Hanley Castle High School curriculum outline for parents: **Design and Technology**

		Autumn Term	Spring Term	Summer Term
Year 9	**Topic** Big question / Overview	Students will be completing a Game Board project which will last up the final Term of School Students will be looking into the following areas in detail, completing a Coursework style research folder: **Designing:** - Understanding the importance of design work. - Understanding how to annotate work effectively. - Researching into other artists/designers/design movements in an understanding of development and influence. - Completing an Orthographic and Isometric Projection. - Ergonomic and Anthropometric Data **Timbers:** - Properties of Timbers, where and why they are used. - Environmental factors (genetic engineering) - Creating a finger joint box to contain the game (practical)	**Metals:** - Properties of Metals, where and why they are used. - Difference between Ferrous, Non-Ferrous and Alloys. - Pewter casting (practical) **Polymers:** - Properties of Polymers, where and why they are used. - Difference between Thermoforming and Thermosetting plastics - Laser cutting (practical) - Vacuum Forming tray (practical) **Textiles:** - Properties of Textiles, where and why they are used. - Smart materials - Creating a textile bag for game board parts to go in (practical)	**Electronics:** - Understanding electronic symbols and systems - Creating an electrical finish line for the game board (practical) **Papers and Boards:** - Understanding the properties of Papers and Boards - Where and why they are used. - Creating the board game (practical) **CAD / CAM:** - Understanding what CAD / CAM is - Advantages and Disadvantages - Use of Photoshop to design their game (practical) - Use of Techsoft to design their work for the laser cutter (practical) **Presentation skills:** - Students will need to present their final board game - And complete a thorough evaluation of their work against their Specification.
	Disciplinary knowledge/skills	Research skills; Design skills; Comparing and discussing other products / designers; Understanding the need to consider the environment and sustainability. Refining gross and fine motor skills; Developing skills on machinery and tools Developing theory and knowledge of the main areas within Design and Technology; Time management. Orthographic Projection – Learning about hot to create simple design plans using orthographic drawing. Isometric Projection – Learning how to use isometric paper to draw a variety of shapes in isometric projection.		
	New vocabulary	Hazard, Design Brief, Analysis, Life Cycle / Circular Economy, Sustainability, Aesthetics, Ergonomics, Form over Function		
	Links to …			