Year 11. Topic: Engineering Design – SPR 1		Duration: 12 lessons	Composite:
Key vocabulary:	**Core knowledge Components**	**Powerful knowledge components crucial to commit to long term memory**	**Links to previous and future topics**
Brief, Research Specification Justify Models Isometric Orthographic Assembly Key vocabulary will be specific to the design solution proposed by the student.	• What does 'primary function' of a product mean? • Why do designers do research? • What is a brief? • What is the purpose of a specification? • What is included in a specification? • Why do designers produce more than 1 initial idea? • What information should be annotated on an initial idea? • Why are initial ideas compared to the specification? • Why do product designers use models? • What is the difference between isometric and orthographic drawing? • What is an assembly drawing?	• Must be able to research (including identifying features, meeting brief and function of products. • Must be able generate a specification. • Must be able to generate a range of design ideas and annotate them. • Must be able to compare design ideas to specification and justify a final idea choice. • Must be able to produce a model to test design ideas. • Must be able to produce a set of working drawings for final idea using standard conventions. • Must be able to draw solutions in isometric.	Using core knowledge learnt throughout years 7,8,9 and 10. Such as: Materials types, Material properties, processes, tolerances, Drawing in orthographic and Isometric. Producing models.

Impressive reading	Impressive speaking	Impressive writing	Resilience	Employability via:
Reading and understanding learner assignment brief	Taking part in class discussions outside controlled assessment.	Use of appropriate technical terms in research, specification and design annotation.	Being able to make confident choices when working through design task to reach a final proposal. Find and correct own mistakes and problem solve	Independent time management. Independent decision making and problem solving Using key skills used by engineers.

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Key Vocabulary introduced using precision teaching prior to new topic.

- Linked to prior knowledge from year 7,8, 9 and 10 to aid independence. Repeating of keywords.
- Additional curriculum time allocated to those authorised by exam board, to support processing speed.
- Project chosen so that work produced can be used at apprenticeship or engineering interviews, work-related to support the pathway into adulthood
- Learners asked to complete work that will enable them to get Dist * grade, supporting learner aspirations
- Project chosen to support cross curricular links maths and science, supporting non-verbal reasoning
- Technology: software (word, powerpoint) used to support accessibility
- Skills ordered logically and as individual tasks to support accessibility
- Opportunities for low entry/high ceiling activities (grading from Level 1 to Level 2 Dist *)