Curriculum for Core Design and Technology – Year 8

Intent: *Our vision for Design Technology is of a creative, rigorous subject. and Teaching and learning the technical knowledge and practical skills to make products in a range of materials. Design Technology students will learn a variety of design methods including CAD and be exposed to CAM methods of manufacture such as laser cutters and 3D printers. Students are taught to design using innovation and wherever possible address 'real life' design problems. This exciting and modern curriculum will help prepare students for the world they live in.*

Implementation: *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. Students will rotate around the different areas of design technology, to ensure they are exposed to a broad technology experience.*

Lesson structure: *Students will follow a structured DT program, having 2 lessons per fortnight. One lesson will follow a structured DT curriculum and the other lesson will follow a food and textiles program.*

Year 8 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)	Learning habits	Assessment	Prepares the way for….	Wider Curriculum Links (other curriculum areas, industry, big characters, real life, trips, guest speakers)
Pinball machine	**Intent: Students are to model and working prototype for a pinball machine by investigating mechanisms.**					
1 lesson per fortnight at 100 minutes **10 – 11 lessons**	**Knowledge:** • Motion • Levers • Linkages • Cams and pulleys **Design:** • Final design using CAD software • Orthographic projection • Development of design through modelling **Make:** • Cardboard prototype which is fully working **Evaluate:** • Testing and user evaluation CHALLENGE TASK: Producing and orthographic view using AutoCAD.	• Drilling • Mortise machine • Tenon saws and bench hooks • Coping saws • Routering • Laser cutter	All 5 habits can be earned across the DT projects. Students have a sticker on the front of their folders with the habits on. Teachers tick off the habits when students achieve them. If all 5 are achieved within the year, they get a special Art and design badge. • Resilience • Collaboration • Ambition • Creativity • Independence	This unit has 2 formal assessment areas: ➢ A01 – Research and investigate ➢ A02B – Design and develop 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 mechanical systems including motion, levers, linkages.	• English – Written explanations of work. • Self/peer assessment. • Maths- Using measurement with precision and with tolerance. • Maths – Related to ratio and speed, distance and time • Science – Mechanisms and movement
Eco house	**Intent:** To use knowledge of materials and research to design an Eco friendly building for a school					
1 lesson per fortnight at 100 minutes **10 – 11 lessons**	**Knowledge:** • Research methods • Renewable energy **Design:** • 3D drawing styles • Development of a design • Modelling • CAD – 2D Design • CAD – Sketch-Up **Make:** • Modelling skills • Hot glue gun • Soldering	• General wood tools • Soldering • Hot glue guns	All 5 habits can be earned across the DT projects. Students have a sticker on the front of their folders with the habits on. Teachers tick off the habits when students achieve them. If all 5 are achieved within the year, they get a special Art and design badge. • Resilience • Collaboration • Ambition • Creativity	This unit has 2 formal assessment areas: ➢ A01 – Research and investigate ➢ A02a – Design and develop Throughout the project, students will be given verbal feedback on their progress.	Renewable energy and environmental factors are part of the core DT curriculum which is a requirement for GCSE DT.	• Science – renewable energy • Maths – Scale • Maths – Nets • Art – 2 point perspective drawing

	Evaluate: • Annotation evaluations and analysis CHALLENGE TASK: Produce a record of manufacture		• Independence	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.		
Punky puppets	**Intent:** To use hand stitching skills to design and make a punky puppet which shows 2 halves of your personality					
1 lesson per fortnight at 100 minutes **6 – 7 lessons** **Spring term only**	**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: Applique patches to the puppet or accessories	• Hand stitching • 'e' textiles • Using sewing machines including threading and adding thread to the bobbin. Applique	All 5 habits can be earned across the DT projects. Students have a sticker on the front of their folders with the habits on. Teachers tick off the habits when students achieve them. If all 5 are achieved within the year, they get a special Art and design badge. • Resilience • Collaboration • Ambition • Creativity • Independence	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	**Intent:** To use knowledge and skills to make a series of dishes					
1 lesson per fortnight at 100 minutes **14-15 lessons** **Autumn and Summer term**	**Knowledge:** • Recap of year 7 learning • Seasonality and food miles • Food provenance • Factors affecting food choice • Sensory analysis • Religion and food • Bread Science • Food labelling • Bread experiment **Design:** • Own menu based on a chosen culture (homework) **Make:** • Bread rolls (assessed) • Burgers • Cookies • Bread and butter pudding **Evaluate:**	• Fine motor skills • Using ovens safely • Using a blender safely • Being safe in the classroom/Kitchen • Use of Knives correctly. (Chopping skills) • Re-cap of coloured chopping boards	All 5 habits can be earned across the DT projects. Students have a sticker on the front of their folders with the habits on. Teachers tick off the habits when students achieve them. If all 5 are achieved within the year, they get a special Art and design badge. • Resilience • Collaboration • Ambition • Creativity • Independence	This unit has three formal assessment areas: ➢ A02e Making skills (Bread rolls 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	• 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

	• Sensory evaluation for each practical dish CHALLENGE TASK/S: Various attached to each point above			identifies common mistakes. Written in green pen. The end of unit test is a gauge of knowledge acquired within that unit.		