

# 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.  
**CC = Cultural Capital**



**ST JAMES'**  
 CATHOLIC HIGH SCHOOL

KEY  
 Biology  
 Chemistry  
 Physics

HT1:	HT2:	Assessment	HT3:	HT4:	Assessment	HT5	HT6:	Assessment
<p><b>INTENT</b></p> <p><u>Reactions of metals</u>                      Builds on Y7 metals and non-metals. Determine the reactivity of metals and use the reactivity series to predict the outcome of their reactions.                      CC – Extracting metals form their ores                      Enquiry – reactions of metals  <u>Growing Our Food</u>                      Recap Y8 repro in plants. Know the structure and adaptations of a plant. Understand photosynthesis and the nutrients needed for growth and how these processes link in with the carbon cycle                      CC – Scientists are working hard to grow enough food in a sustainable way to meet the demands of our growing population</p>	<p><b>INTENT</b></p> <p><u>Forces and Motion</u>                      Recap Y7 Forces. How forces can affect motion (Speed and acceleration)                      Pupils will also investigate forces and moments and be introduced to the concept of 'work'                      CC – Theory element of driving test                      Enquiry – pivots investigation  <u>Genetics and Evolution</u>                      Recap Year 7 cells. Understanding inheritance, chromosomes, DNA and genes                      CC - variation in different countries, ethics of gene banks, human causes of extinction</p>	<p>Pupils will be assessed formatively and summatively on interleaved content and the following enquiry processes.</p> <p>Explain how and why some questions can be investigated and why some cannot.</p> <ul style="list-style-type: none"> <li>- Suggest examples of independent, dependent, and control variables in an unfamiliar situation.</li> <li>- Explain in detail why a specific question cannot be investigated, suggesting alternative questions that can be investigated.</li> </ul> <p>Write a detailed plan for a hypothetical investigation.</p>	<p><b>INTENT</b></p> <p><u>Electricity and Magnetism</u>                      Recap Y7 Electricity, Building upon Year 7 content, pupils will understand magnets, magnetism and the interactions between magnetism and electricity.                      CC – Electromagnets in car scrap yards                      Enquiry – strength of electromagnets  <u>Materials and their uses</u>                      Recap Y8 rocks. Understand how ceramics, polymers and composites are made and used. Life cycle assessments and potable water.                      CC: Importance of recycling / reusing and reducing.                      Stockport recycling system. Plastic bags from shops.</p>	<p><b>INTENT</b></p> <p><u>Body Systems</u>                      Building on Year 7 cells. Know how tissues and organs interact to form the major body systems.                      CC – Links to PE  <u>Energy</u>                      Recap Y8 energy resources. Pupils learn how to calculate fuel uses and costs in the domestic context e.g. comparing power ratings of different appliances                      CC – Calculating household bills                      Enquiry – interpreting graphs of domestic fuel use</p>	<p>Pupils will be assessed on interleaved content and the following enquiry processes.</p> <p>Explain the effect of experimental error, and of not controlling all the variables</p> <ul style="list-style-type: none"> <li>- Identify risks in an experiment and write a risk assessment for an investigation and explain why the experiment can, or cannot, be conducted in a science laboratory.</li> </ul> <p>Explain how to collect and record accurate and precise data.</p> <ul style="list-style-type: none"> <li>- Calculate a mean for repeat readings - Explain the choice of graph or chart for different types of data, and plot them.</li> </ul>	<p><b>INTENT</b></p> <p><u>Chemical Reactions</u>                      Recap Y8 combustion. Investigate changes in mass for chemical and physical processes.                      Use known masses of reactants or products to calculate unknown masses.                      Balance a symbol equation  <u>Fluids</u>                      Recap Y7 particles. 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                      CC – pressure in bike and car tyres. Hydraulic systems.                      Enquiry – investigating floating and sinking</p>	<p><b>INTENT</b></p> <p><u>Mastery of Investigations Project</u></p> <p>Variables                      Units                      Data Manipulation                      Estimation                      Planning an investigation                      Carrying out scientific investigations</p> <p>CC – Scientists need to be able to conduct valid investigations for a range of different hypotheses</p> <p>CC - Provide examples of how scientific ideas and explanations develop over time as new evidence emerges.</p>	<p><b>End of Year Test</b></p> <p>Pupils will be assessed on interleaved content and the following enquiry processes.</p> <p>Plot data on a graph and draw the line of best fit.</p> <ul style="list-style-type: none"> <li>- Analyse data from an investigation to draw up a detailed conclusion, describe relationships, and suggest alternative explanations where appropriate.</li> </ul> <p>Compare and contrast data, suggesting reasons why the data may be different.</p> <ul style="list-style-type: none"> <li>- Explain ways of improving data in a practical investigation.</li> </ul> <p>Write a detailed plan for a hypothetical investigation.</p>