Year 7	Wooden toy	Dice	Skills Book and Day of the Dead badge	Food	Metal Keyring holder and keyring	CAD/CAM
Specific knowledge and skills	Students will be introduced to the safe use of tools and machinery. This will enable them to have the skills for future projects. Students will design and make a Wooden Toy using Pine, Poplar and Beech. The following will be the focus: • Health and Safety in the workshop and the following of rules • Safe use of tools and machinery • Timber Theory- understanding grain and strength of wood • Use of basic and more advanced tools. Tenon saw, pillar drill, belt sander, disc sander, try square, steel rule • Finishing techniques	Students will be introduced to a variety of electronic components, the safe use of soldering irons and programming of a PIC microchip to make an electronic dice. Students will also be introduced to plastic processes- specifically vacuum forming. The following will be the focus: • Health and safety in the electronics room and the following of rules • Safe use of soldering equipment • Component theory- recognising the names of different components and understanding	Students will be introduced to the safe use of the equipment in the textiles classroom. Students will be taught hand sewing techniques and basic sewing machine skills. Students will follow a design brief and develop ideas for their Day of the Dead badge. They will produce their badges using fabrics and threads using the techniques they have learned. Health and safety in the textiles room and the following of the classroom rules. Safe use of equipment including pins, needles, fabric pens, fabric shears and sewing machines. An understanding of the design process Running stitch, back stitch, decorative	Students will be introduced to health and safety while making a range of products such as fruit salad and cous cous salad. The following will be the focus: • Knife skills such as bridge and claw grip • Hygiene • Health and safety • Time management • Washing/clearing up • Enzymatic browning • Use of the oven • Use of the hob • Rubbing in method • Shorting • Correct food storage	Students will learn how to use maths knowledge when designing their products during this project and will be introduced to health and safety in the metal workshop whilst making their keyring holders and keyrings. The following will be the focus: • Understanding how to read a ruler in millimetres • Using symmetry to design ideas • Learning how to scale designs • Marking out and cutting aluminium using tools such as a scriber, hacksaw, vice, abrafile, and file	Students will be introduced to Autodesk inventor and 3D printing through a range of design tasks. The following will be the focus • Basic use of tools; Sketch, Extrude, Chamfer and Filet with progression from 2D to 3D. • Theory and understanding of the 3D printing process. • How to edit, rotate and develop a 3D drawing from scratch. • How to apply render and lighting to give realistic effects.

	(Timber) and simple joining techniques • An understanding of the design process • Making stickers using CAD/CAM • Technical drawing • Evaluating	what the different component's functions are • An understanding of vacuum forming and its place in industry	embroidery, applique, threading a sewing machine. Using a sewing machine to produce straight lines and right-angled corners.			• Be able to understand dimensions and both read and create an Orthographic drawing. • Understand the premise of Isometric drawing and create an accurate technical sketch. • Be able to design and create a 3D printed pencil topper
Key terms	Hardwood, softwood, coniferous, deciduous, wasting, isometric, evaluation.	Printed circuit board, soldering, component, resistor, light emitting diode, tilt switch, HIPs, vacuum forming.	Running stitch, back stitch, applique.	Health and safety, bridge and claw grip, rubbing in method, hygiene.	Millimetres, centimetres, scale, symmetry, aluminium, abrafile, hacksaw, file, vice, scriber	CAD, CAM, ABS, PLA, 3D Print, Sketch, Extrude, Filet, Chamfer, Render, Isometric.
Assessment	Generating Ideas Working with materials Testing and evaluation	Planning and knowledge Working with materials	Generating and developing ideas Working with materials	Planning Working with materials	Generating and developing ideas Working with materials	Planning and Knowledge and Working with materials