CURRICULUM MAP – Year 8
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 Point
INTENT Atoms, elements and molecules *Recap Y7 Particle mode.* Name elements, compounds and understand the properties of elements. Use symbols and formulae of elements and compounds. Use a simple atomic model to explain conservation of mass CL – Air Pollution Control Scientist, Experimental Chemist Food and Nutrition *Recap Y7 Fit and Healthy and Cells.* Balanced diets and the importance of leading a healthy lifestyle. Why the body needs specific nutrients. The process of digestion	**INTENT** Light *Recap Y7 Sound.* How light waves travel and how they are detected. Investigating reflection and refraction and what happens to light when it passes through a prism. Enquiry – Law of reflection CL - Lighting Engineer, Photographer, Stage Performer, Optometrist Earth and Rocks How the Earth was formed and the different structures within the Earth itself. The rock	**Every two topics, students complete a synoptic, interleaved assessment which will assess content from the previous two topics and interleave questions from topics taught in the previous term or year, to promote long-term memory and retrieval.** **Assessments to assess the Enquiry Processes:** Collecting, recording and presenting data. Describe how to make measurements using scientific equipment. Present data appropriately as tables and graphs. Make a risk assessment.	**INTENT** Breathing and respiration *Recap fit and healthy.* The structure and function of the respiratory system and the processes involved in the 2 types of respiration Enquiry – Investigate aerobic respiration. CL – Respiratory Physiologist, Sports Scientist, Paramedic Heating and Cooling Energy transfers of conduction, convection and radiation in different materials, *linking to particles Y7.*	**INTENT** The periodic table *Recap atoms and elements.* How the PT is arranged and how this arrangement holds clues to the properties of the elements in it. Explaining why elements in similar groups react in similar ways. Enquiry – Patterns of reactivity CL – Research Chemist Unicellular organisms *Recap Y7 Cells and Fit and Healthy.* Explore the differences between multicellular and unicellular organisms including examples and link to disease CL – Pathologist	**Every two topics, students complete a synoptic, interleaved assessment which will assess content from the previous two topics and interleave questions from topics taught in the previous term or year, to promote long-term memory and retrieval.** **Assess the Enquiry Processes:** Describe how scientists develop an idea into a question that can be investigated. Plan an investigation identifying the variables. Interpret data to find a pattern and make a conclusion. Draw a line of best fit on a line graph.	**INTENT** Earth and Space *Recap Y7 Forces* How our Sun and galaxy compare to others. How seasons, the Earth' tilt, day lengths differ depending on hemisphere. Apply the force equation for gravity and know the light year as a unit of astronomical distance Enquiry – How orbital distances affect year length CL – Aerospace Engineer, Astronaut, Astronomer, Astrobiologist, Satellite Engineer Earth's Atmosphere *Recap Y7 energy resources.* Explore the atmosphere and how humans	**INTENT** Plants and their reproduction *Recap Y7 animal reproduction.* How plants are classified and adapt to survive. The reproductive cycle of plants from pollination to seed dispersal. Practically investigate plant structures and functions. Enquiry - Dissecting a flowering plant CL – Botanist, Gardener, Farmer Fluids *Recap Y7 particles Model.* How pressure affects solids, liquids and gases. Investigate changes of state and resistive forces in fluids. Understand the anomaly of ice-water transition. Explain energy in matter	**End of Year Interleaved assessment covering content from Year 7 and 8** **Assess the Enquiry Processes:** Calculate a mean from three repeat measurements. Describe how to produce accurate and precise data, and reduce experimental error. Evaluating data to suggest ways of making improvements.

With God all things are possible Matthew 19:26

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and evaluating the varied diets which we are exposed to in the media. **Enquiry – Food tests** **CL – Dietician, Food Scientist**	**cycle and rock types.** ***Link to Y7 acids.*** **CL – Geologist Glaciologist**		**Enquiry – Insulation investigation** **CL – Energy Analyst, Mechanical Engineer**			**have impacted on the environment and the Earth's climate. Evaluate causes and effects of global warming.** **CL – Climate Scientist, Energy Analyst**	**Enquiry – Density, floating and sinking** **CL - Fluid dynamic engineer, Deep Sea Diver**	