

12 week rotation CAD/CAM Furniture Design		12 week rotation Electronics Night Light Project	
Key knowledge: <ul style="list-style-type: none"> To know the importance of CAD/CAM and why designers use it when designing products. To know the advantages and disadvantages of CAD/CAM To learn the 3D modelling programme- 3D Rhinoceros. To learn about 3D shapes, extrude planer curve, pipe, offset and difference on 3D Rhino. To know why designers model through CAD models. To know why designers make card models to develop their designs. To know how ergonomics and anthropometric data is used when designing. To know the importance of sustainable design. 		Key knowledge: <ul style="list-style-type: none"> To know specific details about the soldering iron and the process of soldering To know how to read a resistor by using a colour wheel To know the names and understand how the night light components work To know the isometric techniques on 2D Design To know the order of the Design Process and the key words relating to this process To know why designers model through CAD models. To know why designers make card models to develop their designs. To know the importance of sustainable design. 	
Pupils will be able to: design and develop product using 3D Rhino and create a card model using CAD/CAM	Key Vocabulary: Computer Aided Design, Computer Aided Manufacture, ergonomics, anthropometric data, sustainability, card modelling, aesthetics, corrugated cardboard, MDF, plywood, product disassembly, product analysis, 1 point perspective, flat pack furniture, robotics, 3D printing, 3D Rhinoceros, laser cutter	Pupils will be able to: design product using electronic components and create a card model using CAD/CAM	Key Vocabulary: health and safety, soldering iron, design process, design brief, design specification, product analysis, design ideas, orthographic projection, electrical components, Light Dependant Resistor, battery, resistor, light emitted diode, transistor, printed circuit board, paper and board, CAD/CAM, nets, evaluation
Assessment: Mid-term test and final project test at the end of the 12 weeks.		Assessment: Mid-term test and final project test at the end of the 12 weeks.	
Enrichment Opportunities: CAD/CAM club		Enrichment Opportunities:	

12 week rotation Resistant Materials Maze and Puzzle Project		12 week rotation Food Technology Food Commodities	
Key knowledge: <ul style="list-style-type: none"> To know how to explore a given design context and to explore the needs and wants of a target user. To know how we can develop creative solutions to meet the needs and wants of our target user. To know the working and mechanical properties of various materials. To know the classifications, properties, sources and stock forms of the following materials: Natural timbers, manufactured boards and polymers To know what standard components are and the advantages of using them within manufacturing. To know how we can process these materials utilising a range of tools and machines in an accurate and safe manner to realise our outcome. To know how we as designers can critically evaluate and test our ideas to ensure that they meet the original brief and the needs/wants of our target user. 		Key knowledge: <ul style="list-style-type: none"> Pupils will know the principles of good food hygiene to keep themselves and others safe. Pupils will understand how to read food packaging labels correctly and suggest appropriate food choices for themselves and other people. Pupils will understand the term food provenance and know the seasons of some fruit and vegetables. Pupils will develop their practical cooking skills producing tasty, healthy and affordable dishes based on the commodities which they have studied. 	
Pupils will be able to: design a maze/puzzle using CAD/CAM using appropriate woods and plastics	Key Vocabulary: health and safety, design brief, product analysis, specification, ideas ideas, computer aided design, computer aided manufacture, 2D design, laser cutter, polymers, hardwoods, softwoods, manufactured boards, practical work, fret saw, pillar drill sanding machine, evaluation	Pupils will be able to: cook a range of food dishes safely and hygienically.	Key Vocabulary: contaminate, hazard, hygiene, bacteria, organic, guideline daily amount, vegetarian, high risk food, low risk food, traffic lights, staple food obesity, intrinsic, food safety temperature, 4C's food borne illnesses, food poisoning, food labelling, sensory analysis
Assessment: Mid-term test and final project test at the end of the 12 weeks.		Assessment: Mid-term test and final project test at the end of the 12 weeks.	
Enrichment Opportunities: Thinktank Museum in Birmingham		Enrichment Opportunities: Chef's Club and Cadbury World in Bournville	