Curriculum implementation for Core Design and Technology – Year 7

A well sequenced and logical curriculum that builds knowledge and skills over time. Assessment centred around the KS3 curriculum Principles of Knowledge, design, make and evaluate.

Year 7 Design Technology	Topics/Units to be taught Each unit below is taught over a block. Students experience a rotation system through the projects.	Making skills to be developed (health and safety)	Assessment	Prepares the way for….	Wider Curriculum Links (other curriculum areas, industry, big characters, real life, trips, guest speakers)
Key rack and Keyring overview:	**Students are to design and make a key rack that will sit at a 90 degree angle. Students will accompany this with a pewter cast keying which will produce using CAD/CAM.**				
12-14 weeks 2, 100 minute lesson per fortnight. **10 weeks – 10 lessons**	**Knowledge:** • Core materials – Manufactured boards • Core materials – Metals • Wastage • Surface preparation and finishes **Design:** • Communication of designs using isometric perspective • Communication of designs using 2D software (CAD) **Make:** • Dowell joint • Pewter mould from MDF **Evaluate:** • Peer feedback to aid development • Evaluation of outcome CHALLENGE TASK: Manufacturing specification	• Marking out • Scroll saw/ coping saw • Tenon saw and bench hook • Drilling • Sanding/ Sanding machine • 2D design • Laser cutter • Pewter casting • Filing	This unit has three formal assessment areas: ➢ A02a Design ideas ➢ A02e – Making skills ➢ End of unit test on knowledge Throughout the project, students will be given verbal feedback on their progress. At assessment points students will receive a highlighted success criteria. Green is achieved and red is next steps. Students will feedback from a teacher led question which identifies common mistakes. Written in green pen. The end of unit test is a gauge of knowledge acquired within that unit.	• Improved workshop knowledge and understanding of working practically. • Improved Knowledge, understanding and practice of Health and Safety. • Improved Independence	• English – Written explanations of work. • Self/peer assessment. • Maths- Using measurement with precision and with tolerance. • 2D design scale
BBC Microbit overview:	To use gain an understanding of programming through flowcharts and use of Microbits to programme a night light				
13-14 weeks 2, 100 minute lesson per fortnight. **4 weeks - 4 lessons**	**Knowledge:** •Inputs, processes and outputs •Algorithms • Pseudocode • Programming using flowcharts **Design:** A program using blocks in order to make outputs work **Evaluate:** • Testing programs and changing them according to how well they performed CHALLENGE TASK: Making a buggy move using the Microbit additional buggy.	• Programming using blocks • Problem solving • Downloading using USB cables	This unit has three formal assessment areas: ➢ A02a – Design a program using blocks ➢ A03f – Analysing programs through testing and making improvements ➢ End of unit test on knowledge Throughout the project, students will be given verbal feedback on their progress. At assessment points students will receive a highlighted success criteria. Green is achieved and red is next steps. Students will feedback from a teacher led question which identifies common mistakes. Written in green pen. The end of unit test is a gauge of knowledge acquired within that unit.	• Understanding the basics of programming and how some devices can work based on programs.	• Self/peer assessment • Computing – Algorithms and pseudocode • Science – Inputs/ process and outputs
Graffitti pencil case	To be able to make a pencil case using a sewing machine. Students should use the process of Applique.				
13-14 weeks 2, 100 minute lesson per fortnight. **4 weeks - 4 lessons**	**Knowledge:** • Natural and synthetics fibres • Blended fabrics • Applique • seams • Typography **Design:** To design lettering using graffiti as **Make:**	• Sewing machine safety and changing the bobbin • Hand stitching with needles • Using the laser cutter safely and with the current setting	This unit has three formal assessment areas: ➢ A02e – Making skills ➢ A03f – Evaluating against a specification ➢ End of unit test on knowledge Throughout the project, students will be given verbal feedback on their progress.	• Improved sewing machine knowledge and understanding of working practically. • Embroidery practice and different stitched • Improved Knowledge, understanding and	• English – Written explanations of work. • Self/peer assessment. • Maths- Using measurement with precision and with tolerance. • Tessellation • Graphics - Typography

	• A cushion with a pattern and applique lettering. • Sample patches of applique and seams. **Evaluate:** • Evaluation against the specification that students wrote CHALLENGE TASK: Various tasks to complete	• Using the printer including loading the sublimation paper correctly.	At assessment points students will receive a highlighted success criteria. Green is achieved and red is next steps. Students will feedback from a teacher led question which identifies common mistakes. Written in green pen. The end of unit test is a gauge of knowledge acquired within that unit.	practice of Health and Safety. • Improved Independence • Seam practice	
Punky puppets	To use a variety of techniques including e-textiles to create a puppet or stuffed toy				
2, 100 minute lesson per fortnight.	**Knowledge:** • Technical textiles • 'e'textiles • Making a circuit • Ergonomics • Anthropometrics **Design:** • Designing puppets and annotating design features **Make:** • Embroidery • Stuffing to make puppets • Sewing on components • Making a circuit **Evaluate:** • Peer feedback to generate improvements • Ergonomic and anthropometric influences. CHALLENGE TASK: To be able to construct the circuit which enables the integration of a switch	• Hand stitching • 'e' textiles • Using sewing machines including threading and adding thread to the bobbin. • Applique	This unit has 3 formal assessment areas: • A01 – Research • A02c – Make • A03 – Evaluate Throughout the project, students will be given verbal feedback on their progress. At assessment points students will receive a highlighted success criteria. Green is achieved and red is next steps. Students will feedback from a teacher led question which identifies common mistakes. Written in green pen. The end of unit test is a gauge of knowledge acquired within that unit.	• Threading sewing machines correctly. • Using quick unpicks when mistakes are made • Practising different stitch types. • Practice NEA pages • Specialist textiles knowledge	• English – Written explanations of work. • Self/peer assessment. • Maths- Using measurement with precision and with tolerance. • Science – Circuits and electricity
Food	To use a range of equipment and techniques to cook a range of dishes.				
13-14 weeks **2, 100 minute lesson per fortnight.** **4 weeks - 4 lessons**	**Knowledge:** • Principles of nutrition and health • The Eatwell guide • Effects of poor diet and health **Make:** • Cook a repertoire of predominantly savoury dishes • Cook healthy and balanced dishes **Evaluate:** • Sensory evaluations CHALLENGE TASK/S: Several throughout the unit	• Fine motor skills • Using ovens safely • Being safe in the classroom/Kitchen • Use of Knives correctly. (Chopping skills) **Extension:** Using various kitchen equipment with precision and independence	This unit has three formal assessment areas: ➢ A02d Making skills (Scone based pizza only) ➢ A03f Evaluating using sensory analysis and suggesting where improvements to the dish is needed ➢ End of unit test on knowledge Throughout the project, students will be given verbal feedback on their progress. At assessment points students will receive a highlighted success criteria. Green is achieved and red is next steps. Students will feedback from a teacher led question which identifies common mistakes. Written in green pen. The end of unit test is a gauge of knowledge acquired within that unit.	• Improved kitchen knowledge and understanding. • Improved knowledge and understanding of practical skills/precision. • Improved Knowledge, understanding and practice of Health and Safety. • Improved Independence.	• Science - in food • Geography - Seasonality of Food • Maths - calculating recipes • English -reading of text