Topic: Environmental Issues in design. Effects of Engineering Achievements. AUT 2 (Part 1)		**Duration: 6 lessons**	**Composite:**
Key vocabulary:	**Core knowledge Components**	**Powerful knowledge components crucial to commit to long term memory**	**Links to previous and future topics**
Life Cycle Analysis Sustainable Product Life Cycle Raw Material Contamination Extracted Emissions / Fossil Fuel Eco-System Climate Change Pollution / Global warming / Co2 Processing Distribution Repair Upgrade Modular Build Standard Components Diagnostics End of life Biodegradable / Landfill PIC Code Packaging Maintenance	• Why is a life cycle analysis done? • Why is sustainability important? • How can Raw materials, production, distribution, use and disposal of products effect the environment? • Is metal production sustainable? why? • Is plastic production sustainable? why? • How can manufacturers reduce the impact of manufacturing on the environment? • How can designer reduce the impact of products on the environment? • How does modular build aid the environment? • How does repairing or upgrading a product aid the environment? • How does a PIC code aid recycling? Why are products not always re-cycled?	• What is a life cycle analysis? • What does 'sustainable' mean? • What does bio-degradable mean? • What are the 5 stages of a products life cycle? • What does 'raw materials' mean? • Where does metal come from? • Where does plastic come from? Where else? • What impact does packaging have on the environment? • What is the impact of transport on the environment? • How does designing for repair or upgrade help the environment? • What can a designer do to aid the repair or upgrade of products? • What does modular build mean? • How can designers reduce the environmental impact of product 'end of life'? • What does 'bio-degradable' mean? • What is a PIC code? • Name 5 technological developments that have increased the popularity of electronic goods? • How have developments in electronics changed the home, industry and society? • How can designers improve the design of electronic goods to make them more environmentally friendly?	Year 8 environmental. Science/Geography environmental concerns.

Impressive reading	**Impressive speaking**	**Impressive writing**	**Resilience**	**Employability via:**
Reading and understanding key information	Taking part in class discussions. Use of appropriate technical language	Responses to extended exam questions. Use of key words	Being able to make confident choices when discussing and persuading. Problem solve	Independent decision making and problem solving Using key skills used by engineers.

SEND

Key Vocabulary introduced using precision teaching prior to new topic.

- Linked to prior knowledge from year 8 to aid independence. Repeating of keywords.
- Additional curriculum time allocated to those authorised, to support processing speed.
- Subject knowledge and skills can be used at apprenticeship or engineering interviews, work-related to support the pathway into adulthood
- Subject support cross curricular links geography and science, supporting non-verbal reasoning
- Technology: software (word, powerpoint) used to support accessibility
- Skills ordered logically and as individual tasks to support accessibility.