

Year 9

Autumn Term: CAD/CAM Iterative Design Food and Protein		Spring Term: Resistant Materials Drawing Techniques Sustainable Food and Design		Summer Term: Eco Home Eco Food	
Key knowledge: <ul style="list-style-type: none"> To know the importance of CAD/CAM To know the advantages and disadvantages of CAD/CAM To learn the 3D modelling programme- 3D Rhinoceros. To learn about 3D shapes, extrude, revolve, pipe, array, polar array and difference. To know the importance of creating design ideas To know how to create good design idea pages To know how to sketch in isometric To know how to annotate design pages effectively To know strategies to promote creative design solutions Know the 4 Cs of food safety Describe quality assurance points for chicken and eggs Explain how marinades affect the flavour and texture of proteins Use an egg foam to create a chilled dessert Be able to successfully pane a protein food 		Key knowledge: <ul style="list-style-type: none"> To know the different material categories: Wood, Metal and Polymer To know what makes a manufactured board To know the importance of presentation. To know the rules of one point perspective. To know the rules of two point perspective. To know how to use thick and thin line technique. To know how to tone and render an object. To know how the 6Rs are applied within design and manufacturing. To know the various types of energies available to us in the UK and their properties and advantages. To know how to apply their knowledge gained through this section with their own creative solutions. 		Key Knowledge: <ul style="list-style-type: none"> Know the importance of sustainability. Learn a range of CAD-2D Design skills. Learn how to use the CAM laser cutter. Learn how to use CAD-3D Rhinoceros. Learn how to present design ideas. Learn how to create a card model. Know about nesting , tessellation, designers and architects, health & safety, paper and board and die cutting To know about healthy and sustainable diets. To know about product miles and carbon footprint To know what genetically modified organisms are. To learn about additives in food. 	
Pupils will be able to: -To learn a range of sketching techniques to communicate your designs. - To know the importance of CAD/CAM and the basic principles of 3D Rhinoceros. - To learn about the importance of healthy eating, food preparation and hygiene.	Key Vocabulary: isometric drawings, presentation CAD/CAM, 3D Rhinoceros, laser cutter, 3D printer, 3D shapes, extrude, revolve, pipe, array, polar array, difference healthy eating, protein, safety and hygiene, 4C's- cleaning, cooking, cross contamination and chilling.	Pupils will be able to: - To learn a range of graphical techniques such as 1 point and 2 point perspective. · To learn the principles of sustainability and understand designer responsibilities. - To learn about a range of resistant materials, their properties and uses.	Key Vocabulary: 1 point perspective, 2 point perspective, thick and thin lines, shading sustainability, 6 R's- reduce, reuse, recycle, rethink, refuse, repair, new renewable and non-renewable resources hardwoods, softwood, manufactured boards, product analysis, aesthetics, ergonomics, materials, safety, function,	Pupils will be able to: create an eco-home using CAD/CAM create a food dish with sustainability in mind	Key Vocabulary: sustainability, carbon footprint, finite and non-finite resources, climate change, pollution, deforestation, global warming, product analysis, architecture, computer aided design, computer aided manufacture, 2D design, 3D rhino, laser cutter, health and safety, material efficiency, paper and board, corrugated cardboard healthy eating, sustainable eating, product miles, carbon footprint, genetically modified organisms, additives
Assessment: work will be assessed over the 5 lessons		Assessment: work will be assessed over the 5 lessons		Assessment: Mid-term test and final project test at the end of the 12 weeks.	
Enrichment Opportunities: Cosford Air Force Museum		Enrichment Opportunities:		Enrichment Opportunities: Eco Home Project with the Royal Institute of British Architects Eco Food Project with live chef demonstrations	