

## 1c. Curriculum Overview: Science



SAINTS PETER AND PAUL  
CATHOLIC HIGH SCHOOL

| Year 7 Science |  |  |   |
|----------------|--|--|---|
| Refer to       | Term 1 – September to December   | Term 2 – January to March  | Term 3 – April to July  |
| KS2/3<br>NC    | <p><b><u>HT1 Changes of State</u></b></p> <p><u>What are the students learning?</u></p> <ul style="list-style-type: none"> <li>• Introduction to Science</li> <li>• States of matter and changes of state</li> <li>• Atoms, elements and compounds</li> <li>• Pure substances</li> <li>• Mixtures and Separation techniques</li> <li>• Filtration</li> <li>• Evaporation</li> <li>• Distillation</li> <li>• Chromatography</li> </ul> <p><u>What are the key standardised assessments?</u></p> <ul style="list-style-type: none"> <li>• HT1 Assessment 1: Changes of state</li> <li>• HT1 Assessment 2: Investigative skills – Separating Mixtures</li> </ul> <p><u>What are the standardised homework tasks?</u><br/>Educake is used as the standardised homework platform</p> <p><b><u>HT2 Digestion</u></b></p> <p><u>What are the students learning?</u></p> <ul style="list-style-type: none"> <li>• Keeping healthy</li> <li>• Principles of organisation (digestive system)</li> <li>• The role of enzymes, bile and stomach acid</li> <li>• Absorption</li> <li>• Diffusion</li> </ul> | <p><b><u>HT3 Forces</u></b></p> <p><u>What are the students learning?</u></p> <ul style="list-style-type: none"> <li>• Contact/non-contact forces</li> <li>• Balanced/unbalanced forces</li> <li>• Forces between magnets</li> <li>• Forces due to static electricity</li> <li>• Distance-time relationship</li> </ul> <p><u>What are the key standardised assessments?</u></p> <ul style="list-style-type: none"> <li>• HT3 Assessment 1: Forces</li> <li>• HT3 Assessment 2: Distance-Time Graphs</li> </ul> <p><u>What are the standardised homework tasks?</u></p> <p>Educake is used as the standardised homework platform</p> <p><b><u>HT4 The Earth and Space</u></b></p> <p><u>What are the students learning?</u></p> <ul style="list-style-type: none"> <li>• The Earth and the solar system</li> <li>• Gravity and weight</li> <li>• Waves and light</li> </ul> <p><u>What are the key standardised assessments?</u></p> <ul style="list-style-type: none"> <li>• HT4 Assessment 1: The Solar System and Gravity</li> </ul> | <p><b><u>HT5 Reproduction</u></b></p> <p><u>What are the students learning?</u></p> <ul style="list-style-type: none"> <li>• Cells (specialised egg and sperm cells)</li> <li>• The human reproductive system</li> <li>• Puberty</li> <li>• Stages of the menstrual cycle</li> <li>• Fertilisation</li> <li>• Pregnancy</li> <li>• Needs of new-born babies</li> </ul> <p><u>What are the key standardised assessments?</u></p> <ul style="list-style-type: none"> <li>• HT5 Assessment 1: Cells and Reproduction</li> <li>• HT5 Assessment 2: Changes during puberty</li> </ul> <p><u>What are the standardised homework tasks?</u></p> <p>Educake is used as the standardised homework platform</p> <p><b><u>HT6 Reactivity</u></b></p> <p><u>What are the students learning?</u></p> <ul style="list-style-type: none"> <li>• Acids and alkalis</li> <li>• pH scale and neutralisation</li> <li>• Metals and their reactions</li> <li>• Reactivity of metals</li> </ul> <p><u>What are the key standardised assessments?</u></p> |



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|  | <p><u>What are the key standardised assessments?</u></p> <ul style="list-style-type: none"><li>• HT2 Assessment 1: Burning Foods and Food Tests</li><li>• HT2 Assessment 2: Digestion and Diet</li></ul> <p><u>What are the standardised homework tasks?</u><br/>Educake is used as the standardised homework platform</p> | <p><u>What are the standardised homework tasks?</u><br/>Educake is used as the standardised homework platform</p> | <ul style="list-style-type: none"><li>• HT6 Assessment 1: Acids and Alkalis</li><li>• HT6 Assessment 2: Reactivity of metals</li><li>• End of Year 7 Assessment</li></ul> <p><u>What are the standardised homework tasks?</u><br/>Educake is used as the standardised homework platform</p> |
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# 1c. Curriculum Overview: Science



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| Year 8 Science |  |  |  |
|----------------|--|--|--|
| Refer to       | Term 1 – September to December   | Term 2 – January to March  | Term 3 – April to July   |
| KS3<br>NC      | <p><b><u>HT1 Atoms and The Periodic Table</u></b></p> <p><u>What are the students learning?</u></p> <ul style="list-style-type: none"> <li>• Atoms, elements, compounds, mixtures</li> <li>• Dalton’s atomic model</li> <li>• The periodic table</li> <li>• Chemical reactions and the periodic table</li> </ul> <p><u>What are the key standardised assessments?</u></p> <ul style="list-style-type: none"> <li>• HT1 Assessment 1: Periodic Table</li> <li>• HT1 Assessment 2: Investigative Skills: Reactions</li> </ul> <p><u>What are the standardised homework tasks?</u><br/>Educake is used as the standardised homework platform</p> <p><b><u>HT2 Cells and Plant Systems</u></b></p> <p><u>What are the students learning?</u></p> <ul style="list-style-type: none"> <li>• Eukaryotes and prokaryotes</li> <li>• Microscopy</li> <li>• Animal and plant cells</li> <li>• Cell specialisation</li> <li>• Plant tissues, organs, systems</li> <li>• Photosynthesis</li> <li>• Reproduction in plants/insect pollination and food security</li> </ul> <p><u>What are the key standardised assessments?</u></p> | <p><b><u>HT3 Burning Fuels</u></b></p> <p><u>What are the students learning?</u></p> <ul style="list-style-type: none"> <li>• Combustion</li> <li>• Exo and endothermic reactions</li> <li>• Pollution</li> <li>• Pollutants and their sources</li> <li>• Greenhouse gases</li> </ul> <p><u>What are the key standardised assessments?</u></p> <ul style="list-style-type: none"> <li>• HT3 Assessment 1: Combustion</li> <li>• HT3 Assessment 2: Problems with burning fuels</li> </ul> <p><u>What are the standardised homework tasks?</u><br/>Educake is used as the standardised homework platform</p> <p><b><u>HT4 Energy and Electricity</u></b></p> <p><u>What are the students learning?</u></p> <ul style="list-style-type: none"> <li>• Energy transfers</li> <li>• Energy transfer and Hooke’s Law</li> <li>• Efficiency</li> <li>• Heating and thermal equilibrium</li> <li>• Electrical energy</li> <li>• Calculation of fuel costs in the domestic context</li> <li>• Power ratings and link to fuel use and cost</li> <li>• Magnetism and electromagnetism</li> </ul> | <p><b><u>HT5 &amp; 6 Planet Earth</u></b></p> <p><u>What are the students learning?</u></p> <ul style="list-style-type: none"> <li>• Interdependence</li> <li>• Variation, adaptation, competition and natural selection</li> <li>• Biodiversity</li> <li>• Photosynthesis</li> <li>• Respiration</li> <li>• Composition of the Earth and its atmosphere</li> <li>• The rock cycle</li> <li>• Common atmospheric pollutants and their sources</li> <li>• Greenhouse gases</li> </ul> <p><u>What are the key standardised assessments?</u></p> <ul style="list-style-type: none"> <li>• HT5 Assessment 1: Interdependence</li> <li>• HT5 Assessment 2: Adaptations</li> <li>• HT6 Assessment 1: Sampling</li> <li>• End of Year 8 Assessment</li> </ul> <p><u>What are the standardised homework tasks?</u><br/>Educake is used as the standardised homework platform</p> |



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- HT2 Assessment 1: Cells and organelles
- HT2 Assessment 2: Plant Organs and Systems

What are the standardised homework tasks?

Educake is used as the standardised homework platform

What are the key standardised assessments?

- HT4 Assessment 1: Energy and Electricity

What are the standardised homework tasks?

Educake is used as the standardised homework platform

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|  | <ul style="list-style-type: none"><li>• HT2 Assessment 1: Cells and organelles</li><li>• HT2 Assessment 2: Plant Organs and Systems</li></ul> <p><u>What are the standardised homework tasks?</u><br/>Educake is used as the standardised homework platform</p> | <p><u>What are the key standardised assessments?</u></p> <ul style="list-style-type: none"><li>• HT4 Assessment 1: Energy and Electricity</li></ul> <p><u>What are the standardised homework tasks?</u><br/>Educake is used as the standardised homework platform</p> |  |
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| Year 9 Science                |   |  |  |
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| Refer to                      | Term 1 – September to December  | Term 2 – January to March  | Term 3 – April to July   |
| KS3 NC and GCSE Specification | <p><b><u>HT1 Effects of Exercise</u></b></p> <p><u>What are the students learning?</u></p> <ul style="list-style-type: none"> <li>• Digestive system</li> <li>• Respiratory system</li> <li>• Skeletal and muscular systems</li> <li>• Aerobic respiration</li> <li>• Anaerobic respiration and fermentation</li> <li>• The heart</li> <li>• The effects of exercise</li> <li>• Health and the effects of recreational drugs</li> </ul> <p><u>What are the key standardised assessments?</u></p> <ul style="list-style-type: none"> <li>• HT1 Assessment 1: Digestive System</li> <li>• HT2 Assessment 2: FA2 Investigative Skills: Respiration and Exercise</li> </ul> <p><u>What are the standardised homework tasks?</u><br/>Educake is used as the standardised homework platform</p> | <p><b><u>HT3 Inheritance</u></b></p> <p><u>What are the students learning?</u></p> <ul style="list-style-type: none"> <li>• Cell structure and genetic material</li> <li>• Model of chromosomes, genes and DNA (including the work of Watson, Crick, Wilkins and Franklin in the development of the DNA model)</li> <li>• Variation</li> <li>• Changes in the environment, natural selection and extinction</li> <li>• Maintaining biodiversity and the use of gene banks</li> </ul> <p><u>What are the key standardised assessments?</u></p> <ul style="list-style-type: none"> <li>• HT3 Assessment 1: Inheritance</li> <li>• HT3 Assessment 2: Variation</li> </ul> <p><u>What are the standardised homework tasks?</u><br/>Educake is used as the standardised homework platform</p> | <p><b><u>HT5 Hydrocarbons</u></b></p> <p><u>What are the students learning?</u></p> <ul style="list-style-type: none"> <li>• Crude oil</li> <li>• Fractional distillation</li> <li>• Properties of hydrocarbons</li> <li>• Properties of polymers, ceramics and composites</li> <li>• Greenhouse gases</li> <li>• Common atmospheric pollutants and their sources</li> </ul> <p><u>What are the key standardised assessments?</u></p> <ul style="list-style-type: none"> <li>• HT5 Assessment 1: Hydrocarbons</li> <li>• HT5 Assessment 2: How to make crude oil useful</li> </ul> <p><u>What are the standardised homework tasks?</u><br/>Educake is used as the standardised homework platform</p> |
|                               | <p><b><u>HT2 Structure and Bonding</u></b></p> <p><u>What are the students learning?</u></p> <ul style="list-style-type: none"> <li>• Development of the model atom</li> <li>• Atoms and electron configuration</li> <li>• Development of the periodic table</li> </ul>   | <p><b><u>HT4 Forces and Motion</u></b></p> <p><u>What are the students learning?</u></p> <ul style="list-style-type: none"> <li>• Forces</li> <li>• Gravity and weight</li> <li>• Moments and levers</li> <li>• Pressure and hydraulics</li> </ul>   | <p><b><u>HT6 Hydrocarbons and the Need for Alternative Energy</u></b></p> <p><u>What are the students learning?</u></p> <ul style="list-style-type: none"> <li>• Environmental effects of hydrocarbons</li> <li>• Alternative energy resources</li> <li>• Finite and renewable energy</li> </ul>   |



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|  | <ul style="list-style-type: none"><li>• Metals and non-metals</li><li>• Ionic bonding</li><li>• Covalent bonding</li><li>• How bonding and structure relate to properties of a substance</li><li>• Structure and bonding of carbon</li></ul> <p><u>What are the key standardised assessments?</u></p> <ul style="list-style-type: none"><li>• HT2 Assessment 1: Atomic structure and the History of the Atom</li><li>• HT2 Assessment 2: Bonding</li></ul> <p><u>What are the standardised homework tasks?</u><br/>Educake is used as the standardised homework platform</p> | <ul style="list-style-type: none"><li>• Forces and elastic materials (including Hooke's Law)</li></ul> <p><u>What are the key standardised assessments?</u></p> <ul style="list-style-type: none"><li>• HT4 Assessment 1: Force, gravity and weight</li></ul> <p><u>What are the standardised homework tasks?</u><br/>Educake is used as the standardised homework platform</p> | <p><u>What are the key standardised assessments?</u></p> <ul style="list-style-type: none"><li>• HT6 Assessment 1: Energy Sources</li><li>• End of Year 9 Assessment</li></ul> <p><u>What are the standardised homework tasks?</u><br/>Educake is used as the standardised homework platform</p> |
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