Design and Technology (KS3) / 3D Design (KS4)

Year 7	**KEYRING AND CLOCK PROJECT**
National Curriculum	*"Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. When designing and making, pupils should be taught to:* **Design** *Use research and exploration, such as the study of different cultures, to identify and understand user needs identify and solve their own design problems and understand how to reformulate problems given to them develop specifications to inform the design of innovative, functional, appealing products that respond to needs in a variety of situations use a variety of approaches [for example, biomimicry and user-centred design], to generate creative ideas and avoid stereotypical responses develop and communicate design ideas using annotated sketches, detailed plans, 3-D and mathematical modelling, oral and digital presentations and computer-based tools.* **Make** *Select from and use specialist tools, techniques, processes, equipment and machinery precisely, including computer-aided manufacture select from and use a wider, more complex range of materials, components and ingredients, taking into account their properties.* **Evaluate** *Analyse the work of past and present professionals and others to develop and broaden their understanding investigate new and emerging technologies test, evaluate and refine their ideas and products against a specification, taking into account the views of intended users and other interested groups understand developments in design and technology, its impact on individuals, society and the environment, and the responsibilities of designers, engineers and technologists.*

BRAKENHALE Subjects at a Glance

Year 8	UPCYCLING PROJECT
National Curriculum	*"Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. When designing and making, pupils should be taught to:* **Design** *Use research and exploration, such as the study of different cultures, to identify and understand user needs identify and solve their own design problems and understand how to reformulate problems given to them develop specifications to inform the design of innovative, functional, appealing products that respond to needs in a variety of situations use a variety of approaches [for example, biomimicry and user-centred design], to generate creative ideas and avoid stereotypical responses develop and communicate design ideas using annotated sketches, detailed plans, 3-D and mathematical modelling, oral and digital presentations and computer-based tools.* **Make** *Select from and use specialist tools, techniques, processes, equipment and machinery precisely, including computer-aided manufacture select from and use a wider, more complex range of materials, components and ingredients, taking into account their properties.* **Evaluate** *Analyse the work of past and present professionals and others to develop and broaden their understanding investigate new and emerging technologies test, evaluate and refine their ideas and products against a specification, taking into account the views of intended users and other interested groups understand developments in design and technology, its impact on individuals, society and the environment, and the responsibilities of designers, engineers and technologists.*

BRAKENHALE Subjects at a Glance

Year 9	**MOOD LAMP PROJECT** **MATERIAL INVESTIGATION: WOOD AND POLYMERS**
National Curriculum	*"Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. When designing and making, pupils should be taught to:* **Design** *Use research and exploration, such as the study of different cultures, to identify and understand user needs identify and solve their own design problems and understand how to reformulate problems given to them develop specifications to inform the design of innovative, functional, appealing products that respond to needs in a variety of situations use a variety of approaches [for example, biomimicry and user-centred design], to generate creative ideas and avoid stereotypical responses develop and communicate design ideas using annotated sketches, detailed plans, 3-D and mathematical modelling, oral and digital presentations and computer-based tools.* **Make** *Select from and use specialist tools, techniques, processes, equipment and machinery precisely, including computer-aided manufacture select from and use a wider, more complex range of materials, components and ingredients, taking into account their properties.* **Evaluate** *Analyse the work of past and present professionals and others to develop and broaden their understanding investigate new and emerging technologies test, evaluate and refine their ideas and products against a specification, taking into account the views of intended users and other interested groups understand developments in design and technology, its impact on individuals, society and the environment, and the responsibilities of designers, engineers and technologists.*

BRAKENHALE Subjects at a Glance

	Autumn Term		Spring Term		Summer Term	
Year 10	**INVESTIGATING MATERIALS AND PROCESSES**	**3D MODELLING USING RECYCLED MATERIALS**	**EXTENDED ARCHITECTURE PROJECT**	**EXTENDED ARCHITECTURE PROJECT**	**EXTENDED PROJECT (SELF-DEFINED)**	**EXTENDED PROJECT (SELF-DEFINED)**
	INVESTIGATING MATERIALS AND PROCESSES	**3D MODELLING USING RECYCLED MATERIALS**	**EXTENDED ARCHITECTURE PROJECT**	**EXTENDED ARCHITECTURE PROJECT**	**EXTENDED PROJECT (SELF-DEFINED)**	**EXTENDED PROJECT (SELF-DEFINED)**
Year 11	**EXTENDED PROJECT (SELF-DEFINED)**	**EXTERNALLY-SET ASSIGNMENT (ESA)**				