Product Design

Subject Leader: Mr J Fulson jfulson@taptonschool.co.uk

Curriculum Intent: Students will learn through a variety of projects during Key Stage Three/Four and Five, how to use the technological principles of explore, create, and evaluate to solve problems. On this learning journey, these projects will also bestow upon them the technical knowledge required to be a Product Designer.

	Core Knowledge	Procedural Knowledge
	Topics : Friction fits 2D/3D perspectives Biomimicry Ergonomics Design development History/why flat pack furniture? SWOT analysis Scale factors Manufactured boards British standards Cantilever definition Perimeters Wastage Hardwoods Softwoods Render to look like wood Manufactured boards Wood joints Wood Tools Tools for measuring/marking out Moments/levers Difference between annotation and labels Pewter casting Pewter properties Sand Casting – stages/one off production Die casting – stages/batch/mass production Difference between vector and bitmaps One off production Mass/Batch Metals Metal tools Temporary/Permanent fixtures	**Students will:** Use Craft knives Do advanced sketch modelling Work with ergonomics Design and make flat pack furniture Use Iterative design to advance a design Use hand tools – manufactured boards Learn how to use CAD- Fusion Learn how to make and use templates Learn how to use a reamer Measure with accuracy Make mitre joints Render a design to look like wood Make a rebate joint Make butt Joints Sketch in 2D Learn about Cloud computing Learn about nanotechnology Learn about economies of scale Learn about disruptive technologies Learn about additive manufacturing Learn about maker movement Use all the areas of CAD proficiently Learn how to render like metal Learn how to pewter cast Learn how to polish/finish metal Learn how to use the brazing hearth

Homework:
Homework is set on Satchel:One for every six hours taught
Homework will comprise a presentation on a specific designer, of the students choosing, and how their work has affected modern life and revision for tests

Assessment:
Formative verbal and other feedback
Exploration grade (research), Create grade (making), Evaluation grade, Principles grade through a multiple-choice test and presentation skills and content grade.

Links to Personal Development:
Dexterity and hand skills.
Self-evaluation of work.
Presentation skills.
Research/analytical skills.

How is my knowledge developed further at GCSE?
Product Design GCSE.
Design and making of timber products (including relevant theory) is developed.
Design and making of Products using CAD/CAM, as used in industry (including relevant theory) is developed.
Deeper knowledge and understanding of materials, processes and the core knowledge required of a Product Designer is furthered.
This is a good preparation for the A level in Product Design.