Thomas More Catholic Academy
FAITH | EXCELLENCE | RESPECT

Design & Technology Curriculum Sequence – Key Stage 3

	KS2 National Curriculum prior learning	By the end of the term, students can:	Year 7 Term 1 Textiles rotation	Year 7 Term 2 Product Design rotation	Year 7 Term 3 Food and Nutrition rotation	Year 7 graphics rotation	Year 8 Term 1 Textiles rotation	Year 8 Term 2 Product Design rotation	Year 8 Term 3 Food and Nutrition rotation	Year 8 Graphics rotation	Year 9 Term 1 Textiles rotation	Year 9 Term 2 Product Design rotation	Year 9 Term 3 Food and Nutrition rotation	
What we want our students to know and remember		Define the key tier 3 **vocabulary**:	Textiles Kantha, design, running stitch, thread, needle, fabric, scissors, sewing machine, applique, pins, eye, pinking shears, stitch ripper, evaluation, tie-dye, prototype, salt, fixer, dye, fold, evaluate,	Health and safety. Tools and equipment. techniques. practical processes. Product design-workshop, tenon saw, junior hack saw, coping saw, wood categories, Hard and soft woods manufactured board, pillar drill, disc sander, file, sandpaper.	Health and safety in food, ingredients, kneading shaping, baking, measurement, heat, Naming Food equipment, Fruit identification, Fruit Salad, Bread, demonstration, practical and evaluation. Nutrients, protein, carbohydrate, fat, minerals, vitamins, Leek & potato soup, Healthy eating, Fruit crumble.	single Point Perspective, Two Point Perspective, Isometric, viewpoint, degree, angle, Horizon Line, Vanishing Point, depth, rendering, tints, shades, tones, 3-dimensional, 2-dimensional, pressure, layer, blend, hue, formal element, protractor, compasses, set square, Packaging, Design Brief, Design Development, Target market, recipe, Existing Products, Nets, Customer, Aesthetics Function Brand	Textiles. material properties, woven, non-woven, fraying, precision, fine motor skills, sewing machine proficiency, key skills. Health and safety. Monster toys, fabric construction, fibres, designing, evaluation, develop, improve, applique, scissors, hand sewing, felt, research, mood board.	product Design, material properties, key skills, health and safety. Phone stand, designing, evaluation, develop, improve, ergonomics and anthropometrics. Commercial product, workshop, plywood, joints, dowel, coping saw, fret saw, files, template, CAD, computers	food safety, Food hygiene. Pasta Salad, kitchen skills, practical, baking, stir frying, storage, healthy, Eatwell Guide, recommendations, Pizza, Dietary needs, chili, Fruit muffins, food poisoning, prevention, assembly	Typography, marketing, logo, brand identity, advertising, font, skew, text, typeface, spacing, distort, arrange, kerning, bold, italic, Geometric, Old Style, Serif, Sans-serif, Design Brief, Single Point Perspective, Two Point Perspective, Isometric, viewpoint, degree, angle, Horizon Line, Vanishing Point, depth, rendering, tints, shades, tones, 3-dimensional, 2-dimensional, pressure, layer, blend hue	recognising, analysing, trends, fashion industry, blocks, patterns, templating, cutting with precision, pins, scissors, accuracy, assembly, fabric manipulation, sewing machines, tie dyeing, resist dyeing, finishing techniques, commercial product, quality control, sustainability, environment, specification,	Existing Products, analysis, Electronics, soldering, components, USB lamps. Practical-stock, Mark Out, cutting, Abrasives, Quality, Drilling, Assembly, Solder safety, Circuits,, Ergonomics, Technology push, Market pull, Sustainability,	International cuisines, Bolognese, Risotto, chicken curry, sweet and sour chicken. Food labelling. Safety, hygiene, temperature control, knives, kitchen equipment, measurement, scales, combing ingredients, frying, boiling, flavour, taste, aroma,	
	Key stage 2 Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing	Recall the **knowledge**:	*Key parts of the sewing machine Decorative techniques e.g applique, hand stitching How to hand stitch What Kantha embroidery is and where it originates from Health and safety rules of*	key practical skills, identifying tools and materials, health and safety, practical proficiency. Learning about woods, hard wood, soft wood, manufactured boards, properties,	Health and safety in food ,Introduction of Food equipment,Fruit tasting, Fruit Salad practical, Bread demonstration, Bread practical Introducing Nutrients, Leek & potato soup, Fruit crumble practical	What key pieces of drawing equipment are used for in Graphics. What Single Point Perspective is. Where the Horizon Line is. Where the Vanishing Point sits. What Two Point Perspective is. How many Vanishing Points are used in Two-	Recall health and safety of machines, how to stitch using a sewing machine and hand sewing. The key elements of the design process Why we improve and develop designs, how	application of key practical skills, safe use of tools and equipment, improving confidence in the workshop, identifying Target Markets, looking at anthropometric data and impact on design, user groups and suitability of	Safety and food hygiene, practical lessons enforce good hygiene practise, safe food storage and preventing food poisoning, practicals include; pasta salad, pizza, chili, fruit muffins. Looking at the eat well guide, making healthy eating	Revisiting: what key pieces of drawing equipment are used for in Graphics. What Single Point Perspective is. Where the Horizon Line is. Where the Vanishing Point sits. What Two Point Perspective is. How many Vanishing Points	recall health and safety with machines, understanding trends in the fashion industry and how this links to contempory designers and brands, the use of complex patterns, creating a	recall the design process and how to create a developed improved well annotated design, effective use of the practical progress pages in the booklet, recording stages of	Recognising international cuisines and the origin of popular dishes. Safety and Hygiene in food including temperature control, student's safety in practical lessons and good hygiene practise, Food	

	and making. Pupils create and develop designs, aimed at individuals or groups, and annotate. select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately § select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities pupils will evaluate work. In the area of Food KS3 understand and apply the principles of a healthy and varied diet § prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques § understand seasonality,		*a Textiles room Key knowledge about different types of fabrics Sustainability in Textiles What a design brief is The key elements of the design process Why we improve and develop designs What tie dye is and ingredients needed Understanding the evaluation process.*	sources and sustainability issues. Following instructions to a high standard in a practical. Applying skills to a challenge task of adapting practical's to their own design.		Point Perspective. The difference between Single and Two Point Perspective. What Isometric Drawing is. What angle Isometric Drawing uses. How Isometric drawing is advantageous compared to Single/Two Point Perspective. What rendering is and where/why it is used. What tints/shades/tones are. The importance of branding and packaging. Key information included on food packaging. What a net is.	to evaluate work, how to record the production process. Researching existing products, presentation of research, designing and manufacturing a soft toy, following a design brief, design development, creating patterns.	products for users. Looking at specifications linking to GCSE language, Risk assessments, exploring the design process to create successful designs for a client. Using computer design programmes,	recommendations and school meal challenge.	are used in Two-Point Perspective. The difference between Single and Two Point Perspective. What Isometric Drawing is. What angle Isometric Drawing uses. How Isometric drawing is advantageous compared to Single/Two Point Perspective. What rendering is and where/why it is used. What tints/shades/tones are. Typography: What Typography is and where/ why it is used. What skew means. What font means, and the key different styles of font used in Graphics - Old Style, Geometric, bold, italic, serif, sans-serif. How brands used Typography to create an identity. The important of Typography and logos in brand identity.	commercial product to a ghigh standard and recording the stages of the process. Understanding areas for improvement and how to apply this to a practical product. recall of techniques in manufacture and surface dyeing. Finishing skills.	practical to identify successes and areas for improvement, introducing different tools, equipment and practical skills to build on year 7 and 8, complex practical which includes electronic component.	Labelling – using food labelling to make informed decisions. Energy balance and food processing.	

	and know where and how a variety of ingredients are grown, reared, caught and processed.													
What we want our students to do	*KS3 builds upon the introduction of Technology, deepening the understanding of the design process, use of a greater variety of tools and equipment, developing greater confidence in a real environment ie; workshop and food room. Making more complex practical's using a wider variety of materials and ingredients. Further developing evaluation and annotation skills.*	Demonstrate excellence in these **skills**:	*How to hand stitch using a Running Stitch* *How to use a sewing machine with increasing levels of skill and accuracy* *Work practically with good standards of health and safety* *How to design a range of design ideas linked to a design brief and develop them using feedback* *Cutting and pinning skills improving accuracy.* *Surface pattern techniques - applique and - tie dye*	Introduction of health and safety. Researching types of wood, properties and sources. Following instructions in the workshop to construct a 3D wooden truck. Evaluation, recording the stages of practical into a production plan. Basic practical adapted into unique designs once key skills are learnt. Designing and improving. Application of knowledge, hand tools and electric tools used with improved understanding and confidence. understanding of health and safety.	Recall instruction from practical demonstrations. Knowledge of equipment and correct, safe use of knives, preparing and assembling, function of ingredients, key skills, safe use of oven, kneading and shaping, Functions and sources of Protein, Carbohydrates and Fat, function of ingredients, effect of heat on ingredients, Functions and sources of vitamins and minerals, function of ingredients, key practical skills including accurate measurement, assembling and baking including effect of heat on ingredients	How to draw using Single Point Perspective. How to draw using Two Point Perspective. How to draw using Isometric Perspective. How to copy an image accurately drawn in Single, Two-Point Perspective and Isometric style. How to create your own design using a brief accurately drawn in Single, Two-Point Perspective and Isometric style. How to render a design to make it look 3-dimensional. How to apply tints/shades/tones effectively to a design. How to create a range of designs using a design brief. How to design a product and a logo. How to use a net to create packaging. Creative design development to design your own Chocolate box packaging. Analysis skills to analyse existing products and your own design ideas in a critical manner.	developing improved designs, proficiency using the sewing machine. Improving accuracy with hand sewing techniques. Developing their own pattern templates from a final design. Construction of 3D product that meets a brief, Having a good understanding of health and safety. Application of practical techniques, improved control using equipment.	improved awareness of risk identified with writing risk assessments, linked to health and safety and correct use of tools, recording of practical lessons giving students ability to record successes and areas for improvement, creating a product for an identified user. Understanding anthropometric data and how it links to ergonomic design. Introduction of CAD learning to use computers for Design.	safe use of knives and hob, function of ingredients, effect of heat on ingredients, Eatwell Guide – making healthy eating choices, following healthy eating guidelines, key practical skills including accurate measurement, preparation of ingredients, assembling dishes, cooking including; stir frying, sauce making, baking, including, dividing equally for consistency.	Transform a complex 2D shape into a 3D shape using Single/ Two-Point / Isometric perspective. Identify the style of drawing seen in the image. What angle does Isometric drawing use? Why is Isometric Drawing more useful than Single or Two-Point Perspective? Design a creative Typography poster working to a design brief.	identification of successful designers and brands and the impact on trends, link to specification and global contempory designers, improving sewing machine skills and accuracy of pattern cutting, pinning and assembly of product. Looking at commercial viability, health and safety and ongoing quality control. improving recording of practical lessons in preparation for GCSE.	students create designs that are commercially viable, to create a well thought out improved design to make a USB light practical. Using new skills, tools and equipment to build on previous knowledge. Boosting practical skills and confidence in the workshop. Pupils record the practical process in a format they now understand to gain from it a clear vision of how to improve their own work.	vegetable and meat preparation, , function of ingredients and effect of heat on ingredients (gelatinisation), heat control, vegetable and meat preparation, gelatinisation, function of ingredients, effect of heat on ingredients, accurate measuring, dividing equally for consistency, accurate temperature control when using the hob	

Key assessment questions:			Do you understand the Kantha technique and links to practical and design work, are you able to use a hand sewing needle to perform a running stitch, can you effectively self and peer assess work using key terms and subject specific language. Do you know how to prepare fabric for dyeing using a resist dyeing technique, can you list dye ingredients and their properties, are you able to understand health and safety while using machines.	Can you identify tools and machinery, can you use them correctly, can you describe in detail correct health and safety in the workshop and identify potential risks, do you understand the difference between woods and their properties, can you record practical work in detail.	Can you use correct methods in the Food room, are you aware of all health and safety procedures, can you follow a recipe and instructions for cooking, are you aware of ingredients and methods, can you demonstrate correct use of tools and equipment, can you describe function and sources of fats, carbohydrates and protein, vitamins and minerals.	Creative design skills. The design process and design development. Fine motor skills and hand eye coordination when drawing. Transferable skills with problem solving and team work. Links to careers, art, other areas of technology and maths. Sustainability and environmental awareness. Understanding measurements, measuring accuracy.	Creative design skills and design development, can you create template from design work, accurate cutting, pinning and machine sewing, application of hand sewing skills with accuracy, fine motor skills in cutting out, pinning and sewing, hand to eye coordination. Effective evaluation and improvement, quality control.	Can you follow instructions and develop original designs on CAD, following health and safety rules within the workshop, accurate drawing out and cutting using appropriate tools and equipment, creating original aspirational practical designs, using quality control to manufacture a product.	Awareness of health and safety in the food room, correct use of tools and equipment with growing confidence, awareness of cooking techniques and preparation of ingredients, following correct methods, showing accurate use of scales and measurements, understanding and application of the Eatwell guide.	Creative design skills. The design process and design development. Fine motor skills and hand eye coordination when drawing. Transferable skills with problem solving and team work. Links to careers, art, other areas of technology and maths. Sustainability and environmental awareness. Understanding measurements, measuring accuracy.	Improved understanding of patterns and show accurate use, pinning and cutting skills, improved accuracy using the sewing machine, be able to identify trends and write company profiles, analyse products using ACCESSFM, make a commercial product with a good level of skill, recall and record in detail processes and techniques.	Show understanding using computer aided design, follow instructions and apply them to your own creative designs, use correct health and safety in the workshop, increased confidence and accuracy using tools and practical techniques, create a well finished practical product using appropriate techniques.	Show increased confidence and proficiency in the food room, understand the effect of heat, gelatinisation, accurate measuring, food preparation including vegetables and meat, understand the effect of ingredients,	

Disciplinary Rigour		What makes your subject different to other subjects? What are the expectations for students in your subject area in the KS3 National Curriculum?	Over the whole of KS3 the disciplinary rigour develops high expectations specific to Technology. Practical knowledge and Health and Safety needs to be understood and applied in all subject areas. The school's message "know more, remember more and apply more". Directly links to the building of confidence and skills within the different areas, key practical skills are learnt in year 7 and build in complexity throughout KS3. Student have the opportunity to learn, apply, build, recall and use these skills throughout the key stage. During KS2 they have had the opportunity to take part in D&T projects learning about safe practices with tools and construction of a finished product. We build upon this knowledge and introduce depth and complexity within the practical projects and theory content. Student will develop their fine motor skills and hand eye coordination in practical lesson. This involves building better understanding of health and safety. Gaining awareness of the safe practice in different areas, sewing machines, workshop and food room. Identification of tools, equipment and techniques. They will develop transferable skills such as, problem solving and team work. Links to geography, physics and maths include; issues surrounding sustainability and environmental awareness, the impact of fossil fuels and plastic production., sourcing materials, understanding measurements, weighing, measuring accuracy. Healthy eating nutrients and food groups and how this directly relates to healthy eating choices, ingredients and food choices. Students will be enabled to learn sophisticated vocabulary to support literacy and build cultural capital. Techniques and materials link to the wider world embracing the diverse cultural heritage of our school. We want students to develop their knowledge of Technology, techniques, materials, designers, links to careers and the wider world. To gain confidence and understanding in preparation for further study at KS4.