CURRICULUM MAP Year 10 Students will develop independence and understanding of the:

- Core Technical principles
- Designing and making principle

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HT1:	HT2:	Assessment Point:M Summative or AFL	HT3:	HT4:	Assessment Point: Summative or AFL	HT5	HT6:	EOY Assessment Point
Overarching unit intent: • **Core technical principles :** New and emerging technologies- Industry and enterprise People, culture and society Sustainability and the environment Production techniques and systems Critical evaluation of new and emerging technologies • **Designing and making principles (Project Based):** Investigation, primary and secondary data, Environmental, social and economic challenge, The work of others, Design	**Overarching unit intent:** • **Core technical principles :** Energy generation and storage Fossil fuels Nuclear power Renewable energy Energy storage systems • **Designing and making principles (Project Based):** Prototype development, Selection of materials and components, Tolerances, Material management, Specialist tools and equipment, Specialist techniques and processes. **Careers** Research into the different careers within energy generation.	***HT1 & HT2*** End of Unit Assessments **Key disciplinary knowledge** New and emerging technologies – End of unit test Energy generation and storage – End of unit test **Key Concepts** • **Core technical principles:** New and emerging technologies Energy generation and storage • **Project based work will be assessed on the following criteria:** • Researching and investigating (A) • Writing a design brief (B) • Generating ideas (C) • Developing ideas (D)	**Overarching unit intent:** • **Core technical principles :** Developments in new materials Modern materials Smart materials Composite materials Technical textiles • **Designing and making principles (Project Based):** Investigation, primary and secondary data, Environmental, social and economic challenge, The work of others, Design strategies, Communication of design ideas. **Careers** Careers videos from CAD/ CAM designers and companies.	**Overarching unit intent:** • **Core technical principles :** Systems approach to designing, Programming microcontrollers Input devices Output devices • **Designing and making principles (Project Based):** Prototype development, Selection of materials and components, Tolerances, Material management, Specialist tools and equipment, Specialist techniques and processes. **Careers** Guest speaker/ the STEM Ambassador Program. Electronics/ Engineering. .	**HT3 and HT4 (with elements of HT1 and HT2)** End of Unit Assessments **Key disciplinary knowledge** Developments in new materials – End of unit test Materials and their working properties – End of unit test **Key Concepts** • **Core technical principles :** Developments in new materials Systems approach to designing, • **Project based work will be assessed on the following criteria:** • Researching and investigating (A) • Writing a design brief (B) • Generating ideas (C) • Developing ideas (D) • Realizing an idea (E) • Reflecting and evaluating (F)	**Overarching unit intent:** • **Core technical principles:** Mechanical devices Types of movement, levers and linkages Rotary systems Materials and their working properties. Materials and their properties Papers and boards Natural and manufactured timbers Metals and alloys Polymers Textiles **Careers** Guest speaker/ the STEM Ambassador Program. Mechanical Engineering.	**Overarching unit intent:** Students will start their NEA during this half term. • **Designing and making principles (NEA):** Investigation, primary and secondary data, Environmental, social and economic challenge, The work of others. **Careers** Discussions into how the work produced during the NEA would allow them to gain valuable skills for future careers.	**HT1 – HT6** End of Unit Assessments NEA **Key Disciplinary Knowledge** Mechanical devices- End of unit test Materials and their working properties- End of unit test **Key Concepts** • **Core technical principles :** Mechanical devices Materials and their working properties. • **Students NEA will be assessed on the following criteria:** • Researching and investigating (A)

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strategies, Communication of design ideas **Careers** Research into the different careers within the manufacturing industry.		• Realizing an idea (E) • Reflecting and evaluating (F)						