The Buckingham School Curriculum Map

Name of subject: Design and Technology.

KEY TOPIC/VALUE		AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
YEAR 6 / PRIMARY SCHOOL LEARNING	CONTENT	Design textiles.	Printing - Lino		Food Technology.	More complex switches	
	SKILLS	Fabric making and stitching.	Printing, shaping and Etching in Lino.		Basic cooking techniques exploring world dishes and seasonal foods.	Basic electronics and switch functions.	
	THEMES	Combining fabric shapes.	Etching Lino Prints.		Celebrating Culture and Seasonality.	Making basic circuits with batteries.	
YEAR 7 **4 DT Themes rotated in all KS3 groups**	CONTENT	• Use of measuring tools, seam allowance. • Dye natural fabric (using "tie & dye method). • Evaluating work throughout.	• Students will be able to apply their knowledge to make informed choices when preparing dishes. • Students will develop the creative,		• Design brief. • Ideas creation. • Designers research. • Modeling and woodwork. • Electronic circuits and components. • Creation of final piece.	• Design brief. • Ideas creation. • Designers research. • Modeling and popup mechanisms. • Design evaluation. • Creation of final piece.	

throughout the year. Each thread will last 9-12 weeks.		• Pin, Tack Sew and machine work. • Summative assessment of their final piece.	technical and practical expertise when modifying dishes. • Summative assessment of their final piece.		• Analysis of final product and design process reflection. • Summative assessment of their final piece.	• Analysis of final product and design process reflection. • Summative assessment of their final piece.	
	SKILLS	• Stenciling, design. • Accurate measuring. • Designing to make in a product. • Use a sewing machine safely. • Use specialist equipment.	• Knowledge and understanding of ingredients and healthy eating. • Food preparation and cooking techniques. • Consumer food and drink choice. • Develop skills in order to design and make high quality products for a wide range of users. • Evaluate and test their ideas		• Develop ideas for a Monster alarm. • Creation of mood boards and Character feature analysis in their booklets. • Practical carpentry skills. • Learn various components used in the model. • Make effective electronic circuits. • Design development and evaluation. • Analysis of final product and design process reflection.	• Develop ideas for child's character. • Ideas development and story board creation. • Story line ideas and literacy. • Pop up mechanisms and the making process of a popup book. • Practical making techniques. • Analysis of final product and design process reflection.	

			and products and the work of others.				
	THEMES	Textiles.	Food Technology.		Electronics and Woodwork Monster Alarms.	Graphics pop up books.	
YEAR 8 **4 DT Themes rotated in all KS3 groups throughout the year. Each thread will last 9-12 weeks.**	CONTENT	• Stenciling, design. • Accurate measuring. • Designing to make in a product. • Use a sewing machine safely. • Use specialist equipment. • Summative assessment of their final piece.	• Students will be able to apply their knowledge to make informed choices when preparing dishes. • Students will develop the creative, technical and practical expertise when modifying dishes. • Summative assessment of their final piece.		• Design brief and ideas development. • Technical drawing techniques. • Basic wood work and carpentry skills. • Final design and manufacture of product. • Evaluation of final design and sustainability research. • Summative assessment of their final piece.	• Design brief and ideas research. • Ideas development and Iterative cycle design. • Function, aesthetics, ergonomics impact on design. • Research criteria. • Cad product design. • Practical making techniques using vacuum moulding. • Final product manufacture and evaluation. • Summative assessment of their final piece.	

	SKILLS	• Stenciling, design. • Dye natural fabric (using “tie & dye method). • Accurate measuring, use of measuring tools, seam allowance. • Designing to make in a product – Evaluating work throughout. • Use a sewing machine safely. • Use specialist equipment. • Applique, pin, tack and Sew. • Summative assessment of their final piece.	• Knowledge and understanding of ingredients and healthy eating. • Food preparation and cooking techniques. • Consumer food and drink choice. • Develop skills in order to design and make high quality products for a wide range of users. • Evaluate and test their ideas and products and the work of others. • Summative assessment of their final piece.		• Design ideas and cover basic Technical Drawing skills. • Isometric, Plano metric, 2-point perspective and elevation drawings of buildings. • Use of professional draftsman equipment and tools. • Create scale drawings, floor plans and create internal design models of the building interiors. • Basic wood work and carpentry skills. • Evaluate and discuss sustainability of models made.	• Design brief and ideas research. • Ideas development and Iterative cycle design. • Function, aesthetics, ergonomics impact on design. • Learn about social economic issues and sustainably through upcycling and development of a cheap light source. • Cad product design. • Practical making techniques of their final product using, vacuum moulding and Styrofoam shaping. • Analysis of final product and	

					• Summative assessment of their final piece.	design process reflection.	
	THEMES	Textiles.	Food Technology		Technical drawing and Woodwork.	Iterative design Light project and CAD.	
YEAR 9 **4 DT Threads rotated in all KS3 groups throughout the year. Each thread will last 9-12 weeks.**	CONTENT	• Design brief and ideas development. • Design drawing and box research factors impacting design. • Basic wood work and carpentry skills. • Final design and manufacture of product. • Evaluation of final design and sustainability research. • Summative assessment of their final piece.	• Ingredients preparation. • Health and Safety regulations. • Knowledge of consumer food and drink choice. • Make high quality products for a wide range of users. • Evaluate and test their ideas and products and the work of others. • Make modifications for different groups.		• Design brief and ideas development. • Design drawing and game research factors impacting design. • CAD and 3-D printing. • Final design and manufacture of product. • Evaluation of final design and 3-D software/slicing research. • Summative assessment of their final piece.	• Students will have to design a house from a client brief. • Students will complete a full set of drawings of their planned building meeting the specifications laid out. • Complete detailed drawing techniques. • Research sustainability and carbon footprint in the building industry.	

			• Summative assessment of their final piece 50%. • Summative written assessment on content and knowledge 50 %.				
	SKILLS	• Develop ideas for a successful Bird box, that is built to a client brief and is sustainable. • Ideas development and Iterative cycle design. • Understand how function, aesthetics, ergonomics impact on design of the bird box. • Cover sustainability issues, carbon footprint through upcycling and	• Develop their knowledge and understanding of ingredients and healthy eating. • Develop food preparation and cooking techniques. • Develop their knowledge of consumer food and drink choice. • Apply knowledge to make informed choices.		• Create from design brief and asked to develop ideas for a successful Children's board Game and manufacturing the pieces. • Ideas development and evaluation.	• Students will develop design ideas and cover advanced Technical Drawing skills. • Students will relearn detailed Isometric, Plano metric, 2-point perspective and elevation drawings of buildings. • Students will learn to use a variety of professional draftsman	

		development of a bird box. ● Use basic wood work and carpentry skills. ● Analysis of final product and design process reflection.	● Develop the creative, technical and practical expertise needed to perform everyday tasks confidently. ● Build an apply a repertoire of knowledge, understanding and skills in order to design and make high quality products for a wide range of users. ● Students will have to create a recipe and trial it in four different ways, evaluating throughout and modifying.		● Understand how function, aesthetics, ergonomics impact on design of the board game pieces. ● Students will learn how to use 3-D printing techniques using Elgoo Mars Pro 2 machines and various 3-D printing software platforms. ● Cad product design. ● Analysis of final product	equipment and tools. ● Students will create scale drawings, floor plans and create internal design models of the building interiors. ● Students will learn Health and safety features in building design and materials. ● Students will learn about Carbon footprint and sustainability in the building industry.	

					and design process reflection.		
	THEMES	Carpentry, Bird box design.	Food Technology GCSE Taster.		CAD design and 3-D Printing.	BTEC Construction Taster, Technical drawing.	
YEAR 10 • Food Preparation and Nutrition.	CONTENT	• Food Science. • NEA 1 Focus and practice including research and referencing sources, plan of action and conclusions. • Raising agents. • Seasonality Farm to Fork. • Food Spoilage Seasonal, and cost. • Food storage.	Make a variety of dishes on variety of dishes on various themes. • Religion /culture • Coeliac • Vegetarian etc • Commodity Meat & • Poultry. • Practical, high level skills including mini lemon meringue pies • Nutrition – Protein • HBV/LBV	• Practical, high level skills including mini lemon meringue pies • Nutrition – Protein • HBV/LBV • Food Science.	• Commodity: Fish • and Alternative • Proteins. • Classification, rearing, sustainability &provenance. • Manufacturing – • primary & secondary • Nutrition – Omega 3	• Provenance – food miles, Organic v non-organic. • Nutrition & energy density. • Fat Soluble Vitamins • Nutritional value for all, benefit to vegetarians. • Allergies and food intolerance. HBV/LBV	Practice NEA2 and practical.

			• Food Science.				
	SKILLS	• Food Science • NEA 1 Focus and practice including research and referencing sources, plan of action and conclusions. • Raising agents.	• Practical, high level skills including mini lemon meringue pies.	• Practical skills including cake making methods, pastry and bread.	• Practical skill development using a range of different cereal products. • Practical skill development and dish selection.	• Food Safety Skills. • High skill development of Practical products.	• Practical skill development using commodity, and independent dish selection.
	THEMES	Seasonality. Food Science.	Classification – primary and secondary processing.	Commodity: Wheat Structure and nutritional value.	Commodity: Fats/Oils and Sugars Dairy	Commodity: Soya, Tofu, Beans, Seeds and Nuts.	• Food Preparation • NEA 2 Focus and practice including research and conclusions. • Practical tasks.
YEAR 10	CONTENT	• Preconstruction work. • Sub structure ground works. • Ground floors.	• Beam and block work. • Substructure/walls.	• Students will have to design a house from a client brief.	• Students will have to design a house from a client brief.	• Workshop health and safety.	• Construction of Timber frame.

• BTEC Construction.		• Performance requirements. • Testing and grading materials. • Cavity walls. • Fire resistance. • Thermal insulation. • Sound Insulation. • Weather resistance.	• Substructure/floors. • Substructure roofs. • SIPS. • Cross wall construction. • Foundations. • Cross sectional diagrams.	• Students will complete a full set of drawings of their planned building meeting the specifications laid out. • Complete detailed drawing techniques. • Research sustainability and carbon footprint in the building industry.	• Students will complete a full set of drawings of their planned building meeting the specifications laid out. • Complete detailed drawing techniques. • Research sustainability and carbon footprint in the building industry.	• Identifying risks and hazards. • Tools and materials of Joinery and Carpentry. • Marking out a timber frame. • Control measures. • Timber joints.	• Practical cutting out of Joints.
	SKILLS	Understand and develop content knowledge of building methods, performance requirements within Building Technology.	Understand and develop content knowledge of building methods, performance requirements within Building Technology.	• Students will develop design ideas and cover advanced Technical Drawing skills. • Students will relearn detailed	• Students will develop design ideas and cover advanced Technical Drawing skills. • Students will relearn detailed Isometric, Plano metric, 2-point	• Learning how to mark out frames and identify/create different timber joints. • Evaluate hazards and include control measures.	• Practical construction of wooden frame, with various timber joints.

				Isometric, Plano metric, 2-point perspective and elevation drawings of buildings. ● Students will learn to use a variety of professional draftsman equipment and tools. ● Students will create scale drawings, floor plans and create internal design models of the building interiors. ● Students will learn Health and safety features in building design and materials.	perspective and elevation drawings of buildings. ● Students will learn to use a variety of professional draftsman equipment and tools. ● Students will create scale drawings, floor plans and create internal design models of the building interiors. ● Students will learn Health and safety features in building design and materials.		

	THEMES	Unit 1 Construction Technology.	Unit 1 Construction Technology.	Unit 3 Construction and Design	Unit 3 Construction and Design	Unit 5 Exploring Carpentry and Joinery Principles and Techniques.	Unit 5 Exploring Carpentry and Joinery Principles and Techniques.
YEAR 11 • Food Preparation and Nutrition.	CONTENT	• Completion NEA 1- Food Investigation • Raising agents.	• NEA 2 • Introduce NEA Assessment 2 • Research into tasks.	NEA 2 – Food Preparation Planning Time Management. Practical Exam	• Revision – Re visit theory and exam question practice • NEA 2	• Factors Affecting Food Choice. • Culture and cuisine. • Revision	• Revision
	SKILLS	Food Science NEA 1 Focus and practice including research and referencing sources, plan of action and conclusions.	Students will have to complete their practical trial recipes for NEA2. Advanced cooking and preparation skills and techniques.	Students will have to complete their practical trial recipes for NEA2. Advanced cooking and preparation skills and techniques.	Revisiting all topics covered in last six months for final exam. Revision – Re visit theory and exam question practice.	Revisiting all topics covered in last six months for final exam. Revision – Re visit theory and exam question practice.	Revisiting all topics covered in last six months for final exam.
	THEMES	NEA 1 15% final grade.	NEA 2	NEA 2 – Food Preparation Planning Time Management Practical Exam NEA 35% Final	Mock exam NEA 1 NEA 2.	1.Exam Paper 2. Exam Questions on term topics. 3. NEA 1 + NEA2 = 50% final grade.	Final Examination 50%

				grade.			
YEAR 11 • BTEC Construction.	CONTENT	• Effects of force. • Forces and Construction materials. • Calculating force. • Hooke's law. • Young's modulus of elasticity. • Changes in Temperature. • Specific heat capacity. • Thermal conductivity. • Thermal expansion and contraction. • Algebraic and Graphical methods. • Mensuration.	• Preconstruction work. • Sub structure ground works. • Ground floors. • Performance requirements. • Testing and grading materials. • Cavity walls.	• Students will have to design a house from a client brief. • Students will complete a full set of drawings of their planned building meeting the specifications laid out. • Complete detailed drawing techniques. • Research sustainability and carbon footprint in the building industry.	• Fire resistance. • Thermal insulation. • Sound Insulation. • Weather resistance.	• Beam and block work. • Substructure/walls. • Substructure/floors. • Substructure roofs. • SIPS.	• Cross wall construction. • Foundations. Cross sectional diagrams.
	SKILLS	• Students will learn different Mathematical skills in	• Understand and develop content knowledge of building methods,	• Students will develop design ideas and cover advanced	• Understand and develop content knowledge of building methods,	• Understand and develop content knowledge of building methods,	• Understand and develop content knowledg

		determining specification and grading of materials used in the construction industry. ● Calculator skills and Mathematical application.	performance requirements within Building Technology. ● Exam questions and past paper analysis. Revision.	Technical Drawing skills. ● Students will relearn detailed Isometric, Plano metric, 2-point perspective and elevation drawings of buildings. ● Students will learn to use a variety of professional draftsman equipment and tools. ● Students will create scale drawings, floor plans and create internal design models of the building interiors. Students will learn Health	performance requirements within Building Technology. ● Exam questions and past paper analysis. ● Revision.	performance requirements within Building Technology. ● Exam questions and past paper analysis. ● Revision	e of building methods, performance requirements within Building Technology. ● Exam questions and past paper analysis. Revision

				and safety features in building design and materials			
	THEMES	Unit 2 Scientific and Mathematical Applications for Construction.	Unit 1 Construction Technology.	Unit 3 Construction and Design.	Unit 1 Construction Technology.	Unit 1 Construction Technology.	Unit 1 Construction Technology. Final exam.