KS3 'Design and Technology' Curriculum Coverage: 2022 – 2023

Year 9

Sequenced	Timbers: Train	Food and Nutrition: Food provenance & manufacture	Electronics: Night light buddy
Key Knowledge	**To know:** ● how to select and use the correct tools and equipment (marking gauge, try square, steel rule, tenon saw, mortise and bevel chisel, mallet, vice, pillar drill, sander) to create a housing joint and a dowel joint ● and further develop and demonstrate independent understanding in the use of redwood, dowel, acrylic and using water based acrylic paint accurately. ● why accurate measuring and marking skills are important to a good outcome for instance using a try square and marking gauge correctly ● why we use 3D CAD drawing packages (Sketchup)to develop and model ideas	**To know:** ● understand seasonality and using local food & their importance ● about sustainability & its importance ● about food miles & how to reduce them ● about the functional properties of ingredients: foaming, plasticity, glazing	**To know:** ● that designers have used "The design process" to design or improve electronic products ● the 5 human senses and what technologies try to replicate them (electronic sensors) ● and recognise the look of some electronic components ● and recognise the symbol for some electronic components ● and understand how and where microcontrollers are used in society ● the key parts of a system- Input Process Output ● how CAD packages can be used to program Microcontrollers - Circuit Wizard
Key Skills	**To be able to:** ● work effectively and independently as an individual to produce a high-quality and unique product ● write and develop and use an effective specification independently ● select and use tools equipment and machinery safely and accurately (marking gauge, try square, steel rule, tenon saw, mortise and bevel chisel, mallet, vice, pillar drill, sander) to produce a range of appropriate carriages of their own design and which include a range of techniques and skills that have been developed throughout key stage three ● demonstrate accurate measuring and marking out to their own specification and design idea using a try square and marking gauge correctly ● use 3D CAD drawing packages (Sketchup) to develop and model workable ideas	**To be able to:** ● identify reasons eating seasonal food is important ● identify how to keep food sustainable ● identify how to reduce food waste ● identify why eating local food is vital to protect the environment ● use a higher level range of cooking techniques: whisked sponge, shortcrust pastry. forming and shaping ● show advanced ideas through practical and design task	**To be able to:** ● connect electronic components to achieve a functional outcome ● find faults in circuits ● use circuit wizard to make flowcharts for microcontrollers
	Tier 3 key vocabulary	**Tier 3 key vocabulary**	**Tier 3 key vocabulary**
Subject specific	● CAD ● sketchup ● specification ● design ● dowel joint ● tenon saw ● marking gauge ● sander ● evaluate ● annotate	● provenance ● primary processing ● secondary processing ● food security ● food miles ● carbon footprint ● seasonality ● foaming ● melting method ● sustainability ● rubbing-in method ● plasticity	● sensing ● microcontroller ● CAD- Circuit wizard ● systems ● input, process, output ● electronic component ● electronic symbol ● investigate ● design brief ● manufacture