# **Year 9 – Ecology Student Program 2015**

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| **Week** | **Content** | **Textbooks**  **Pearson Science 9**  **Rossmoyne Booklet** |
| 1  20 Apr – 26 Apr | **Ecology Terminology and Energy Relationships in Plants and Animals**   * Define the following: population, community, habitat and ecosystem. * Understand the energy relationships between plants and animals * State the word equation for photosynthesis * State the word equation for respiration | PS9 Ch 9.2 p 290-294  RB Activity 1 p10  RB Activity 2 p13  RB Activity 3 p15 |
| 2  27 Apr – 3 May | **Energy Flow in Ecosystems**   * Use and construction of food chains and food webs to model the feeding relationships that may exist within an ecosystem. * Roles of producers, consumers, herbivores, omnivores, carnivores, scavengers and decomposers in ecosystems. * Energy flow through food webs. * Identify the trophic level of organisms in a food web. * Understand matter flow through ecosystems (with the use of flow diagrams) via the carbon cycle. | PS9 Ch 9.2 p 290-294  RB Activity 4 p16  RB Activity 5 p17  RB Activity 6 p21 |
| 3  4 May -10 May | **Biotic Factors**   * Biotic factors are factors resulting from the activities of a living thing or any living component in an environment that may affect the organism’s survival or ability to reproduce, such as the actions of an organism affecting the life of another organism e.g. a predator consuming its prey. * Define interrelations between organisms such as predation, parasitism, competition, mutualism (including pollination) and commensalism and provide examples of each. | PS9 Ch 9.1 p 284-285  RB Activity 7 p23  RB Activity 19 p62 |
| 4  11 May – 17 May | **Populations and Adaptations**   * Explain how the following factors can limit population growth: competition, disease, destruction of habitats, introduced species, immigration and emigration, births/deaths. * Understand that the survival and/or reproduction of an organism are dependent on its characteristics. * Different types of adaptations: behavioural, structural and functional and provide examples of each. Include adaptations to bushfire and drought. | PS9 Ch 9.1 p 286-287  RB Activity 8 p27  RB Activity 9 p32 |
| 5  18 May –  24 May | **Abiotic Factors**   * Abiotic factors are either a non-living chemical or physical factor in the environment that may affect the organism’s survival or ability to reproduce, such as soil, pH, forest fire, *etc.* * Abiotic factors may be grouped into the following main categories: * climatic factors: includes amount or intensity of sunlight, level of humidity, temperature ranges *etc.* * factors involving the soil: includes the nature and type of the soil, geology of the land, *etc.* * social factors: includes land use, water resources *etc.* * Outline the water and carbon cycle and how they relate to ecosystems | PS9 Ch 9.1 p 282-284  RB Activity 10 p34  RB Activity 11 p36  RB Activity 12 p39  RB Activity 13 p41 |
| **Week** | **Content** | **Textbooks**  **Pearson Science 9**  **Rossmoyne Booklet** |
| 6 - 7  25 May –  7 Jun | **Natural and Human Impact on Ecosystems and Biological Field Studies**   * Understand the natural and human impacts on a population’s rates of births, deaths, emigration and immigration. * Define biodiversity and explain its importance to ecosystems and humans. * Understand the impact of natural disasters (such as bushfires, drought and flooding) on biodiversity. * Understand the impact of human behaviour (such as habitat destruction, introduced species, chemical pesticides, chemical pollution and overcropping) on biodiversity. * Conduct field studies at the Bull Creek Wetlands Reserve | PS9 Ch 9.3 p 301-307  RB Activity 14 p43  RB Activity 15 p53  RB Activity 16 p55  RB Activity 17 p60  RB Activity 18 p61 |
| 8  8 Jun – 14 Jun | **Revision and End of Topic Test** |  |

**Assessment Structure**

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| **Assessment** | **When** | **Yearly % Weighting** |
| Food webs and Food Chains Assignment | Week 2 | 1.5 |
| Adaptations Assignment | Week 4 | 1.5 |
| Investigation – Seed Germination and Salt | Week 5 | 5 |
| Fieldwork at Bull Creek Wetlands Reserve | Week 6/7 | 3 |
| End of Topic Test | Week 8 | 14 |