CURRICULUM MAP – Year 9
Each topic will cover the key enquiry processes, relevant maths skills and cultural capital. See corresponding schemes of work for more detail

ST JAMES' CATHOLIC HIGH SCHOOL

KEY
Biology
Chemistry
Physics

HT1:	HT2:	Assessment	HT3:	HT4:	Assessment	HT5	HT6:	EOY Assessment
INTENT Materials and their Uses *Recap Y8 rocks.* Understand how ceramics, polymers and composites are made and used. Life cycle assessments and potable water. Enquiry – making slime CL – Water, Waste and Composite Engineer CST Common good – reduce, reuse, recycle and rethink. Creation and environment – life cycle assessment. Options for the poor – potable water for all.	**INTENT** Forces and Motion *Recap Y7 Forces.* Pupils identify forces and how forces can affect motion (Speed and acceleration). Pupils will also investigate forces and moments and be introduced to the concept of 'work' Enquiry – calculating speed CL - Aerospace Engineer, Renewable Energy Specialist, Automotive Engineer, Builder, Electrician, Plumber Genetics and Evolution *Recap Y7 cells.* Understanding inheritance,	**Pupils will be assessed on interleaved content and the following enquiry processes.** Interpret data to find a pattern and make a conclusion. Draw a line of best fit on a line graph. Suggest ways of improving a practical investigation. Make a risk assessment in an investigation.	**INTENT** Electricity and Magnetism *Recap Y7 Electricity.* Pupils will understand magnets, magnetism and the interactions between magnetism and electricity. Enquiry – strength of electromagnets CL – Mechanic, Electrician, Crane Operator Body Systems *Recap Y7 cells.* Know how tissues and organs interact to form the major body systems. CL- Dietician Physiotherapist CST Dignity – to understand how the body works.	**INTENT** Energy *Recap Y7 energy resources.* Pupils learn how to calculate fuel uses and costs in the domestic context e.g. comparing power ratings of different appliances Enquiry – interpreting graphs to identify the best energy resource CL - Renewable Energy Consultant, National Grid Technician CST Peace – oil being the cause of wars.	**Pupils will be assessed on interleaved content and the following enquiry processes.** Explain the effect of experimental error, and of not controlling all the variables. Explain how to collect and record accurate and precise data. Calculate a mean for repeat readings Use the correct graph to display the data collected.	**INTENT** Mastery of Investigations Project Pupils identify different variables within an investigation. How to manipulation data. To plan an investigation and carry out scientific investigations CL – Research scientist, engineering Space *Recap Y8 Earth and Space.* Pupils learn about the solar system and its formation, how stars are made and why gravity varies. Enquiry – Interpret data from planets, what causes objects to orbit.	**INTENT** Atomic structure and radiation *Recap Y8 Atoms, elements and molecules.* Pupils learn about the parts of the atom. Why some atoms are radioactive. How we measure radiation and useful applications of it. Enquiry – Penetration of radiation CL – Nuclear engineers, medical technicians, radiologist. CST Common good, dignity and the environment – how radiation	**End of Year Interleaved assessment covering content from Year 7-9 and the following enquiry processes.** Plot data on a graph and draw the line of best fit. Analyse data from an investigation to draw up a detailed conclusion, describe relationships, and suggest alternative explanations where appropriate.

With God all things are possible Matthew 19:26

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Reactions of metals ***Recap Y7 metals and non-metals.*** **Determine the reactivity of metals and use the reactivity series to predict the outcome of their reactions.** **Enquiry – reactions of metals** **CL - Metallurgist, Welder** **CST** **Creation and environment - environment effects of mining.** **Growing Our Food** ***Recap Y8 repro in plants*. Know the structure and adaptations of a plant.** **Understand photosynthesis and the nutrients**	**chromosomes, DNA and genes** **Enquiry - extracting DNA from fruit** **CL – Geneticist, Genetic Counsellor, Farmer, Zoologist** **CST** **Dignity – protection of species. To appreciate human variation.**			**Chemical Energy Changes** ***Recap atoms, elements, molecules, and the atmosphere.*** **Pupils recognise chemical and physical reactions and classify reactions as exothermic or endothermic.** **Apply the conservation of mass and relate it to balancing equations and RFM** **CL – Analytical Chemist** **CST** **Creation and the environment – environmental impacts of exothermic reactions**		**CL – Astronauts, astronomers** **CST** **Creation and the environment – why it's important to protect the atmosphere.**	**can be used to treat cancer but also be used to generate electricity.** **Cells at work** *Recap Y7 Cells and Y8 unicellular organisms* **Know the structure and function of cells. Describe and be able to relate the structures to function of specialised cells and how stem cells can be used in medical treatment.** **Enquiry – Preparing a cheek cell and onion cell slide and viewing under a microscope. Culturing of microorganisms.** **CL – Microbiologist**	Compare and contrast data, suggesting reasons why the data may be different. Explain ways of improving data in a practical investigation. Write a detailed plan for a hypothetical investigation.

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needed for growth and how these processes link in with the carbon cycle Enquiry – starch test CL – Herbicide Chemist, Gardener, Renewable Engineer CST Dignity – Increasing crop yield to feed everyone. Solidarity – Fair trade price and buy local. Common good – Reduce reliance on manmade fertilizer. Dignity of work and participation – Paying a fair price to farmers.							CST – Dignity of work and participation – fertility treatment. Dignity – right to life and stem cells research.	