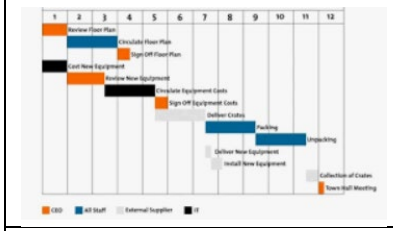
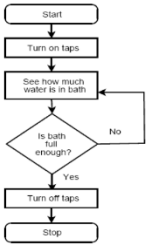
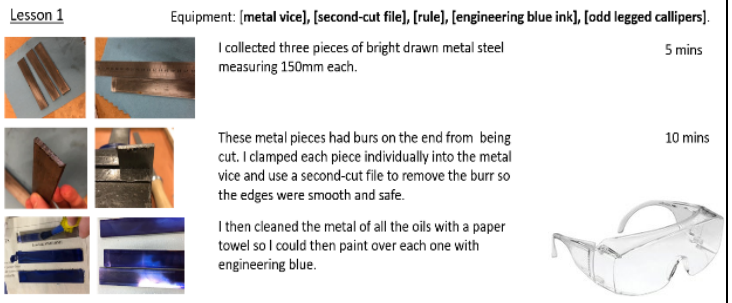
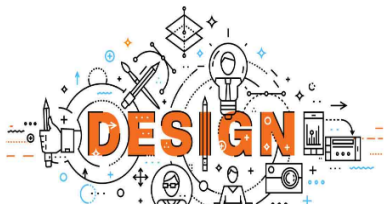
Year 11 Knowledge Organiser – Engineering Design - Creating a prototype

To understand the benefits of making a prototype.
Understand how the analysis of a prototype is an essential part of improving a design or process

Subject Area	Required Knowledge		Links
	**Materials knowledge:** • Compile a selection of suitable materials. • Describe the properties of the material • Select the most suitable material.	• Hardness • Toughness • Malleability • Strength • Ductility • Density • Corrosion resistance • Elasticity • Thermal Conductivity • Electrical Conductivity • Absorbency Material properties have specific names. These can be used to compare or select materials for an application	BBC Bitesize Click here
	**Planning and preparing:** • Analyse a Specification • GANNT chart to communicate the time frame of the project • Create a flowchart to determine the order and process involved • Risk assessments of machines and equipment to be used.		Specification Click here Gannt chart Click here Flowchart Click here
	**Practical skills:** • Following a process • Safely using equipment • Using Hand tools and machines to produce a product • Recording and writing a 'make diary'		
	**Analysis and Evaluation of the design process:** • Evaluate own performance against plan • Evaluate the design against the specification • Identify possible improvements to own performance • Identify possible improvements to design/product • Effective communication of analysis and improvements		Evaluation Click here