

Design & Technology (Year 8)

Term Passive AMP					Term: Embedding Intelligence/ CAD and CAM					Term Cooking and Nutrition- Street Food							
Strands	I can communicate & present information in a variety of ways	I can design, problem solve and develop ideas creatively	I can analyse and evaluate a range of products	I can make a quality product	I can apply my understanding of technical and scientific knowledge	Strands	I can communicate & present information in a variety of ways	I can design, problem solve and develop ideas creatively	I can analyse and evaluate a range of products	I can make a quality product using equipment correctly and safely	I can apply my understanding of technical and scientific knowledge	Strands	I can communicate & present information in a variety of ways	I can design, problem solve and develop ideas creatively	I can analyse and evaluate a range of products	I can make a quality product using equipment correctly and safely	I can apply my understanding of technical and scientific knowledge
I Can Statements	I can develop and communicate ideas	I can test, evaluate and refine my own products	I can evaluate the use of plastics as a material in manufacture	I can make things using a variety of processes	I can understand the properties of polymers (plastics) I can understand the impact of D&T on people and the environment	I Can Statements	I can plan and build 3D models	I can solve problems by prototyping and adapting ideas	I can analyse and evaluate products	I can investigate different technologies to make products	I can understand the impact of D&T on people and the environment	I Can Statements	I can be creative to generate ideas	I can solve problems by prototyping and adapting ideas	I can research to identify user needs	I can make things using a variety of processes	I can understand the impact of D&T on people and the environment
Mastery Statements	Emerging	Developing	Mastering						Mastery Statements	Emerging	Developing	Mastering					
I can develop and communicate ideas	Draw ideas neatly and clearly communicate them in your book	Draw ideas, and annotate them identifying key features.	Annotate ideas with details including correct measurements, and types of materials used.						I can plan and build 3D models	Construct nets for a range of 3D models of basic shapes	Construct functional nets for multi sided shapes that use tabs correctly	Create 2D plans for 3D models of my own design					
I can test, evaluate and refine my own products	Identify a suitable location for the amplifier	Experiment and identify a suitable location for the amplifier	Test a range of locations to find the best suitable position to achieve optimum sound projection						I can draw accurately in 3D	Sketch isometric forms using grid paper	Produce accurate fresh hand sketches in isometric	Add tone correctly to isometric sketches and draw products accurately in one and two point perspective					
I can evaluate the use of plastics as a material in manufacture	I can list the advantages and disadvantages of plastics	I can explain the positive impact on people and the negative impact on the environment	I can provide a justified argument with examples of products materials and properties.						I can solve problems by prototyping and adapting ideas	Design and plan a simple slotted model of an animal	Adapt prototypes of the slotted model design to guarantee the most resource use of materials	Apply knowledge of 2D design tools to develop CAD models of a slotted animal suitable for CAM					
I can make things using a variety of processes	Use the grid method to enlarge an image, use tools and equipment to cut and smooth materials	Use ratios and measuring tools to enlarge images with some accuracy. Use a range of tools and equipment to use correctly and accurately to shape material	Accurately use ratios and measuring tools to enlarge images. Identify which tools and equipment to use correctly and accurately to shape material.						I can analyse and evaluate products	Analyse a range of card models and compare features	Write a set of success criteria for a slotted model	Evaluate prototypes and identify improvements					
I can understand the properties of polymers (plastics)	State the types of polymers and give examples (thermost and thermoplastic)	Identify the properties of different type of polymers	Explain where the polymer can be used and why it is suitable						I can investigate different technologies to make products	3D cardboard slotted model drawn and cut accurately by hand	3D Slotted model in ply using the laser cutter	3D printed phone holder using the 3D printer					
I can understand the impact of D&T on people and the environment	Be able to identify key concerns that impact the environment.	Be able to state how local communities, businesses and government attempt to combat environmental issues	Be able to discuss potential ideas and offer solutions to support current social and environmental issues.						I can use tools and equipment	Generate basic shapes, text and dimensions in 2D design	Use a range of tools in 2D Design to accurately copy 2D images for presentation and use in CAM	Use TinkerCAD to create 3D models for presentation and for use in CAM					
I can work safely in an organised way									I can work safely in an organised way	Keep my workspace organised whilst modelling and clean up after myself	Identify the steps and safety rules for using the laser cutter	Identify the steps and safety rules for using the 3D printer					
I can understand the impact of D&T on people and the environment									I can understand the impact of D&T on people and the environment	List the benefits and disadvantages of CAD and CAM	Investigate the social and environmental factors of 3D printing and explain the impact on others	Write justified evaluation of CAD and CAM technology					
I can be creative to generate ideas	Carry out idea generation techniques; Speedy Sketching, Improve the Basic to plan ideas for possible savoury snacks	Apply understanding gained through research to design a savoury snack product (Eatwell Guide, sources of food, cultural & nutritional food choices, properties of ingredients, target customer profile)	Evaluate design ideas using design criteria and target customer profile to guide reasoning						I can solve problems by prototyping and adapting ideas	I can use a range of ingredients to plan for Ready steady cook challenge.	I can suggest improvements to the ingredients or method to ensure a better quality outcome	Organise my team, our resources and work area under timed conditions to complete the challenge.					
I can research to identify user needs	Know that typical food availability and choices vary from country to country Know what distinguishes snack foods from main meals Summarise information about food products (types of bread)	Identify and describe foods from other cultures Identify savoury snack foods sold at markets and who buys them	Explain how food choice is affected by culture, ethics and preferences and write design criteria to guide thinking Write a detailed customer profile which draws on research about foods sold at markets and who buys them Evaluate use of research						I can make things using a variety of processes	Make Soda bread using chemical raising agents	I can make shortcrust pastry and use rolling pin and cutters to create equal sized parcels	Independently prepare and combine ingredients to make a whole.					
I can work safely in an organised way	Recall H&S rules to get myself ready to cook and do the basic clearing up Identify & explain the consequences of not following the H&S rules they pose	Take collective responsibility & work in a team to prepare, cook and tidy away Distinguish between the types of food hazards and the risks they pose	Lead others to prepare, cook and tidy away Assess a situation to hazard which food hazard is responsible for issues and verify through application of knowledge						I can understand the principles of nutrition & healthy eating	Know the main nutrients in each section of the Eatwell Guide Know the sources of protein foods Recall the factors which affect food choice	Explain the source, properties and choice of protein foods	Develop ideas for savoury snack properties which make most efficient use of protein foods					
I can understand the impact of D&T on people and the environment	Know that food production can affect the environment Know that some people are lacto-vegetarian and vegan	Describe how food production can affect the environment Explain the difference between types of vegetarianism	Assess the sources of protein foods and the impact they have on the environment and on food choices						I can understand the properties of materials	Know that chemical & biological raising agents add lightness to food products Know that starch gelatinisation causes liquid foods to become thick	Describe how chemical & biological raising agents work Describe how starch gelatinisation happens	Plan an investigation to explore the use of either raising agents or starch in changing properties of foods					