















2021-22 CURRICULUM MAP Design and Technology

YEAR 7

<p>HALF TERM 1: Food Technology Eat Well Plate</p> <p>KQ1 – What is Food technology and why is Health and Safety important in a food room? Hazards and solutions in the food room, PPE. Hygiene.</p> <p>KQ2 – How can Knife skills be used to produce a practical fruit salad? Bridge and claw techniques, practice and working independently with the equipment, Food room layout.</p> <p>KQ3 - What equipment is needed to develop nutritional food and dishes? Location of equipment in NEW Academy food room, basic equipment uses.</p> <p>KQ4 – What are the essential Eat well guide lines? Carbohydrates, fats, protein, 5 a day, vitamins and minerals.</p> <p>KQ 5 – What are the 4 c’s? Cooking, cleaning, cross contamination and chilling.</p> <p>KQ 6 – How can you prepare, cook and design for special diets? Food allergies and intolerances, Anaphylaxis, lactose intolerance, coeliac disease.</p> <p>KQ 7 – How can producing a nutritional pasta salad help develop your knife skills? Accuracy, practice, working independently</p> <p>KQ 8 – What are the correct food storage requirements? Cross contamination – 4c’s, food storage equipment/appliances, correct temperature, bacteria growth and causes of ill health.</p> <p>KQ 9 – How can planning, preparing and cooking a practical quesadilla develop my practical skills of using an oven? Layering techniques, cooker demo/analysis, temperature analysis, health and safety when using the oven.</p> <p>KQ 10 _ What are emerging and new technologies? 3D food printing, food presentation, Gastronomy</p> <p>KQ 11 – How can planning, preparing and cooking a practical bolognaise sauce develop my skills of using a hob? Hob demonstration/analysis, temperature control, health and safety guidelines when using the hob.</p>		<p>Guided reading ‘Understanding food and producing food with purpose’:</p> <ul style="list-style-type: none"> • Kitchen safety • The 4’c • Government guidelines and healthy lifestyles • 5 a day • Eat well guide
		<p>Students to plan and write about the importance of the Eat well Plate guidelines and its impact on sustaining a healthy long life.</p>
		<p>Student to use the end of practical sessions to discuss the positives and areas of development of the groups practical outcomes. Verbal peer/self assessment – WWW/EBI.</p>
		<p>Science – Nutrition and Diet Mathematics – Weighing and calculation of ingredients.</p>
<p>HALF TERM 2: Sustainable and wearable textiles</p> <p>KQ1 – What is Textile technology? Fibres and fabrics, characteristic and uses.</p> <p>KQ2 – What are the 6’rs? Reduce, recycle, reuse, rethink, repair, replace, sustainability.</p> <p>KQ3 – What is a specification and why are they important to designers and manufacturers? ACCESS FM</p> <p>KQ4 – Why are mood boards produced for theme generation and inspiration? Examples, existing products, product analysis, designer influences.</p>		<p>Guided reading - ‘Behind Primark’ and its unethical employment of children in sweatshops.</p>
		<p>Students to write a report on ‘How ethical are your clothes?’</p>
		<p>Students to debate how ethical are our clothes? and who’s responsibility it is to dispose of textile waste: the designer, manufacturer or the customer?</p>












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<p>KQ5 – How can sketching ideas, help the design development of innovative products? Primary and secondary colours, colour wheel, complementary colours, hue and tone, colour fusion and separation, image, language and meaning, creativity and innovation.</p> <p>KQ6 -What fabric finish processes can be used for textiles? Transfer printing and decorative techniques.</p> <p>KQ7 – How can you evaluate a finished textile practical outcome? Questionnaires, surveys, pie charts, research analysis, product testing, data, analysing primary and secondary knowledge.</p> <p>KQ8 – How does sustainability and textiles impact on the environment? 6 r's, eco-design, biodegradable, ecological foot print, energy sources.</p>		<p>English – debating current affairs Science – Reducing/Reusing/Recycling</p>
<p>HALF TERM 3: Graphics – Brochure Design for a new tourist attraction in local community - Wolverhampton</p>		<p>Guided reading 'Imagery – subjective or narrative?</p>
<p>KQ1 - What is colour theory and colour association? Colour wheel, presentation, hue and tone.</p> <p>KQ2 – How can rendering improve my designing and presentation?</p>		<p>To write a report on how imagery can be subjective and/or narrative with given examples.</p>
<p>Sketches, designing, mind mapping</p> <p>KQ3 – How can shading and toning improve my designing and presentation? Unique styling</p> <p>KQ4 – What is marketing and branding? Logos and trademarks, Corporate identity and brand names, symbols, registered companies, law, patents and copyright</p>		<p>To feedback verbally their own poster design and how they have been inspired by famous graphic designers to create their own master piece.</p>
<p>KQ5 – What is line theory? Albert Betz and Max Munk, Mathematical model of line distribution.</p> <p>KQ6 – Why is Sustainability important? 6 r's, eco-design, biodegradable, ecological foot print, energy sources, Kyoto protocol.</p> <p>KQ7 – What is Typography? Lettering styles, uppercase and lower case, size and styles, fonts, small letters, serifs, typeface, sans.</p> <p>KQ8 – How is Imagery subjective and narrative? Definitions, language, text, differences, examples.</p> <p>KQ9 – How can designing develop your presentation skills? Presentation, development of ideas, composition and style.</p> <p>KQ10 – Who are Chipp Kidd, Nevile Brody and Paula Scher? How to research with success.</p>		<p>Business – Marketing and branding Science – Sustainability/environment impact/considerations. Art – Rendering, colour therapy and colour wheel.</p>



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<p>HALF TERM 4: Food and Nutrition – Special Diets</p> <p>KQ1 – What is Food and Nutrition studies? Definition, Nutrition and health, NHS, diet.</p> <p>KQ2 – What are the dietary guidelines? Eat well plate, 5 a day, tips and advice</p> <p>KQ3 – What are the nutritional needs of specific groups of people? Nutrients in food, vitamins and minerals, special diets.</p> <p>KQ4 – How can food and its production have an impact on the environment? Water, energy, food wastage and recycling, sustainability.</p> <p>KQ5 – What is Fairtrade? Definition, examples, economy.</p> <p>KQ6 – What skills can be learnt by planning, preparing and cooking healthy sustainable meals for the family? Knife skills, equipment usage, special diets, nutrients in food.</p> <p>KQ7 – What are the different commodities? Poultry, meat, fish. Eggs, dairy products, cereals, vegetable and fruits, soya products.</p> <p>KQ8 – Why is it important to know where your food comes from? Food provenance.</p>		<p>Guided reading –</p> <ul style="list-style-type: none"> Nutrients in Food Carbohydrates, proteins and fats Food waste and recycling
		<p>Students to write a report on how Fair Trade is helping farmers in developing countries to get a fair price for the produce they sell to large manufacturers and distributors.</p>
		<p>Students to verbally feedback their investigations on fair trade</p>
		<p>Science – food and nutrition/environment Geography – Fairtrade/environment.</p>
<p>HALF TERM 5: Product Design Biomimicry</p> <p>Pewter Casting Jewellery</p> <p>KQ1 – What is Product design? Definition, job career pathways, examples of work.</p> <p>KQ2 – What is Biomimicry and how have designers used biomimicry to develop innovations? Bullet trains from kingfishers, Wind turbines from whales, swimwear from sharkskin, ventilation systems from termites, vacuum cleaners from wind cyclones.</p> <p>KQ3 – How can examples of nature, aid your Design ideas and development? James Dyson – cyclone vacuum case study.</p> <p>KQ4 – Which products already exist that have been developed from biomimicry? Product analysis.</p> <p>KQ5 – How can a mood board develop inspiration for innovation? Examples, existing products, product analysis, designer influences.</p> <p>KQ6 – How can I develop design techniques and skills? Colour, shape, presentation, hue and tone, rendering, composition, layout, clarity, creativity.</p> <p>KQ7 – How can you Join materials together? Soldering, welding techniques.</p> <p>KQ8 – Name 5 metals and their properties. metals and ferrous metals, non-ferrous metals and alloys, characteristics and uses.</p>		<p>Guided reading - Bullet trains from kingfishers, Wind turbines from whales, swimwear from sharkskin, ventilation systems from termites, vacuum cleaners from wind cyclones.</p>
		<p>Students to research and write information about their chosen article as detailed above. Expressing how nature will inspire them to design their own jewellery.</p>
		<p>Students to present their research to the class to inform other students of their new-found information.</p>
		<p>Science – wind power renewable resources/ nature and animals inspiring technology.</p>
<p>HALF TERM 6:</p> <p>NEW Graphics – Launch of a new Chocolate wrapper design</p>		<p>Guided reading- Graphic designers - Paul Rand, David Carson, Saul bass, William Morris and Suzanne Kare.</p>



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<p>KQ1 – What is Graphic communication? Drawing techniques, sketches, design ideas, typography, colour, shape, logos and trademarks, imagery.</p> <p>KQ2 – How is Graphic Design communicated? Primary and secondary colours, colour wheel, complementary colours, hue and tone, colour fusion and separation, image, language and meaning.</p> <p>KQ3 – What is CAD/CAM? Computer software packages, design and manufacturing at NEW Academy.</p> <p>KQ4 – What materials are available to graphic designers? Mixed media, function of equipment and templates, correct selection of pens and pencils.</p> <p>KQ5 - What new and emerging technologies have allowed Graphic design to progress? Smart and modern materials, Thermochromic and photochromic, potatopak, polymorph, LCD, nanotechnology, carbon fibres, types of plastic.</p> <p>KQ6 – Why are Social, moral and economic considerations important when graphically designing? Human factors, physiological, psychological, metrological and sociological, target audiences, inclusive or exclusive design, careful designing, responsibility, anthropometrics and Ergonomics, working triangle, disability, access.</p> <p>KQ7 – What design skills will you develop when you design and make your own brochure for a local Wolverhampton Company that is launching a new shop, service or business adventure?</p> <p>KQ9 – Why is health and safety important in a workshop? Risk and control measures for personal safety, HACCAP and risk assessments.</p> <p>KQ10 – What is pewter casting? Pewter casting demonstration.</p> <p>KQ11 – What is Laser cutting? Laser cutting demonstration.</p> <p>KQ12 – How can you evaluate your final metal outcome? Questionnaires, surveys, pie charts, research analysis, product testing, data, analysing primary and secondary knowledge.</p>		
		<p>Students to write a timeline from 1914 to present day of the 10 most influential graphic designers, detailing the changes and influences on society that these designers have encouraged.</p>
		<p>Students to share their information and research to the group/class.</p>
		<p>History – timelines. Science – materials/ sustainability and the Environment.</p>