YEAR 11 RM

Y11 INTENT	**Year 11 is about cementing the knowledge learned in years 7 – 10 and putting it into practice. Students have learned how to research the needs and wants of a user, respond to a brief, design to a specification, develop those designs taking tonto account client feedback, create a final product and then evaluate the product based on client feedback and against the specification. The students will do this via their NEA. The students will also be improving on their knowledge base refining what they have learned from topics covered in previous years as well as learning new information which will put them in good stead for their future endeavours. The students will gain confidence and resilience in their knowledge base which will help them achieve what they wish from the subject.**

Exam Information (Y10-11)	**Board:**	**AQA**
	Qualification:	**Design and Technology**
	Website link to specification/resources:	AQA | Design and Technology | GCSE | Design and Technology

Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Energy Materials, Systems and Devices	**NEA**	**Making Principles/NEA**	**EXAM Preparation Revision**	**EXAM Preparation Revision**	**GCSE EXAMS**
Energy Generation – Renewable energy, fossil fuels – Positives and negatives. Energy Storage – Batteries, kinetic pump storage systems Modern Materials – Not naturally occurring – Flexible MDF, titanium, alloys. Smart Materials – React to external stimuli – Thermochromic, photochromic. Composite Materials and Technical Textiles – Combining two or more materials. Gore-Tex, Kevlar, Nomex, microencapsulation. Systems approach to designing - open/closed loop systems Electronic Systems processing – Difference between analogue and digital signals. Mechanical Devices – Identify a range of movements. Understand the functions of mechanical devices to produce their movements.	Identifying & investigating design possibilities – How primary and secondary data can be collected to assist the understanding of client and user needs. Producing a design brief & specification – manufacturing specification, environmental, social and economic challenges. Generating design ideas – 2D and 3D sketching, isometric and oblique projection, annotations, exploded drawings, working drawings.	Developing design ideas – Model construction, developing prototypes, CAD, further 2D/3D drawing. Realising design ideas – Construction techniques, GANTT chart, making diary, Analysing & evaluating – Against specification, client interview, positives and negatives of the project, next steps.	Tailored revision based on trial exams	Tailored revision based on trial exams	Study Leave
Can do statement 3 (M): I understand how power is generated from fossil fuels, nuclear and renewable energy sources. Be aware of arguments for and against various power sources. Describe	**Can do statement 3 (M):** I can thoroughly research a task using multiple primary and secondary techniques. I can create a design brief and specification based on my clients wants and needs as well as	**Can do statement 3 (M):** I can develop my product using a variety of techniques including CAD. I can use a number of creative construction techniques to create my product. I can evaluate my final			

developments in modern and smart materials. **Can do statement 2 (S):** I understand how power is generated from fossil fuels, nuclear and renewable energy sources. Be able to recognise a range of modern and smart materials. **Can do statement 1 (D):** I understand the difference between renewable and non-renewable energy. I can recognise a range of materials.	my research. I can take a client's needs into consideration when designing and developing a product. **Can do statement 2 (S):** I can research a task using primary and secondary techniques. I can create a design brief and specification with reference to my research. I take most of my client's needs into consideration when designing and developing a product. **Can do statement 1 (D):** I can research the task using superficial research techniques. I can create a design brief and specification with some reference to my research. I design and develop a product based on my own interests.	product in detail including against my specification and can identify what changes I would make if made again. **Can do statement 2 (S):** I use a number of methods to develop my product. I consider the type of joining methods I use to create my product. I can evaluate my product and identify changes I would make if done again. **Can do statement 1 (D):** I develop my product using 2D methods. I use nails and screws to construct my product with little thought to using a more complex method. I can evaluate my product with what went well and what I could improve.			