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| *Year 6/7 Science*  **Essential Learnings**  Knowledge & Understanding | **Year 1**  **2009/2010** | | | **Year 2**  **2010/2011** | | |
| Semester 1 | | Semester 2 | Semester 1 | | Semester 2 |
| Term 1 | Term 2 | Term 3 | Term 1 | Term 2 | Term 3 |
| **Science As A Human Endeavour**  *Science impacts on people, their environment and their communities.* | **Survival** | **Futures** | **Identity** | **Influential People** | **Megastructures** | **Discovery** |
| Scientific knowledge has been accumulated and refined over time, and can be used to change the way people live  e.g. use of and changes to technology, including mobile phones and computers; improved medical procedures. |  |  |  | √ |  |  |
| Ethical considerations are involved in decisions made about applications of science  e.g. preservation of wilderness environments to help protect endangered species. |  |  |  |  | √ |  |
| Scientific knowledge can help to make natural, social and built environments sustainable, at a scale ranging from local to global  e.g. recycling to reduce resource use. |  | √ |  |  |  |  |
| Different cultures, including those of Aboriginal people and Torres Strait Islander people, have contributed to science and scientific practice  e.g. Indigenous knowledge of flora and fauna makes contributions to scientific knowledge and the development of pharmaceutical products; traditional Chinese medicine recognises relationships between the human body and the environment; English scientist, Sir Isaac Newton, described gravity. |  |  |  | √ |  |  |

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| **Earth & Beyond**  *Interactions and changes in physical systems and environments can be explained and predicted.* | **Year 1**  **2009/2010** | | | **Year 2**  **2010/2011** | | |
| Semester 1 | | Semester 2 | Semester 1 | | Semester 2 |
| Term 1 | Term 2 | Term 3 | Term 1 | Term 2 | Term 3 |
| **Survival** | **Futures** | **Identity** | **Influential People** | **Megastructures** | **Discovery** |
| Gravitational attraction between objects in the solar system holds them in fixed orbits, and has predictable effects on the earth  e.g. changing tides are a result of gravitational attraction between the earth, the moon and the sun. |  |  |  |  |  | √ |
| Changes to the earth occur over varying time periods and can be interpreted using geological evidence  e.g. changes that are part of the water cycle occur over a shorter time scale than does rock formation; change over time can be identified through fossils and rock layers. |  |  |  |  |  | √ |

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| Energy and change  *Forces and energy can be identified and analysed to provide explanations that benefit community lifestyles and decision making.* | **Year 1**  **2009/2010** | | | **Year 2**  **2010/2011** | | |
| Semester 1 | | Semester 2 | Semester 1 | | Semester 2 |
| Term 1 | Term 2 | Term 3 | Term 1 | Term 2 | Term 3 |
| **Survival** | **Futures** | **Identity** | **Influential People** | **Megastructures** | **Discovery** |
| The motion of an object changes as a result of the application of opposing or supporting forces  e.g. a surfer makes use of a number of forces, including gravity, buoyancy and the motion of the water, to ride a wave. |  |  |  |  | √ |  |
| Renewable and non-renewable energy sources can be identified and used for different purposes  e.g. wind or coal is used to generate electricity; wind can also be used to pump water. |  | √ |  |  |  |  |
| Energy can be transferred and transformed  e.g. recharging a car battery transforms electrical energy into chemical energy that is stored in the battery; plants transform light energy from the sun into chemical energy that is stored. |  | √ |  |  |  |  |

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| Life and living  *Living things have structures that enable them to survive and reproduce.* | **Year 1**  **2009/2010** | | | **Year 2**  **2010/2011** | | |
| Semester 1 | | Semester 2 | Semester 1 | | Semester 2 |
| Term 1 | Term 2 | Term 3 | Term 1 | Term 2 | Term 3 |
| **Survival** | **Futures** | **Identity** | **Influential People** | **Megastructures** | **Discovery** |
| Cells are the basic unit of all living things and perform functions that are needed to sustain and reproduce life  e.g. some organisms are single-celled; complex organisms such as humans are collections of specialised cells. | √ |  |  |  |  |  |
| Systems of scientific classification can be applied to living things  e.g. dichotomous keys can be designed for groups of organisms. | √ |  |  |  |  |  |
| Survival of organisms is dependent on their adaptation to their environment  e.g. animals use camouflage to protect themselves; plants in very dry areas may store water in modified structures. | √ |  |  |  |  |  |
| Different feeding relationships exist within an ecosystem  e.g. producer, consumer, herbivore, carnivore relationships form a food web. | √ |  |  |  |  |  |

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| Natural and Processed Materials  *Properties, changes and uses of substances and mixtures are related to their particular composition.* | **Year 1**  **2009/2010** | | | **Year 2**  **2010/2011** | | |
| Semester 1 | | Semester 2 | Semester 1 | | Semester 2 |
| Term 1 | Term 2 | Term 3 | Term 1 | Term 2 | Term 3 |
| **Survival** | **Futures** | **Identity** | **Influential People** | **Megastructures** | **Discovery** |
| Properties of a material will vary according to the type and quantity of components that make up its structure  e.g. the colour of a paint depends on the proportion of different colours in the mixture; durability of Aboriginal arts works is dependent on paint ingredients; different alloys of iron produce different amounts of rust. |  |  | √ |  |  |  |
| Chemical change produces new substances that have properties different from those of the original substances  e.g. burning paper produces ash. |  |  | √ |  |  |  |
| Physical change produces no new substances  e.g. changing a solid to a liquid and back to a solid. |  |  | √ |  |  |  |