Topics	Weeks	Key Objectives	Content Details	Enrichment Activities	T/L Strategies	Literacy/Numeracy Opportunities.
20% GCSE Content.						
The impact of new and emerging Technologies	1 - 12 Weeks	I can explain the impacts of new and emerging technologies on industry and enterprise in terms of market pull, technology push and consumer choices.	Meeting today's needs without compromising the need of the future generation through sustainability. Need to consider impacts on context - spiritual, moral, ethical, cultural and scial aspects of users' lives.	School Visit/Tech club	Kinestetic/Visual Learning - Use practical activities. Independent Learning - provide resources and facilitate students to lead learning. Collaborative learning - Group students and get each group to do different stages of tasks. matching words aginst meaning or properties. Design Strategies - 4X4 design method, Biomimicry,, Development of existing products, iclusive designing - using target amrket profiling etc.	Reading, analysisng and synthesising information using different methods.
Life cycle analysis		I can determine environmental impacts of a product by considering raw materials and transportation or manufacturing and distribution or application and disposal.	Life cycle analysis - Environmental impact of a product. Need toConsidering context - spiritual, moral, ethical, cultural and scial aspects of users' lives.			
Energy generation and storage.		I can describe energy generation and storage in a context of using a vehicle or household products or demonstrateadvantages and disadvantages.	Energy generation, storage and appropriate sources for manufacturing products and power systems. AlsoConsidering context - spiritual, moral, ethical, cultural and scial aspects of users' lives.			
Understanding Materials - Smart fibres and fabrics.		I can demonstrateproperties of smart fibres and fabrics that responds to the environment or stimulus by considering photochromic, thermochromic or micro-encapsulation.	Development in modern, composite, technical textiles, and smart materials,			Using technical terms and key words to describe materials. SPAG - particularly spellings. Matching word to meanings.
Control systems		I can demonstratethe importance of feedback considering a remote control or direct control or programmed system.I can describe the application of microcontrollers by using arduino or crumble or microbit.	Familiar products in terms of control systems. Analogue and digital sensors as input components.			Extended writing. Analysis of context. Statistical calculations and presentations. Marking out, modelling, measuring and geometrical calculations.
Principles of mechanical devices		I can demonstratethe principle of transferring input to output or application of electronic devices or application of mechanical devices.	Transforming input motion and force into a desired output motion and forces.			Simple calculaions
Papers, cards and boards.		I can demonstratethe measures for measuring papers and boards using ISO or GSM or Microns	Measurements and gradings			Measuring and grading different sizes od paper and boards.
Natural and manufactured timber		I can explain sustainability of timber and woods in terms of forestation and deforestation or harvest of deciduous trees/hardwood or coniferous/softwood	Categorisation and Consideration of properties.	School Visit/Tech club		Measuring, mapping, layout.
Ferrous and Non-ferrous metals		I can demonstrateproperties of metals by considering hardness and elasticity or conductivity, toughness and ductility or tensile strength and malleability.	Properties of metals			Coding and prammimg development. Use of technical terms.
Thermoforming and Thermosetting Polymers		I can demonstratethe categories of polymers or demonstratephysical properties of polymers by considering natural or synthetic.	Sources and categories of polymers			Use of technical terms and words. Opportunities for extended writing.
Natural, synthetic, blended and mixed fibres, and woven, non-woven and knitted textiles		I can demonstratethe properties of natural or synthetic or regeneration textiles.	Sources of textiles materials			Use of technical terms and words. Opportunities for extended writing.
Non-Exam Assessment context		I can investigate the context using different types of research methods.	Introduction to Iterative process. Mini folio based on a design brief.			Marking out, measuring, use of technical terms. marking out. Geometrical calculations.
End of Rotation Exam	11 -12	Exam week 11. Result review, feedback and response.	**End of Rotation Assessment.**			