PPE2 revision list.

It was clear that revision was not a focus when preparing for the last round of PPEs. **You must fix this.**

We have built the revision into questions that you should be able to answer.

You also need to focus on practicing your drawing skills, Isometric, third angle and perspective needs to be techniques that you should be confident with.

Week beginning 15th January

Week beginning 22nd January

Week beginning 29th January

Week beginning 5th January

Week beginning 13th February (½ term)

Week beginning 20th February

Core Technical Principles **(all page references refer to your CGP blue revision guide)**

Topic	R	A	G	To further your understanding try answering these questions:	Page ref.
Powering systems				o Identify the difference between a Finite and Non-finite fuel. o Be able to name examples of fossil fuels o List an advantage and disadvantage of nuclear power	p.12-p.13
Sustainability				o Explain the meaning of the six Rs – Reduce, Reuse, Refuse, Repair, Recycle, Rethink	p. 6-9
Designing and Making Principles				o Be able to explain the Iterative Design process. o Explain why designers conduct research and product analysis before designing.	p.104-p 108
Specialist terminology				o Be able to define specific technical language: o Ergonomics o Anthropometrics o Aesthetics o CNC o CAD/CAM	p 102 p 96 p 4-5
Work of others				o Be able to list a designer and design era and comment on their impact on design and society	P 94-95
Mechanical Systems				o Be able to describe different types of motion o Explain the difference between a first, second, and third order lever	p.28 - 31

				o Name and explain different types of linkages o Understand how gearing can affect output – be able to use gear ratio equation. o Describe the use of a variety of Cams and followers o Be able to explain how a pulley can provide a mechanical advantage	
Materials - Timbers				o Define the difference between a natural and a manufactured board o Explain the difference between a hardwood and a softwood. o Be able to name three hard and softwoods stating their appearance, properties and what they could be used for	p.17
Materials - Metals				o Explain where metal is sourced. o Be able to define a ferrous metal o Be able to define a non-ferrous metal o Be able to define the term - alloy o Name three non-ferrous metals, detailing their properties and uses o Name three ferrous metals, detailing their properties and their uses. o Define toughness, hardness, ductile, malleability, tensile strength – relating to properties of metals	p.14 p. 18
Materials - Polymers				o Understand the difference between a thermosetting and a thermoplastic o Be able to name two thermoplastic and two thermosetting plastics explaining their properties and possible uses o Explain how the vacuum forming process works o Explain how the injection moulding process works (Lego) o Explain how the blow moulding process works	p.123
Technical materials				o Understand what is meant by a Smart Material o Be able to name three examples of a Smart material and their uses o Understand what is meant by a Modern Material o Be able to name three examples of a Modern material and their uses o Understand what is meant by a composite material o Know a little about technical textiles!!	p.32-35
Business Initiatives and models				o Understand how a business can be developed under a co-operative model o Understand how businesses can be started up by crowd funding	p.10
Renewable energy				o How is power generated from: o Wind?	P12

				o Solar? o Tidal? o Hydro-electrical? o Biomass? o What are the pros and cons of using each renewable energy type?	
Treatments and finishes				o How can metal be protected from the elements o How can you stop wood from decaying and rotting	p.73 p72