



Design Technology: Curriculum map

YEAR GROUP:	Year 7			
Rationale:	The year 7 Design Technology curriculum is designed to develop the resilience and independent learning abilities of our pupils. It gives them a broad experience of the different specialist areas of Design Technology including Food, CAD/CAM, Textiles and Engineering Materials. The curriculum is designed to build pupils' confidence in how to work through the design and make process, using a wide variety of materials, tools, techniques and equipment.			
	Pupils will rotate around 4 different material areas in Design Technology over the course of the year. Each project will be taught over 9/10 weeks (approx. 15 hours).			
Topic/ Project	TEXTILES 'Monster Puppet'	CAD/CAM 'Designer Coaster'	ENGINEERING MATERIALS 'Robot Phone holder'	FOOD 'Healthy Eating'
Knowledge	During this project, pupils will develop an understanding of how we use research to influence our designs. Through research and practical activities, pupils will gain understanding about fabric and hand sewing techniques. They will learn a range of hand stitches and use this knowledge to select the most appropriate stitch when making.	During this project, pupils will investigate into a range of design movements to develop appreciation of past design and designers. They will gain an understanding of how to use designers to influence their design thinking. They will learn about the CAD/CAM software available in school and gain an understanding of the advantages and disadvantages of using this equipment in order to produce both designs and products.	During this project, pupils will develop their knowledge and understanding of health and safety when working in the workshop. They will gain an understanding of the properties of woods and the tools needed to cut and shape them. They will learn about the need to use models to test and modify their designs before manufacture, to ensure their designs are fit for purpose.	In this project, students will build their knowledge of food safety, including personal hygiene practices. They will learn the names and purposes of essential equipment in the food lab, gain familiarity with the Eatwell Guide and the eight healthy eating guidelines, and explore food science concepts such as enzymatic browning.
Skills	Design investigation skills Pupils will learn how to create a theme mood board and use this to inspire their designs. They will learn how to present design ideas using drawing techniques and annotations. They will then learn how to develop their design into simple pattern templates. Practical skills Pupils will learn how to create pattern piece and pin them correctly in order to cut and shape their fabric. They will develop basic hand sewing techniques including running stitch, cross stitch and star stitch. They will learn the importance of accuracy and safety with the textiles workshop.	Design investigation skills Pupils will learn how to use their designer research to inspire their own sketches. They will develop these designs using 2D Design acquiring a basic knowledge of the program and its tools such as path tool, rotate tool, delete tools and flip tool. They will also learn how to change line colours in order to prepare their design for the laser cutter. Practical skills Pupils will learn how to operate the laser cutter safely including selecting the correct print options and material placement. Pupils will also be expected to apply any other finishes to their acrylic coaster, such as sanding.	Design investigation skills: Pupils will learn how to use their research to inspire their own sketches. They will develop these designs using drawing grids and templates to produce a card model. They will then develop testing and modification skills in order to ensure their design will be successful. Practical skills Pupils will select and use a combination of workshop tools to develop their skills and techniques by using them to produce a functioning robot themed phone holder. They will learn how to independently, safely and accurately use hand tools such as coping saws, Tenon saws and files alongside electrical hegnar saws, pillar drill and disk sanders.	Health application skill: (within the food SOW we cannot use design investigation as this is not part of the national curriculum, there we have made adaptations changing the heart from design/creativity to health) Pupils will learn how to apply the Eatwell guide to their own diets and will be able to identify foods they eat from all sections of the Eatwell guide. Pupils will be able to adapt recipes in order to make them healthier. Practical skills Pupils will understand how to select and prepare several ingredients and the different methods of processing. They will complete a range of focus practical food tasks to build basic skills and confidence. These include bridge and claw chopping techniques, safe use of the oven, and a range of food presentation techniques. A large emphasis will be placed on food hygiene standards and safety.
Formative Assessment	Each project has a range of formative assessment point where pupils are given feedback and opportunity to improve. This formative feedback links directly to the project but also to summative exam-based assessment within the present year or the following year.			
	Knowledge and understanding Pupils will receive formative feedback on the knowledge bank questions within the booklet. They will be given opportunity to address this feedback this will help them to recognises areas of strength and of knowledge that need further revision before the summative written exam. Creativity Pupils will receive formative feedback on their design ideas. They will be given opportunity to address this feedback and make improvements before summative marks for creativity are completed. Formative assessment on design ideas will also help them to recognises areas of strength and weakness before completing the design section in the summative written exam. Skills Pupils will complete a self-assessment and also receive formative feedback on their hand stitch samples. This will enable them to address this feedback and make improvements on their hand stitch before or during the final making process	Knowledge and understanding Pupils will receive formative feedback on the knowledge bank questions within the booklet. They will be given opportunity to address this feedback this will help them to recognises areas of strength and of knowledge that need further revision before the summative written exam at the end of the project. Creativity Pupils will receive formative feedback on their coaster design ideas. They will be given opportunity to address this feedback and make improvements before summative marks for creativity are completed. Formative assessment on design ideas will also help them to recognises areas of strength and weakness before completing the design section in the summative written exam. Skills Pupils will complete a self-assessment and also receive formative feedback on their coaster cardboard model. This will enable them to address this feedback and make improvements on their designs before cutting their coasters out of acrylic during the final making process.	Knowledge and understanding Pupils will receive formative feedback on the knowledge bank questions within the booklet. They will be given opportunity to address this feedback this will help them to recognises areas of strength and of knowledge that need further revision before the summative written exam. Creativity Pupils will receive formative feedback on their design ideas. They will be given opportunity to address this feedback and make improvements before summative marks for creativity are completed. Formative assessment on design ideas and annotation will also help them to recognises areas of strength and weakness before completing the design section in the summative written exam. Skills Pupils will complete a self-assessment and also receive formative feedback on their decorated letter project. This will enable them to address this feedback and make improvements on their robot phone stand before or during the final making process	Knowledge and understanding Pupils will receive formative feedback on the knowledge bank questions within the booklet. They will be given opportunity to address this feedback this will help them to recognises areas of strength and of knowledge that need further revision before the summative written exam. Health Pupils will receive formative feedback on the letter to Aunt Sally and a dish evaluation, they will be able to address how to make changes to current diet using the Eatwell guide and 8 healthy eating guidelines. They will be given opportunity to address this feedback and make improvements before summative marks for the health strand is completed. Skills Pupils will complete a skills audit but doing a RAG rating on skills for each dish they make, they will receive formative feedback on the skill audit. This will enable them to address this feedback and make improvements when cooking future dishes.



Summative Assessments	Pupils will be assessed at the end of every project. Each pupil will be assessed on the Design Technology strands Head, Heart, Hands and an average for each project will contribute to the overall progress level alongside the high stakes test. This will be compared to their target pathway to monitor pupil progress.			
	Knowledge and understanding Pupils will be assessed on the quality of written communication within the booklet and the completed knowledge bank questions. Creativity Pupils will be assessed on the design ideas they have created and their response to formative feedback given. Skills Pupils will be assessed on the final product outcome. Including: The safe use of tools and equipment The overall accuracy and finish The range and quality of hand stitch used.	Knowledge and understanding Pupils will be assessed on the quality of written communication within the booklet and the completed knowledge bank questions. Creativity Pupils will be assessed on the design ideas and design thinking (annotation) they have created and their response to formative feedback given. Skills Pupils will be assessed on the final product outcome. Including: The health and safety when using the laser cutter. The overall accuracy and finish of the final coaster. The in-depth reference to their chosen design movement.	Knowledge and understanding Pupils will be assessed on the quality of written content within the booklet and the completed knowledge bank questions. Creativity Pupils will be assessed on the design ideas they have created using research and their response to formative feedback given. Skills Pupils will be assessed on the final product outcome of the robot phone holder. Including: The safe accurate use of tools and equipment in the workshop. The overall accuracy and finish of the product. The range and quality of hand stitch used.	Knowledge and understanding Pupils will be assessed on the quality of written content within the booklet and the completed knowledge bank questions. Health Pupils will be assessed on their understanding of personal hygiene and the application of evaluating 2 chosen dishes using their formative feedback. Skills Pupils will be assessed on the final product outcomes and the RAG rating of skills. Pupils will be assessed on the ability to use the oven and hob safely and demonstrating the difference between boiling and simmer. Pupils will also be assessed on the ability to adhere to health and safety and food safety and hygiene.
	All pupils will sit summative written examination that test a range of design and technology-based knowledge and understanding at the two points within the year in line with the school assessment policy. These will be combined 50/50 with the average project grades to create an overall grade.			
Homework	Preparation Pupils will be given research tasks in order to prepare them for activities in the following lessons <i>Print off 15-20 monsters for the monster mood board.</i> Take and print a picture of your final product. Practice Pupils will be given knowledge-based questions as homework for retrieval practise and to practise exam question technique <i>Completion of knowledge bank questions or feedback on knowledge bank questions.</i> Extension Pupils will be given homework's that will give them time to address feedback and improve knowledge and understanding alongside overall work. <i>Complete monster features and monster designs</i>	Preparation Pupils will be given research tasks in order to prepare them for activities in the following lessons <i>Research a chosen "art movement" and create a research page including facts and images.</i> <i>Research 2 types of plastic, at least one must acrylic. Include images, facts and research about each, as well as existing products.</i> Practice Pupils will be given knowledge-based questions as homework for retrieval practise and to practise exam question technique. <i>Completion of knowledge bank questions or feedback on knowledge bank questions in the form of plenaries or lesson exit tickets.</i> Extension Pupils will be given homework's that will give them time to address feedback, improve knowledge and understanding, and that enhances their current subject knowledge in a way that allows them to improve.	Preparation Pupils will be given the task of researching a wide range of woods in preparation for their knowledge tests. <i>Print off power point of types of woods.</i> Practice Pupils will be given knowledge-based questions as homework for retrieval practise and to practise exam question technique <i>Completion of knowledge bank questions or feedback on knowledge bank questions during lesson.</i> Extension Pupils will be given homework's that will give them time to address feedback and improve knowledge and understanding alongside overall work. Pupils should take their robots home and paint them ready for evaluations next lesson. Use the example slide to support their ideas and remind them the idea should be identical to their original design.	Preparation Pupils will be given the task of preparing and bringing in ingredients for practical lessons. <i>Select your choice of ingredients and bring in apron and container for next practical lesson.</i> Practice Pupils will be given knowledge-based questions as homework for retrieval practise and to practise exam question technique <i>Completion of knowledge bank questions or feedback on knowledge bank questions during lesson.</i> Extension Pupils will be given homework's that will give them time to address feedback, improve knowledge and understanding, and that enhances their current subject knowledge in a way that allows them to improve. <i>Complete written evaluations on chosen dishes.</i>
	The aim of homework in Design and Technology is to reinforce learning and skills developed in the classroom, providing students with an opportunity to practice and deepen their understanding independently. All homework will be related to the previous lesson or will prepare students for the upcoming lessons. Any homework set will be uploaded to Arbor, pupils will be given minimum of 5-7 days to complete homework in line with the whole school homework policy.			