rationale: The Year 8 curriculum develops and explores in greater detail the knowledge and understanding of materials and processes from Year 7. Developing creativity which allows for continuous testing and evolvement of ideas for better solutions to a given problem both in 2D and 3D form. Creating an appreciation of how environmental and ethical factors affect how we design, model, make, use, recycle and dispose of products.				
	Unit Of Work	**Knowledge**	**Skills**	**Key Concepts**
Autumn Term	Product Design - Box	**How do I make a successful box?** How can I use CAD/CAM to develop a professional decorative surface? How can I produce high quality drawings? How do I make a secure and well-fitting lid to my box? How do I work safely with tools and equipment? Why is planning and evaluating my progress important?	• Develop ideas through drawings and models. • Develop safe making skills in timbers. • Develop a working knowledge of different timbers. • Use CAD/CAM to produce decoration. • Use labelled drawings and notes produce a plan of how the product was made and label the changes made whilst working. • Isometric drawing displaying all details of the box.	Designing Making
Spring Term	Product Design - Mechanisms & Levers	**How can I make my pop-up, innovative?** How can I create movement in a card? What is innovation? How can I use my inspiration? Can I justify my specification? Can I be a super modeller? How do I test my ideas? How can I work safely with tools and equipment? Why is planning important? How can I make an image pop up out of a card? How can I combine mechanisms to create movement?	• Identify a theme and target user to produce a brief and a justified specification. • Use models to test and explore ideas further. • Solve problems as they arise in the making process and modify the product to maintain its quality. • Combine a range of mechanisms that produce different movements for the pop-up card.	Designing Making Knowledge
Summer Term	Drawing Skills - Designing & Modelling	**Can you draw like this?** What is a formal drawing style? How can you communicate your design? How can I produce high quality drawings? Is a product ever perfect? What is 'Good Design'? What is iteration? Can I be a super modeller?	• Develop drawing skills in One & TwoPoint Perspective, Isometric and Orthographic Projection. • Develop rendering skills. • Develop ideas through drawing and modelling. • Develop safe modelling skills	Designing Evaluation

Year 9				
Rationale: The Year 9 curriculum develops and explores knowledge and understanding of materials and processes within Design and Technology allowing them to consider Product Design as an option to continue at GCSE. Our skills will focus on safe use of a wide range of tools, materials and equipment. Students will build a deeper understanding of the environmental and ethical effects on design and the production of products. Students will also begin to understand how products are made in industry and why compromises often need to be made in production.				
	Unit Of Work	**Knowledge**	**Skills**	**Key Concepts**
Autumn Term	Product Design - Light	**How can I light-up the room?** How can I use CAD/CAM to develop a professional decorative surface? How do I work safely with tools and equipment? Why is planning and evaluating my progress important? How can I use a range of materials and join them effectively? How can I make a professional looking light?	• Develop ideas through drawings and models. • Develop safe making skills & knowledge in different woods. • Use ICT to produce decoration. • Isometric drawing displaying all details of the design • In advance of making, produce a plan of make in the form of a flow chart, using the correct symbols. • Demonstrate the use of quality control checks within the plan.	Designing Making Evaluation
Spring Term	CAD/CAM - Google Sketch-up	**How do I use Google Sketchup to draw in 3D?** What is Google Sketchup used for in industry and school? How do I use basic tools to create 3D form? How can I draw accurately and to scale? How can I draw my own designs in 3D?	• Using mood boards and other research to develop ideas based on a chosen theme. • Produce a high-quality 3D drawing in line with the original final design. • Render designs using various tools • Be able to manipulate the screen to be able to draw, view and print work accurately and successfully.	Designing Making Knowledge
Summer Term	Drawing Skills - Designing & Modelling	**Can you draw like this?** What is a formal drawing style? How can you communicate your design? How can I produce high quality drawings? Is a product ever perfect? What is 'Good Design'? What is iteration? Can I be a super modeller?	• Develop drawing skills in One & Two Point Perspective, Isometric and Orthographic Projection. • Develop rendering skills. • Develop ideas through drawing and modelling. • Develop safe modelling skills	Designing Evaluation