Indicates that the successful completion of this Year 10 subject is a prerequisite for entry into Year 11 and 12 subjects

Indicates that the successful completion of this Year 10 subject is preferred for entry into Year 11 and 12 subjects
## SCIENCE

<table>
<thead>
<tr>
<th>Year 7</th>
<th>Term 1</th>
<th>Term 2</th>
<th>Term 3</th>
<th>Term 4</th>
</tr>
</thead>
</table>
| **What are students learning?** | Students have opportunities to develop understandings of:  
- Water cycle  
- Properties of water  
- Cleaning water | Students have opportunities to develop understandings of:  
- Types of forces  
- Movement | Students have opportunities to develop understandings of:  
- Earth, moon and sun relationships | Students have opportunities to develop understandings of:  
- Relationships between organisms, ecosystems and humans |
| **Why are students learning this?** | So that students can:  
- Examine the water cycle  
- Investigate pure substances and mixtures  
- Investigate and apply physical separation techniques  
- Investigate modern water treatment  
- Water recycling and sustainability | So that students can:  
- Investigate how forces affect objects  
- How motion occurs  
- Explore forces in machines  
- Forces and safety | So that students can:  
- Explore gravity  
- Investigate the phases of the moon  
- Explore orbits and times  
- Research cultural stories on Earth, moon & sun. | So that students can:  
- Explore diversity of living organisms  
- Identify classification systems  
- Create food chains and webs  
- Determine effect of human activity on local ecosystems  
- Sustainable management of the environment. |
| **What skills are students learning? (CCEs)** | Analyse, evaluate and synthesise information.  
Inquire, identify, explore and clarify information. | Analyse, evaluate and synthesise information.  
Inquire, identify, explore and clarify information. | Analyse, evaluate and synthesise information.  
Inquire, identify, explore and clarify information. | Analyse, evaluate and synthesise information.  
Inquire, identify, explore and clarify information. |
| **How will we know when they get there? Assessment** | | | | |

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## SCIENCE

### Year 8

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<tbody>
<tr>
<td><strong>What are students learning?</strong></td>
<td>Students have opportunities to develop understandings of:</td>
<td>Students have opportunities to develop understandings of:</td>
<td>Students have opportunities to develop understandings of:</td>
</tr>
<tr>
<td></td>
<td>Properties of different states of matter</td>
<td>Types of rocks and properties</td>
<td>Different forms of energy</td>
</tr>
<tr>
<td></td>
<td>Elements, compounds and mixtures</td>
<td>How rocks are formed</td>
<td>Energy transfers</td>
</tr>
<tr>
<td></td>
<td>Chemical changes</td>
<td>Minerals form rocks</td>
<td></td>
</tr>
<tr>
<td><strong>Why are students learning this?</strong></td>
<td>So that students can:</td>
<td>So that students can:</td>
<td>So that students can:</td>
</tr>
<tr>
<td></td>
<td>Explain models used in structures of matter</td>
<td>Understand Qld mining and the range of minerals</td>
<td>Recognise energy creation and transfer in equipment.</td>
</tr>
<tr>
<td></td>
<td>Understand temperature impacts</td>
<td>How minerals are mined &amp; refined.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Use the periodic table</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Identify chemical and physical changes</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>What skills are students learning? (CCEs)</strong></td>
<td>Analyse, evaluate and synthesise information.</td>
<td>Analyse, evaluate and synthesise information.</td>
<td>Analyse, evaluate and synthesise information.</td>
</tr>
<tr>
<td></td>
<td>Inquire, identify, explore and clarify information</td>
<td>Inquire, identify, explore and clarify information</td>
<td>Inquire, identify, explore and clarify information</td>
</tr>
<tr>
<td><strong>How will we know when they get there?</strong></td>
<td>Exam &amp; Experiments</td>
<td>Exam</td>
<td>Exam and experimental report</td>
</tr>
<tr>
<td><strong>Assessment</strong></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
## SCIENCE

### Year 9

#### What are students learning?
- Students have opportunities to develop understandings of:
  - Different forms of energy
  - Electricity movement
  - Electrical safety
  - Light and waves

#### Why are students learning this?
- So that students can:
  - Explain energy transformation
  - Develop experimental skills
  - Apply and recognise electrical safety

#### What skills are students learning? (CCEs)
- Analyse, evaluate and synthesise information.
  - Inquire, identify, explore and clarify information

#### How will we know when they get there?
- Exam

### Term 1
- Analyse, evaluate and synthesise information.
  - Inquire, identify, explore and clarify information

### Term 2
- Analyse, evaluate and synthesise information.
  - Inquire, identify, explore and clarify information

### Term 3
- Analyse, evaluate and synthesise information.
  - Inquire, identify, explore and clarify information

### Term 4
- Analyse, evaluate and synthesise information.
  - Inquire, identify, explore and clarify information

#### Why are students learning this?
- So that students can:
  - Identify reactants and products in chemical reactions
  - Perform safe experiments
  - Analyse data.

#### What skills are students learning? (CCEs)
- Analyse, evaluate and synthesise information.
  - Inquire, identify, explore and clarify information

#### How will we know when they get there?
- Exam & report

### Term 4
- Analyse, evaluate and synthesise information.
  - Inquire, identify, explore and clarify information

#### Why are students learning this?
- So that students can:
  - Identify reactants and products in chemical reactions
  - Perform safe experiments
  - Analyse data.

#### What skills are students learning? (CCEs)
- Analyse, evaluate and synthesise information.
  - Inquire, identify, explore and clarify information

#### How will we know when they get there?
- Experiments & report

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### SCIENCE

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<th>Term 4</th>
</tr>
</thead>
</table>
| **What are students learning?** | Students have opportunities to develop understandings of:  
- Genetic models  
- DNA  
- Evolution | Students have opportunities to develop understandings of:  
- Chemical reactions  
- Periodic Table  
- Represent chemical reactions with symbols. | Students have opportunities to develop understandings of:  
- Laws of physics with motion  
- Energy and Force changes  
- Conservation of energy | Students have opportunities to develop understandings of:  
- Big Bang Theory  
- Galaxies, stars and solar systems  
- Global systems  
- Water, carbon and nitrogen cycles |
| **Why are students learning this?** | So that students can:  
- Apply models to understand DNA and chromosomes  
- Examine the theory of evolution  
- Assess evidence of evolution  
- Analyse of natural selection | So that students can:  
- Predict chemical reaction products  
- Identify the structure of the periodic table  
- Investigate how to vary the rate of chemical reactions.  
- Apply chemical symbols in writing | So that students can:  
- Examine the relationship of force and energy  
- Investigate displacement, velocity and acceleration  
- Apply energy concepts to life issues | So that students can:  
- Examine climate change  
- Compare features of space items  
- Investigate interconnections of global systems |
| **What skills are students learning? (CCEs)** | Analyse, evaluate and synthesise information.  
Inquire, identify, explore and clarify information. | Analyse, evaluate and synthesise information.  
Inquire, identify, explore and clarify information. | Analyse, evaluate and synthesise information.  
Inquire, identify, explore and clarify information. | Analyse, evaluate and synthesise information.  
Inquire, identify, explore and clarify information. |
| **How will we know when they get there?** | Exam & report | Exam | Exam | Exam & report |

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</tr>
</thead>
</table>
| **What are students learning?** | Students have opportunities to develop understandings of:  
- The human brain  
- Communication with others  
- Report writing  
- Our world | Students study Ecology and investigate the survival prospects of one endangered species in the Gladstone Bioregion | Students have opportunities to develop understandings of:  
- Application of the laws of motion  
- Development experiments  
- Report writing | Students have opportunities to develop understandings of:  
- Chemical systems  
- Displacement reactions  
- Balancing reactions |
| **Why are students learning this?** | So that students can:  
- Explore how learning occurs  
- Investigate the complex nature of the brain  
- Develop writing skills  
- Explore what we have around us (gravity, movement) | Gladstone is an Industrial region trying to seek a balance between growth and the environment – sustainability. | So that students can:  
- Explain and define the operation and interaction of physics in the world around us.  
- Present a key concept in a structured manner | So that students can:  
- Identify and calculate chemical systems  
- Investigate rates of reactions  
- Present data in graphical form |
| **What skills are students learning? (CCEs)** | Analyse, evaluate and synthesise information.  
Inquire, identify, explore and clarify information. | Students are learning how to interpret and apply the Year 11 Biology Criteria. They are also researching, analysing and predicting. | Analyse, evaluate and synthesise information.  
Inquire, identify, explore and clarify information. | Analyse, evaluate and synthesise information.  
Inquire, identify, explore and clarify information, interpolate and extrapolate. |
| **How will we know when they get there? Assessment** | Students will create a Scientific Feature Article, focussing on one endangered species in the Gladstone Bioregion. | Report | Experiments & report |

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</tr>
</thead>
</table>
| **What are students learning?** | Students have opportunities to develop understandings of:  
  • Scientific investigations | Students have opportunities to develop understandings of:  
  • Energy systems | Students have opportunities to develop understandings of:  
  • Body and health | Students have opportunities to develop understandings of:  
  • Food systems – diets, nutrition  
  • Growth of plants |
| **Why are students learning this?** | So that students can:  
  • Describe the steps and methods of investigating a crime scene | So that students can:  
  • Range of energy options available for use – why and what | So that students can:  
  • The body and the balance required.  
  • Diseases and prevention/control | So that students can:  
  • Understand functions of plants and animals |
| **What skills are students learning?**  
  (CCEs) | Analyse, evaluate and synthesise information.  
  Inquire, identify, explore and clarify information.  
  Describe, interpreting, calculate, compare, contrast. | Analyse, evaluate and synthesise information.  
  Inquire, identify, explore and clarify information.  
  Describe, interpreting, calculate, compare, contrast. | Analyse, evaluate and synthesise information.  
  Inquire, identify, explore and clarify information.  
  Describe, interpreting, calculate, compare, contrast. | Analyse, evaluate and synthesise information.  
  Inquire, identify, explore and clarify information.  
  Describe, interpreting, calculate, compare, contrast. |
| **How will we know when they get there?**  
  Assessment | Report | Exam | Extended response task | Exam and extended experimental tasks |
### SCIENCE 21

<table>
<thead>
<tr>
<th>Year 12</th>
<th>Term 1</th>
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<th>Term 3</th>
<th>Term 4</th>
</tr>
</thead>
</table>
| **What are students learning?** | Students have opportunities to develop understandings of:  
- The work environment | Students have opportunities to develop understandings of:  
- Photography | Students have opportunities to develop understandings of:  
- Our environment | Students have opportunities to develop understandings of:  
- Space |
| **Why are students learning this?** | So that students can:  
- Safe work conditions, lifestyle, shift work and risk control | So that students can:  
- The chemistry and development of photography over time | So that students can:  
- Environmental impacts due to human impact | So that students can:  
- Space travel, force systems, satellites |
| **What skills are students learning? (CCEs)** | Analyse, evaluate and synthesise information.  
Inquire, identify, explore and clarify information.  
Describe, interpreting, calculate, compare, contrast. | Analyse, evaluate and synthesise information.  
Inquire, identify, explore and clarify information.  
Describe, interpreting, calculate, compare, contrast. | Analyse, evaluate and synthesise information.  
Inquire, identify, explore and clarify information.  
Describe, interpreting, calculate, compare, contrast. | Analyse, evaluate and synthesise information.  
Inquire, identify, explore and clarify information.  
Describe, interpreting, calculate, compare, contrast. |
| **How will we know when they get there? Assessment** | Extended writing task | Report and exam | Extended experimental investigation | Exam |
# MARINE AND AQUATIC PRACTICES

## Year 11

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</thead>
<tbody>
<tr>
<td><strong>What are students learning?</strong>&lt;br&gt;Students have opportunities to develop understandings of:&lt;br&gt;• Snorkelling and first aid</td>
<td><strong>What are students learning?</strong>&lt;br&gt;Students have opportunities to develop understandings of:&lt;br&gt;• Marine biology</td>
<td><strong>What are students learning?</strong>&lt;br&gt;Students have opportunities to develop understandings of:&lt;br&gt;• Fishing</td>
<td><strong>What are students learning?</strong>&lt;br&gt;Students have opportunities to develop understandings of:&lt;br&gt;• Tourism&lt;br&gt;• Food preparation</td>
</tr>
<tr>
<td><strong>Why are students learning this?</strong>&lt;br&gt;So that students can:&lt;br&gt;• To develop water skills and safety in a coastal environment</td>
<td><strong>Why are students learning this?</strong>&lt;br&gt;So that students can:&lt;br&gt;• To understand the balance of marine systems</td>
<td><strong>Why are students learning this?</strong>&lt;br&gt;So that students can:&lt;br&gt;• Understand the legal and practical requirements of the Qld environment</td>
<td><strong>Why are students learning this?</strong>&lt;br&gt;So that students can:&lt;br&gt;• The application of all the inputs and outputs of the tourism balance&lt;br&gt;• Correct food cooking and balance</td>
</tr>
<tr>
<td><strong>What skills are students learning?</strong>&lt;br&gt;(CCEs)&lt;br&gt;<strong>Analyse, evaluate and synthesise information.</strong>&lt;br&gt;Inquire, identify, explore and clarify information.&lt;br&gt;Describe, interpreting, calculate, compare, contrast.</td>
<td><strong>What skills are students learning?</strong>&lt;br&gt;(CCEs)&lt;br&gt;<strong>Analyse, evaluate and synthesise information.</strong>&lt;br&gt;Inquire, identify, explore and clarify information.&lt;br&gt;Describe, interpreting, calculate, compare, contrast.</td>
<td><strong>What skills are students learning?</strong>&lt;br&gt;(CCEs)&lt;br&gt;<strong>Analyse, evaluate and synthesise information.</strong>&lt;br&gt;Inquire, identify, explore and clarify information.&lt;br&gt;Describe, interpreting, calculate, compare, contrast.</td>
<td><strong>What skills are students learning?</strong>&lt;br&gt;(CCEs)&lt;br&gt;<strong>Analyse, evaluate and synthesise information.</strong>&lt;br&gt;Inquire, identify, explore and clarify information.&lt;br&gt;Describe, interpreting, calculate, compare, contrast.</td>
</tr>
<tr>
<td><strong>How will we know when they get there?</strong>&lt;br&gt;Assessment&lt;br&gt;Exam and practical skill</td>
<td><strong>How will we know when they get there?</strong>&lt;br&gt;Assessment&lt;br&gt;Exam and practical skills</td>
<td><strong>How will we know when they get there?</strong>&lt;br&gt;Assessment&lt;br&gt;Report and practical skills</td>
<td><strong>How will we know when they get there?</strong>&lt;br&gt;Assessment&lt;br&gt;Exam and report&lt;br&gt;Practical skills</td>
</tr>
</tbody>
</table>
## MARINE AND AQUATIC PRACTISES

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</thead>
<tbody>
<tr>
<td><strong>What are students learning?</strong></td>
<td>Students have opportunities to develop understandings of:</td>
<td>Students have opportunities to develop understandings of:</td>
<td>Students have opportunities to develop understandings of:</td>
<td>Students have opportunities to develop understandings of:</td>
</tr>
<tr>
<td></td>
<td>• Boating</td>
<td>• Navigation</td>
<td>• Oceanography</td>
<td>• Fishing</td>
</tr>
<tr>
<td><strong>Why are students learning this?</strong></td>
<td>So that students can:</td>
<td>So that students can:</td>
<td>So that students can:</td>
<td>So that students can:</td>
</tr>
<tr>
<td></td>
<td>• Safe operation of boats in the Qld environment.</td>
<td>• Analyse maps and plot safe courses of travel in the water systems</td>
<td>• The energy systems of the oceans – tides, wides etc.</td>
<td>• To correctly operate and maintain fishing equipment</td>
</tr>
<tr>
<td><strong>What skills are students learning? (CCEs)</strong></td>
<td>Analyse, evaluate and synthesise information. Inquire, identify, explore and clarify information. Describe, interpreting, calculate, compare, contrast.</td>
<td>Analyse, evaluate and synthesise information. Inquire, identify, explore and clarify information. Describe, interpreting, calculate, compare, contrast.</td>
<td>Analyse, evaluate and synthesise information. Inquire, identify, explore and clarify information. Describe, interpreting, calculate, compare, contrast.</td>
<td>Analyse, evaluate and synthesise information. Inquire, identify, explore and clarify information. Describe, interpreting, calculate, compare, contrast.</td>
</tr>
<tr>
<td><strong>How will we know when they get there? Assessment</strong></td>
<td>Exam and practical skills</td>
<td>Report, exam and practical skills</td>
<td>Exam and practical skills</td>
<td>Exam and practical skills</td>
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</tbody>
</table>
## AGRICULTURE AND HORTICULTURE

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<th>Term 4</th>
</tr>
</thead>
</table>
| **What are students learning?** | Students have opportunities to develop understandings of:  
- Production – plants | Students have opportunities to develop understandings of:  
- Seasonal plants | Students have opportunities to develop understandings of:  
- Maintaining gardens | Students have opportunities to develop understandings of:  
- Use of sprays for plants |
| **Why are students learning this?** | So that students can:  
- Identify and apply the skills required in the horticulture industry | So that students can:  
- Identify and grow the correct plants for the time of year | So that students can:  
- Trimming, cleaning and replanting to support long term growth of healthy plants | So that students can:  
- Understand positive and negative impacts of sprays to support or remove plants |
| **What skills are students learning? (CCEs)** | Analyse, evaluate and synthesise information.  
Inquire, identify, explore and clarify information.  
Describe, interpreting, calculate, compare, contrast. | Analyse, evaluate and synthesise information.  
Inquire, identify, explore and clarify information.  
Describe, interpreting, calculate, compare, contrast. | Analyse, evaluate and synthesise information.  
Inquire, identify, explore and clarify information.  
Describe, interpreting, calculate, compare, contrast. | Analyse, evaluate and synthesise information.  
Inquire, identify, explore and clarify information.  
Describe, interpreting, calculate, compare, contrast. |
| **How will we know when they get there?** | Exam and practical skills | Project | Practical work | Exam and report |

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# AGRICULTURE AND HORTICULTURE

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<th>Term 4</th>
</tr>
</thead>
</table>
| **What are students learning?** | Students have opportunities to develop understandings of:  
- Environmental impacts of the sun | Students have opportunities to develop understandings of:  
- The natural environment | Students have opportunities to develop understandings of:  
- Water systems | Students have opportunities to develop understandings of:  
- Genetically Modified foods |
| **Why are students learning this?** | So that students can:  
- Balance the correct sun exposure for plants and maximise growth | So that students can:  
- Understand environmental balance | So that students can:  
- Environmental balance of local water systems | So that students can:  
- The balance between natural food systems and the demand of our human population. |
| **What skills are students learning?**  
(CCEs) | Analyse, evaluate and synthesise information.  
Inquire, identify, explore and clarify information.  
Describe, interpreting, calculate, compare, contrast. | Analyse, evaluate and synthesise information.  
Inquire, identify, explore and clarify information.  
Describe, interpreting, calculate, compare, contrast. | Analyse, evaluate and synthesise information.  
Inquire, identify, explore and clarify information.  
Describe, interpreting, calculate, compare, contrast. | Analyse, evaluate and synthesise information.  
Inquire, identify, explore and clarify information.  
Describe, interpreting, calculate, compare, contrast. |
| **How will we know when they get there?**  
Assessment | Report and practical skills | Exam | Exam | Report |

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<th>Term 4</th>
</tr>
</thead>
</table>
| **What are students learning?** | Students have opportunities to develop understandings of:  
- Scientific investigations | Students have opportunities to develop understandings of:  
- Energy systems | Students have opportunities to develop understandings of:  
- Body and health | Students have opportunities to develop understandings of:  
- Food systems – diets, nutrition  
- Growth of plants |
| **Why are students learning this?** | So that students can:  
- Describe the steps and methods of investigating a crime scene | So that students can:  
- Range of energy options available for use – why and what | So that students can:  
- The body and the balance required.  
- Diseases and prevention/control | So that students can:  
- Understand functions of plants and animals |
| **What skills are students learning? (CCEs)** | Analyse, evaluate and synthesise information.  
Inquire, identify, explore and clarify information.  
Describe, interpreting, calculate, compare, contrast. | Analyse, evaluate and synthesise information.  
Inquire, identify, explore and clarify information.  
Describe, interpreting, calculate, compare, contrast. | Analyse, evaluate and synthesise information.  
Inquire, identify, explore and clarify information.  
Describe, interpreting, calculate, compare, contrast. | Analyse, evaluate and synthesise information.  
Inquire, identify, explore and clarify information.  
Describe, interpreting, calculate, compare, contrast. |
| **How will we know when they get there? Assessment** | Report | Exam | Report | Exam and report |

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</thead>
</table>
| **What are students learning?** | Students have opportunities to develop understandings of:  
- The work environment | Students have opportunities to develop understandings of:  
- Photography | Students have opportunities to develop understandings of:  
- Our environment  
- Space | Students have opportunities to develop understandings of:  
- Space  
- Environment  
- Space travel, force systems, satellites |
| **Why are students learning this?** | So that students can:  
- Safe work conditions, lifestyle, shift work and risk control | So that students can:  
- The chemistry and development of photography over time | So that students can:  
- Environmental impacts due to human impact | So that students can:  
- Space travel, force systems, satellites |
| **What skills are students learning?** (CCEs) | Analyse, evaluate and synthesise information.  
Inquire, identify, explore and clarify information.  
Describe, interpreting, calculate, compare, contrast. | Analyse, evaluate and synthesise information.  
Inquire, identify, explore and clarify information.  
Describe, interpreting, calculate, compare, contrast. | Analyse, evaluate and synthesise information.  
Inquire, identify, explore and clarify information.  
Describe, interpreting, calculate, compare, contrast. | Analyse, evaluate and synthesise information.  
Inquire, identify, explore and clarify information.  
Describe, interpreting, calculate, compare, contrast. |
| **How will we know when they get there?** Assessment | Report | Report and exam | Report | Exam |

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## Biology

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</tr>
</thead>
</table>
| **What are students learning?** | Students have opportunities to develop understandings of:  
- Cells, plants, and animals | Students have opportunities to develop understandings of:  
- Ecosystems | Students have opportunities to develop understandings of:  
- Cell respiration and photosynthesis | Students have opportunities to develop understandings of:  
- Plant and animal ant and photosynthesis |
| **Why are students learning this?** | So that students can:  
- Describe the building blocks of life and classification | So that students can:  
- Balance of systems – food, gas, water etc. | So that students can:  
- How energy and nutrient exchanges occur. | So that students can:  
- Understand functions of plants and animals |
| **What skills are students learning?** (CCEs) | Analyse, evaluate and synthesise information.  
Inquire, identify, explore and clarify information.  
Describe, interpreting, calculate, compare, contrast. | Analyse, evaluate and synthesise information.  
Inquire, identify, explore and clarify information.  
Describe, interpreting, calculate, compare, contrast. | Analyse, evaluate and synthesise information.  
Inquire, identify, explore and clarify information.  
Describe, interpreting, calculate, compare, contrast. | Analyse, evaluate and synthesise information.  
Inquire, identify, explore and clarify information.  
Describe, interpreting, calculate, compare, contrast. |
| **How will we know when they get there?** Assessment | Exam | Extended Response Task & Extended Experimental Investigation | Extended Experimental Investigations | Exam |

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## BIOLOGY

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</tr>
</thead>
</table>
| **What are students learning?** | Students have opportunities to develop understandings of:  
- Internal regulation and diseases | Students have opportunities to develop understandings of:  
- Student selected a biology issue for a research project | Students have opportunities to develop understandings of:  
- Generics | Students have opportunities to develop understandings of:  
- Evolution |
| **Why are students learning this?** | So that students can:  
- System balances in living items | So that students can:  
- Biology topic | So that students can:  
- Passing characteristic on through generations | So that students can:  
- Looking for and understanding human evolution |
| **What skills are students learning? (CCEs)** | Analyse, evaluate and synthesise information.  
Inquire, identify, explore and clarify information.  
Describe, interpreting, calculate, compare, contrast. | Analyse, evaluate and synthesise information.  
Inquire, identify, explore and clarify information.  
Describe, interpreting, calculate, compare, contrast. | Analyse, evaluate and synthesise information.  
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Inquire, identify, explore and clarify information.  
Describe, interpreting, calculate, compare, contrast. |
<p>| <strong>How will we know when they get there? Assessment</strong> | Exam | Extended experimental investigation | Exam and Extended response task | Extended response task |</p>
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<tr>
<th>Year 11</th>
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<th>Term 4</th>
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</thead>
</table>
| **What are students learning?** | Students have opportunities to develop understandings of:  
- Displacement, velocity, acceleration and forces  
- Use of S.I. | Students have opportunities to develop understandings of:  
- Forces systems in design and materials | Students have opportunities to develop understandings of:  
- Material science | Students have opportunities to develop understandings of:  
- Electricity |
| **Why are students learning this?** | So that students can:  
- Describe and calculate forms of linear movement | So that students can:  
- Calculate and describe types of forces and different features of materials | So that students can:  
- Describe and predict the features of materials based on the internal structure. | So that students can:  
- Apply and describe electrical systems used in the world – D/C and control systems |
| **What skills are students learning? (CCEs)** | Analyse, evaluate and synthesise information.  
Inquire, identify, explore and clarify information.  
Describe, interpreting, calculate, compare, contrast. | Analyse, evaluate and synthesise information.  
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Inquire, identify, explore and clarify information.  
Describe, interpreting, calculate, compare, contrast. |
| **How will we know when they get there? Assessment** | Report & Exam | Exam and Extended writing task | Exam | Assignment and exam |

**BACK TO KLA OVERVIEW**
# ENGINEERING TECHNOLOGY

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<th>Term 4</th>
</tr>
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</table>
| **What are students learning?** | Students have opportunities to develop understandings of:  
- Environmental management | Students have opportunities to develop understandings of:  
- Bridge design | Students have opportunities to develop understandings of:  
- Control systems | Students have opportunities to develop understandings of:  
- Engineering failures |
| **Why are students learning this?** | So that students can:  
- Align the balance of industry with the environmental needs | So that students can:  
- To apply and understand the complex force analysis that occurs in structures. | So that students can:  
- Describe and calculate complex control systems | So that students can:  
- Apply the 2 years of knowledge to analyse a failed system and to offer well-reasoned improvements |
| **What skills are students learning? (CCEs)** | Analyse, evaluate and synthesise information.  
Inquire, identify, explore and clarify information.  
Describe, interpreting, calculate, compare, contrast. | Analyse, evaluate and synthesise information.  
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Describe, interpreting, calculate, compare, contrast. |
| **How will we know when they get there?** | Extended writing task & Exam | Report | Exam & report | Report |

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</table>
| **What are students learning?** | Students have opportunities to develop understandings of:  
• Properties of matter, atomic structure, periodic table | Students have opportunities to develop understandings of:  
• Mole concepts and properties of gas | Students have opportunities to develop understandings of:  
• Bonding & chemical reactions | Students have opportunities to develop understandings of:  
• Rates, energy and equilibrium |
| **Why are students learning this?** | So that students can:  
• Describe chemical items with the correct terms and depth | So that students can:  
• Calculations of chemical systems with relationships explored. | So that students can:  
• Describe chemical reactions and substances.  
• Make quantatific predications about reactions and behaviours. | So that students can:  
• Explain how and why chemical reactions occur |
| **What skills are students learning?**  
(CCEs) | Analyse, evaluate and synthesise information.  
Inquire, identify, explore and clarify information.  
Describe, interpreting, calculate, compare, contrast. | Analyse, evaluate and synthesise information.  
Inquire, identify, explore and clarify information.  
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Inquire, identify, explore and clarify information.  
Describe, interpreting, calculate, compare, contrast. |
| **How will we know when they get there?**  
Assessment | Extended experimental investigation | Extended response Task | Exam | Exam |

**CHEMISTRY**

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<tbody>
<tr>
<td><strong>What are students learning?</strong></td>
<td>Students have opportunities to develop understandings of: • Reactions</td>
<td>Students have opportunities to develop understandings of: • Water</td>
<td>Students have opportunities to develop understandings of: • Reactions --- Acids and bases</td>
<td>Students have opportunities to develop understandings of: • Organic chemistry</td>
</tr>
<tr>
<td><strong>Why are students learning this?</strong></td>
<td>So that students can: • Exploring oxidation and reduction reactions</td>
<td>So that students can: • Explore the physical properties of water</td>
<td>So that students can: • Explore acids and bases concepts</td>
<td>So that students can: • Explore the application of organic chemical reactions and molecules</td>
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<td><strong>What skills are students learning? (CCEs)</strong></td>
<td>Analyse, evaluate and synthesise information. Inquire, identify, explore and clarify information. Describe, interpreting, calculate, compare, contrast.</td>
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<td>Exam</td>
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</table>
| **What are students learning?** | Students have opportunities to develop understandings of:  
  - Displacement, velocity and acceleration  
  - Use of S.I. | Students have opportunities to develop understandings of:  
  - Circular motion and projectiles | Students have opportunities to develop understandings of:  
  - Optics and sound | Students have opportunities to develop understandings of:  
  - Electricity |
| **Why are students learning this?** | So that students can:  
  - Describe and calculate forms of linear movement | So that students can:  
  - Calculate and describe all types of motion | So that students can:  
  - Describe and calculate light and sound energy systems | So that students can:  
  - Apply and describe electrical systems used in the world – both D/C and A/C |
| **What skills are students learning? (CCEs)** | Analyse, evaluate and synthesise information.  
  Inquire, identify, explore and clarify information.  
  Describe, interpreting, calculate, compare, contrast. | Analyse, evaluate and synthesise information.  
  Inquire, identify, explore and clarify information.  
  Describe, interpreting, calculate, compare, contrast. | Analyse, evaluate and synthesise information.  
  Inquire, identify, explore and clarify information.  
  Describe, interpreting, calculate, compare, contrast. | Analyse, evaluate and synthesise information.  
  Inquire, identify, explore and clarify information.  
  Describe, interpreting, calculate, compare, contrast. |
| **How will we know when they get there? Assessment** | Exam | Extended experimental investigation | Exam | Assignment |

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</table>
| **What are students learning?** | Students have opportunities to develop understandings of:  
  - Complex electrical systems | Students have opportunities to develop understandings of:  
  - Physics task of student choice | Students have opportunities to develop understandings of:  
  - Thermal systems in industry and home | Students have opportunities to develop understandings of:  
  - The universe |
| **Why are students learning this?** | So that students can:  
  - Describe and calculate A/C circuits used in electronics | So that students can:  
  - Research and test physics concepts in a chosen area | So that students can:  
  - Describe and calculate heating and cooling systems (air conditioning, fridges, heaters etc.) | So that students can:  
  - Calculate planet forces, understand the structure of the sun  
  - Describe and calculate time dilation impacts |
| **What skills are students learning? (CCEs)** | Analyse, evaluate and synthesise information.  
  Inquire, identify, explore and clarify information.  
  Describe, interpreting, calculate, compare, contrast. | Analyse, evaluate and synthesise information.  
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| **How will we know when they get there? Assessment** | Assignment & Exam | Extended Experimental investigation | Exam | Exam |

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