

KS5 Manufacturing 2022-2023

Subject curriculum intent:	In manufacturing students will embed and deepen their understanding of cottage industry manufacturing & social enterprise over a 3 year period. Students will develop skills to create a range of products including ceramics, candles, wax melts and cards. Students will develop personal skills and qualities related to vocational learning such as time management, independence, confidence, decision making, team work and problem solving. When taught in parallel with other NRHS Social Enterprises, students will gain a clear knowledge and understanding of transferrable work place skills.			
End of KS3 intent/outcome	End of KS4 intent/outcome		End of KS5 intent/outcome	
Pupils will have engaged in art and DT lessons creating a variety of projects, in a range of styles and using a variety of materials. Pupils will begin to develop communication skills to discuss and evaluate their work and follow the structure of design, make and evaluate within their work.	Pupils will have participated in a vocational learning day each week and develop basic skills for the work place. Pupils will have built on skills developed in KS3 to start to explore manufacturing processes through creative lessons.		By the end of KS5 pupils will have developed skills needed to succeed in work, social and further learning settings. Pupils will have developed an understanding of the world of work and begin to map out their futures. Pupils will be able to transfer skills into a variety of settings.	
Intent for this topic:	Students will develop their understanding of materials and equipment needed to manufacture safely. Students will understand the production process including planning, health & safety and selling via online and physical platforms. Students will have the opportunity to think creatively, devise new products, problem solve processes and explore target markets. Students will develop an understanding of the environmental impact NRGC has and how we aim to become a sustainable business.			
Core vocabulary needed for this subject/topic:	Manufacturing, company, equipment (clay, rolling pin, cutter, wax, stamp), PPE (gloves, goggles, apron), safe, danger, hazard, impact, quality (good/bad/high/poor), customer, survey, feedback, advertise, marketing, etsy, sales, packaging.			
Key skills taught in this subject/topic	<p>Reasoning - Students will predict and extract information from a range of sources.</p> <p>Evaluating - Students will express their own views and preferences against agreed criteria to evaluate the success of their own work and the work of others. Students will evaluate production lines/sales.</p> <p>Empathy - Students to understand what customers might be thinking or feeling in different situations</p> <p>Social skills - When working collaboratively, students will listen to and respect other people's ideas. They will undertake a variety of roles in group contexts.</p> <p>Communication - Students will develop their ability to discuss as they work collaboratively in paired, group and whole-class contexts. Pupils will use communication tools to work within a production line.</p> <p>Reading skills: will be used when following a range of instruction to complete products and to follow health and safety signage.</p>			
Prior knowledge: what pupils may already have studied				
Key stage	Subject	Topic title	Term/year taught	Content/What might pupils already know?
KS3	Art	Various topics	3 year rolling programme	Know work from different artists and designers from different cultures backgrounds and disciplines.

				<p>To show preference and/opinions in relation to own ideas and the work of others.</p> <p>To develop an understanding of colour, pattern, texture, line, shape, form and space</p> <p>To develop skills manipulating a range of materials to design and make with</p>
	DT	Puppets	3 year rolling programme	To develop creativity with the emphasis is on designing and making a set of puppets together with a puppet theatre, which the children themselves can use in putting on a performance
KS4	Art award Creative Manufacturing as part of vocational curriculum.		2 year rolling programme	<p>To actively participate in a range of arts activities, including a personal response about what they have learnt from taking part</p> <p>To experience art organisations, artists and their work</p> <p>To create a piece of art work</p> <p>To identify what they have enjoyed and/or achieved, and their communication of this to others</p>
KS5	N/A			

Links to other subjects:

ICT - Researching information, use of online tools, navigating websites, uploading information, creating adverts

Maths - handling money

Drama - to create video advertisements.

Vocational - following instructions and health and safety rules.

English- reading and understanding safety signage. Reading and following visual/written instructions.

Subject: Manufacturing

Term: 2022/2023

	<u>Working Towards Entry 1</u>	<u>Entry 1</u>	<u>Entry 2</u>	<u>Entry 3</u>	<u>Level 1</u>
Core Learning					
<u>Subject specific knowledge</u>	To know materials directly related to their product such as: -clay -rolling pin -glaze	To know materials directly related to their product such as: -clay -Rolling pin -Clay cutter	To know instructions come in a range of forms To know which tools/materials are needed for a given task and understand the tools purpose	To know items can be sold online To know online selling platforms: Etsy, Instagram, TikTok Shop	To know all products being sold To know the cost of producing and selling of products

	<p>-brush -wheel</p> <p>To know which products they make</p> <p>To know that to manufacturing means making</p>	<p>-Card -Envelope -Die cutter</p> <p>To know that certain tools are needed to create particular products</p> <p>To know that manufacturing produces items to sell</p> <p>To know the name of key physical skills needed to produce 1 familiar product</p>	<p>To know that manufacturing is an industry that produces many common large and small items</p> <p>To know that other companies make the same or similar products and where to buy these</p> <p>To know some skills needed to complete steps in manufacturing</p>	<p>To know what materials need to be sourced for a designed product</p> <p>To know a range of tools used within NRGCo that are commonly used within other manufacturing settings.</p> <p>To know what skills are needed to complete certain tasks and identify which other work places they may be used in</p>	<p>To know all materials and tools used within NRGCo</p> <p>To know the key skills needed to lead a small team (effective leadership) communication, organised, time keeping, teamwork, approachable</p>
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<p>Subject specific skills</p>	<p>Is able to complete a single step of a task independently using a visual resource</p> <p>Is able to recognise symbols/signs/sounds related to a particular skill: rolling, stamping</p> <p>Is able to differentiate between a 'making' and 'selling'</p> <p>Is able to match a physical material to symbol upon collecting materials and tools</p>	<p>Is able to follow a sequence of up to 6 steps by reading written or visual instructions when prompted</p> <p>Is able to collect up to 3 specific materials for each station using a visual resource</p> <p>Is able to select the appropriate tool for a specific task from a small selection</p> <p>Is able to identify products which they make</p>	<p>Is able to follow a range of video, audio, written and visual instructions to contribute towards or complete a product</p> <p>Is able to independently complete at least 3 steps of a task</p> <p>Is able to set up a work table with the all of the correct materials using a simple checklist</p> <p>Is able to use search engines to find like for like products and where to buy these</p>	<p>Is able to identify and use an online platform such as Etsy or Pinterest to research and mind map designs for potential products</p> <p>Is able to identify the majority of materials needed to create a new product</p> <p>To know that tools differ for the same products in other workplaces depending on the size of the production,</p>	<p>Is able to lead small groups of up to 3 in the production of a familiar product</p> <p>Is able to break down production costs and use this information to establish an appropriate selling price that includes profit</p> <p>Is able to setup and close down a work station for a familiar product</p>
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Key learning: Health & Safety

	<u>Working Towards Entry 1</u>	<u>Entry 1</u>	<u>Entry 2</u>	Entry 3	Level 1
<p>Subject specific knowledge</p>	<p>To know items: apron, goggles and gloves keep them safe</p> <p>To know which areas on the body 1-2 PPE items protect</p> <p>To know that you wear PPE in the work place</p>	<p>To know the name of all safety items being used in the manufacturing session</p> <p>To know that being unsafe at work can result in someone being hurt</p> <p>To know the impact of not wearing an item of PPE in the workplace for example, not</p>	<p>To know and identify what a hazard is or looks like.</p> <p>To know that professional behaviour helps to keep people safe in the workplace</p> <p>To know that risks can cause a range of accidents and do not just impact a singular person</p>	<p>To know all work places have safety procedures in place to keep everyone safe</p> <p>To know that a risk assessment in commonly used across all workplaces to keep people safe</p> <p>To know that workplaces implement health & safety introductions to new staff</p>	<p>To know where to find and how to check, safety documents for the workplace and know the importance of this being done regularly and consistently</p> <p>To know that everyone in the workplace is responsible for the safety of themselves and others</p>

		wearing a hard hat could hurt your head	To know that a risk assessment helps to prevent injury		To know appropriate ways to report a danger at work
<u>Subject specific skills</u>	<p>Is able to identify 1-2 pieces of PPE</p> <p>Is able to identify areas of the body they protect</p> <p>Is able to collect/ direct staff to collect an apron before starting a task.</p> <p>Is able to identify 'safe' and 'unsafe' from an image</p>	<p>Is able to identify up to 4 pieces of PPE</p> <p>Is able to identify a hazard within the work room</p> <p>Is able to follow a simple checklist of 3 steps to ensure they are safe and ready from work: tables covered, aprons on, floor clear</p>	<p>Is able to identify at least 3 safety hazards in the work place</p> <p>Is able to remove obvious physical hazards from their work area before beginning the task</p> <p>Is able to follow a simple risk assessment to ensure they reduce the risk</p>	<p>Is able to follow a health and safety procedure checklist at all times in the workplace</p> <p>Is able to suggest ways to reduce the risks including work wear, use of signage, removal of physical hazards</p>	<p>Is able to lead on the safety in the workplace and safety of colleagues during production using Health & Safety procedure checklist</p> <p>Is able to identify hazards during work and halt production to enable reduction of risk</p> <p>Is able assess risks when exploring tools for new/ other products</p>

Key learning: Understanding Production lines

	<u>Working Towards Entry 1</u>	<u>Entry 1</u>	<u>Entry 2</u>	Entry 3	Level 1
<u>Subject specific knowledge</u>	<p>To know a minimum of at least 2 steps needed to of a familiar product</p> <p>To know that working within a production line means working together with others</p> <p>To that a production line means to work 1 step at a time</p> <p>To know that the product is finished once at the end of the production line</p>	<p>To know the order of tasks to successfully complete/ make a product (ensuring they are sequential)</p> <p>To know when a product is finished (understanding the last instructions means it has been completed)</p>	<p>To know key roles in a production line (wax handler, quality checker, die cutter, pourer (wax))</p> <p>To know and identify what would happen if an instruction / step was missed</p> <p>To know 2-3 different types of production lines</p>	<p>To know how to break down stages of production</p> <p>To know the benefits of different types of production lines</p> <p>To know that production lines produce mass, identical, precise items</p>	<p>To know different types of production lines and areas they may be used</p> <p>To know a suitable production line for their product and justify their choice</p>
<u>Subject specific skills</u>	<p>Is able to follow simple visual instructions of up to 3 steps with gestural/verbal support</p> <p>Is able to identify when their task is complete</p>	<p>Is able to identify a suitable job for themselves within a production line</p> <p>Is able to identify when they have completed/finished one</p>	<p>Is able to identify and delegate specific roles to a group of 4</p> <p>Is able to suggest a role suitable for themselves and justify choices</p>	<p>Is able to apply previous knowledge of TSI to plan steps for manufacturing a new product</p> <p>Is able to monitor the movement of a product within a production</p>	<p>Is able to plan a time frame within which to complete a product and manage this time using timers/calendars</p> <p>Is able to complete all steps needed to complete a product</p>

	Is able to direct an item in the correct direction within a production line	step and then move onto the next step independently Is able to pass their item to the next person within a production line	Is able to suggest sequential seating plans to suit designated job roles	line and halt production upon seeing an problem Is able to complete the majority of steps needed to complete a product	Is able to identify a fault during production and suggest a way to improve/ change
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Key learning: Quality Control

	<u>Working Towards Entry 1</u>	<u>Entry 1</u>	<u>Entry 2</u>	Entry 3	Level 1
<u>Subject specific knowledge</u>	<p>To know what 'good' and 'bad' means</p> <p>To know at least 1 fault commonly seen within a familiar product</p> <p>To know that customers will feel sad if they receive a 'bad' product</p>	<p>To know a number of key features of bad quality related to their product (squashed, compressed, chipped, missing glaze, missing background, not full (candle))</p> <p>To know the feelings of customer when buying good and bad quality products</p> <p>To know that bad quality items go to 'waste'</p>	<p>To know when a product is of bad quality and state why</p> <p>To know a range of ways that familiar products can be faulty</p> <p>To know the skills needed to ensure good quality production: slow pace, double checking, asking for support, comparing against a finished product.</p>	<p>To know that bad quality products need to be removed from production</p> <p>To know that there are ways to improve on bad quality items to reduce wastage</p> <p>To know some simple rights of customers upon buying a faulty item</p>	<p>To know and understand the time restraints of making a range of products</p> <p>To know the qualities and differences of handmade products compared to mass produced and understand the range of expectable differences</p> <p>To know all the rights of customers when buying items that are unwanted, faulty, not fit for purpose, unsafe</p>
<u>Subject specific skills</u>	<p>Is able to compare two products and identify which is of good quality and which is of bad quality</p> <p>Is able to communicate an obviously fault from a choice of 2 when given a faulty physical product</p>	<p>Is able to sort a number of products into good and bad quality</p> <p>Is able to use a simple visual checklist to monitor quality in a small batch of items</p> <p>Is able to move bad quality items into a 'faulty' area</p>	<p>Is able to complete a checklist to monitor good quality production for a large batch of items</p> <p>Is able to suggest ways to improve a faulty product</p> <p>Is able to identify the results of selling a bad quality item: returns, refunds, lost finance</p>	<p>Is able to halt production when identifying a fault during manufacturing</p> <p>Is able to suggest modifications to improve performance and product quality</p> <p>Is able to distinguish between a faulty product and a 'waste' product</p>	<p>Is able to evaluate the outcome of a number of products against the original specification</p> <p>Is able to suggest modifications to improve performance and product quality then implement these</p> <p>Is able to work out lost finance related to amounts of badly produced items within 1 week of manufacturing</p>

Key learning: Design & Marketing

	<u>Working Towards Entry 1</u>	<u>Entry 1</u>	<u>Entry 2</u>	Entry 3	Level 1
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<p><u>Subject specific knowledge</u></p>	<p>To know that customers do not buy items that they do not like</p> <p>To know 1-2 materials needed to make an item or to package and sell an item</p> <p>To know that products they choose will be sold</p> <p>To know that a customer will buy a product during a sale</p>	<p>To know that different customers like different products</p> <p>To know a range of materials needed to package 1-2 different items for delivery or in-house sales</p> <p>To know that their choices will determine the appearance of a product</p>	<p>To know that customers can leave a reviews online</p> <p>To know all materials needed to send an item via the post office for an online order using simple instructions</p> <p>To know that the presentation of a product can determine whether it is sold or not</p>	<p>To know that customers can leave a reviews online which can affect future customer purchases</p> <p>To know that customers expect well-presented products</p> <p>To know that social media can help to advertise your products and your business</p> <p>To know some key skills for good customer service</p>	<p>To know that businesses use social media to advertise their business, employee skills and sell items</p> <p>To know the benefits of using social media to advertise</p> <p>To know that products can be sold world wide</p> <p>To know what good customer service looks like</p>
<p><u>Subject specific skills</u></p>	<p>Is able to choose from 2 simple physical designs for product labels or packaging</p> <p>Is able to sort materials into categories for making or for selling</p> <p>Is able to choose items that they like to sell</p> <p>Is able to follow a simple visual instruction to package an item</p> <p>Is able to demonstrate good communication skills such as use of please, thank you, greetings, prices, good eye contact, respond to simple requests when serving a customer</p>	<p>To be able to choose an appropriate design for a product from a selection</p> <p>To be able to sell an item to a customer face to face using a simple script</p> <p>To be able to package an item for an in house sale independently</p>	<p>To be able to design a simple label using a name, short description and a background using an online design tool</p> <p>To be able to package an item for in house sales or online sales independently</p> <p>To be able to demonstrate good communication skills whilst serving a customer</p> <p>To be able to list some details for a product when adding a new product to etsy.com using a visual resource</p>	<p>Is able to design a simple advert for a social media post using a background, company logo, images and text</p> <p>Is able to choose appropriate prices for a items for a sale having completed market research</p> <p>Is able to prepare products and present these for a sale</p> <p>To be able to photograph and list a product using etsy.com</p>	<p>Is able to follow Etsy.com instructions to print a postage label and package an item to send via the post office</p> <p>Is able to evaluate the success of a social media post using comments and likes</p> <p>Is able to demonstrate independence when listing, selling, packaging and posting an item</p> <p>Is able to calculate profit from a sale</p>
<p><u>Personal developmen</u> <u>t</u></p>	<p>Pupils engage in practical tasks aimed at developing individual and team work skills.</p> <p>Pupils are able to respond to and deliver peer mentoring, gaining an understanding of work place relationships and enabling them confidence when communicating with others.</p> <p>Pupils able to develop familiarity when completing familiar practical tasks, allowing pupils to embed processes and explore transferrable skills</p> <p>Pupils are encouraged to contribute towards creative changes and design choices, enabling them to gain confidence when making decisions at work</p>				

<p><u>Suggested activities</u> Wax products, screen printing, clay work, glazing techniques, 'mini' sales.</p>	
<p><u>Online resources / Apps</u> www.etsy.com www.canva.com Instagram</p>	
<p><u>Evidencing Work</u> All task, planning and evidence sheets need to be levelled in accordance with the rubric, students need to self-assess and work needs to be put in student books/ folders with next steps identified. Pupils are given the opportunity to discuss personal development and identify their own skills and qualities.</p>	