ROUTES 1-3 – Design and Technology

	AUTUMN HALF TERM 1	AUTUMN HALF TERM 2	SPRING HALF TERM 1	SPRING HALF TERM 2	SUMMER HALF TERM 1	SUMMER HALF TERM 2
Year 7	**No DT in transition term.**		**Introduction to DT – Keyring Project** *2 Classroom 2 Workshop*		**Mobile Phone Project** *4 Classroom 1-2 Workshop*	
			D1.1., D1.2., M1.1., E1.2.		D1.2., M1.1., E1.1., E1.2.	
Year 8	**Structures – Bridge Project** *3 Classroom 2 Workshop*		**Smart Materials – Battery Tester Project** *2-3 Classroom 2-3 Workshop*		**Electronics – Steady hand Game Project** *3 Classroom 3 Workshop*	
	D2.1., M1.2., E2.1., E2.2., T1.1., T2.1.,		D2.1., M2.1., M2.2., E2.2., T2.3.,		D2.2., M2.2., E2.2., T2.3.	
Cross Curr.	**Computing:** D1.2., T2.4. **Art:** D1.2., M1.1., M1.2., E1.1., **Science:** M2.2., T2.1., T2.2., T2.3.,					

Notes

- Route 1 Pupils undertake tasks to DISCOVER, EXPLORE and EXPERIENCE knowledge and understanding through themes and opportunities within the context of the topics.
- Route 2 Pupils undertake tasks to ENHANCE, DEVELOP and DEEPEN knowledge and understanding through themes and opportunities within the context of the topics.
- Route 3 Pupils undertake tasks to EMBED, DEMONSTRATE and APPLY knowledge and understanding through themes and opportunities within the context of the topics.
- Pupils do not have a stand alone DT lesson. DT is delivered as projects where time and resources are appropriate within the designated terms.

Skills and Knowledge Year 7 & Year 8

Design

D1.1. design purposeful, functional, appealing products for themselves and other users based on design criteria
D1.2. generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology
D2.1. use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups
D2.2. generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design

Make

M1.1. select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]
M1.2. select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics
M2.1. select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately
M2.2. select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities

Evaluate

E1.1. explore and evaluate a range of existing products
E1.2. evaluate their ideas and products against design criteria
E2.1. investigate and analyse a range of existing products
E2.2. evaluate their ideas and products against their own design criteria and consider the views of others to improve their work
E2.3. understand how key events and individuals in design and technology have helped shape the world

Technical knowledge

T1.1. build structures, exploring how they can be made stronger, stiffer and more stable
T2.2. explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products
T2.1. apply their understanding of how to strengthen, stiffen and reinforce more complex structures
T2.2. understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]
T2.3. understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]
T2.4. apply their understanding of computing to program, monitor and control their products

DESTINATION

- Pupils can choose pathways in Hills and Rivers relating to D&T, such as Art, Construction and performing Arts.