

<p>Projection Grades (end of year 11) 1-3</p>	<p>Projection Grades (end of year 11) 4-6</p>	<p>Projection Grades (end of year 11) 7-9</p>
<ul style="list-style-type: none"> <input type="checkbox"/> Recall what happens in respiration to produce energy. <input type="checkbox"/> Recall what happens in aerobic respiration <input type="checkbox"/> Identify the main organs in the human gaseous exchange system. <input type="checkbox"/> Correctly use the terms: breathing, breathing rate, ventilation, inhalation, exhalation. <input type="checkbox"/> Describe the functions of the organs in the human gaseous exchange system and what happens during gas exchange. <input type="checkbox"/> Describe the structure of the lungs. <input type="checkbox"/> Describe how breathing rate and heart rate are affected by exercise. <input type="checkbox"/> Recall some harmful chemicals in tobacco smoke. <input type="checkbox"/> Describe how substances reach respiring cells from the blood and how waste products are returned to the blood. <input type="checkbox"/> Describe the effects of nicotine, tar and carbon monoxide in tobacco smoke. <input type="checkbox"/> Compare respiration in plants and animals. <input type="checkbox"/> Describe ways in which respiration can be detected (limewater, hydrogen carbonate indicator, heat). <input type="checkbox"/> Recall what happens in anaerobic respiration in humans <input type="checkbox"/> Recall the life processes (MRS GREN). <input type="checkbox"/> Recall the five kingdoms of organisms. <input type="checkbox"/> State the meaning of: multicellular and unicellular. <input type="checkbox"/> Identify organisms that are unicellular and those that are multicellular. <input type="checkbox"/> Recall that some foods, such as bread, beer and wine, are made using yeast. <input type="checkbox"/> Recall the conditions under which yeast grow quickly. <input type="checkbox"/> Recall what happens in aerobic and anaerobic respiration in yeast. Describe what happens in fermentation. <input type="checkbox"/> Recall the conditions under which bacteria grow quickly. <input type="checkbox"/> Recall what happens in anaerobic respiration in bacteria. <input type="checkbox"/> Describe, identify and state the basic functions of the parts of a bacterial cell (soft cell wall, flagella, cytoplasm, cell membrane, chromosome). <input type="checkbox"/> Recall the conditions under which algae grow quickly. <input type="checkbox"/> Describe what happens in photosynthesis. <input type="checkbox"/> Describe, identify and state the basic functions of common parts of protoctist cells (cell wall, flagella, cilia, pseudopods, cytoplasm, cell membrane, chloroplast, nucleus). <input type="checkbox"/> Correctly use the terms: ecosystem, decomposer and give examples <input type="checkbox"/> State the names of the compounds in which carbon is held in an ecosystem. 	<ul style="list-style-type: none"> <input type="checkbox"/> Model aerobic and anaerobic respiration using a word equation. <input type="checkbox"/> Compare burning (combustion) and respiration. <input type="checkbox"/> Explain how specialised cells keep the lungs clean (mucus production and ciliated epithelial cells). <input type="checkbox"/> Explain how the lungs are adapted for efficient gas exchange. <input type="checkbox"/> Explain how diffusion occurs in terms of movement of particles <input type="checkbox"/> Explain why aerobic and anaerobic respiration occur in humans at the same time. <input type="checkbox"/> Describe how asthma, emphysema and tobacco tar can reduce gas exchange. <input type="checkbox"/> Explain the changes in heartbeat and breathing rate during exercise. <input type="checkbox"/> Explain some of the effects of reduced oxygen supply on the body. <input type="checkbox"/> Compare the human gaseous exchange system with those of other animals and plants. <input type="checkbox"/> Recall that anaerobic respiration releases less energy than aerobic respiration. <input type="checkbox"/> Describe how lactic acid is removed from tissues. <input type="checkbox"/> Analyse and explain the changes in heartbeat and breathing rate during and after exercise (including EPOC/oxygen debt). <input type="checkbox"/> Use the key characteristics of microorganism cell structure to classify microorganisms. <input type="checkbox"/> Describe how yeast multiply by budding. <input type="checkbox"/> Explain how yeast can be used to make both alcoholic drinks and bread. <input type="checkbox"/> Explain why bacteria grow well in certain conditions. <input type="checkbox"/> Describe how bacteria multiply by binary fission. <input type="checkbox"/> Explain the functions of light and chlorophyll in photosynthesis (in terms of energy transfer). <input type="checkbox"/> Model photosynthesis using a word equation. <input type="checkbox"/> Model the recycling of carbon in an ecosystem using the carbon cycle. <input type="checkbox"/> Explain how changes in a physical environmental factor affect the distribution of organisms. 	<ul style="list-style-type: none"> <input type="checkbox"/> Evaluate the use of a word equation to model aerobic respiration. <input type="checkbox"/> Explain how and why a concentration gradient is maintained for oxygen and carbon dioxide between the blood and lungs. <input type="checkbox"/> Explain why exercise is recommended to help people with cardiovascular disease. <input type="checkbox"/> Compare the efficiencies of different gas exchange organs. <input type="checkbox"/> Identify the limitations of lungs, gills and body surface covering as sites of gas exchange. <input type="checkbox"/> Explain the effects of poisons that disrupt certain metabolic processes. <input type="checkbox"/> Explain the importance of surface area: volume ratio for organisms. <input type="checkbox"/> Explain why multicellular organisms need efficient transport systems. <input type="checkbox"/> Justify the lack of a virus kingdom. <input type="checkbox"/> Use graphs to calculate population growth rates. <input type="checkbox"/> Apply microbial growth rates to growth curves of other organisms. <input type="checkbox"/> Describe how Gram staining works and use results to identify differences between bacteria. <input type="checkbox"/> Explain how eutrophication occurs and the problems associated with eutrophication in an aquatic environment. <input type="checkbox"/> Make predictions about how changes in physical and biological factors will affect carbon supply in an ecosystem. <input type="checkbox"/> Explain ways in which decay can be prevented, such as freezing, refrigeration, drying, canning, salting, jamming, pickling and pasteurisation. <input type="checkbox"/> Explain the importance of decomposers in an ecosystem.