### YEAR 10 HOMEWORK – 10% Each Semester

<table>
<thead>
<tr>
<th>TOPIC</th>
<th>YOUR 1 PAGE SUMMARIES NEED TO ANSWER THE FOLLOWING…..</th>
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<tr>
<td><strong>TERM 1</strong></td>
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| Living World V (Part 1) (Due last lesson in Term1wk 3) | 1. Recall the roles and functions of the following systems in a multicellular organism: circulatory, respiratory and digestive. Include what organs make it up and the possible diseases that can occur.  
2. Define the term hormone. Tabulate glands, hormones and their functions  
3. What is a reflex? How does it provide an organism with protection?  
4. Describe/draw a reflex arc.  
5. Contrast infectious diseases and non-infectious diseases. Provide 2 examples for each.  
6. Explain the difference between an antigen, vaccine and immunisation  
7. List safety issues when dealing with pathogens | |
| Living World V (Part 2) (Due last lesson in Term1wk 5) | 1. Explain the role of the reproductive system  
2. Label a diagram on the body. Male reproductive organs- include penis, scrotum, vas deferens, urethra. Female reproductive organs- include vagina, oviduct, ovary, uterus  
3. Tabulate the function of the named parts above  
4. Define - Fertilisation, Ovulation, Menstruation, Menopause  
5. Label a diagram of the menstrual cycle | |
| Scientific Skills (Due last lesson in Term1wk 7) | 1. Outline some possible errors when using scientific equipment and recording measurements?  
2. What is the difference between the independent, dependent and controlled variables?  
3. When would you use a column graph and when would you use a line graph to plot your results?  
4. Why is it important to make accurate measurements and record your results precisely?  
5. Scientifically draw the following: Conical flask, beaker, measuring cylinder – Of these three pieces of equipment which one is the most accurate to measure liquid? Explain | |
| Chemical World (Part 1) (Due last lesson Term1wk 9) | 1. Define: atom, molecule, element, compound, mixture.  
2. Draw a diagram of the atom showing the location of electrons, protons and neutrons  
3. Define: atomic number, atomic mass, proton, neutron, electron, isotope, and allotrope.  
4. Draw the electronic configuration of the first 20 elements  
5. Use a periodic table to identify and name Group 1,2,7 and 8.  
6. Define radiation (as the emission of alpha, beta and/or gamma rays by radioactive substances) and radioactivity | |
| **TERM 2** | | |
| Chemical World (Part 2) (Due last lesson Term2wk 2) | 1. Explain the law of conservation of mass.  
2. Explain the difference between a physical and chemical reaction  
3. What are the indicators that a chemical reaction has occurred?  
4. Research the following compounds and their properties (including solubility, reactivity, formula, use and abundance: water, sodium chloride, methanol, carbon dioxide, HCl, NaOH, ethanol and calcium carbonate.  
5. Define combustion and write a general word equation.  
6. Write word equation for the combustion of ethanol  
7. Define corrosion and write a general equation.  
| Chemical World (Part 3) (Due last lesson Term2wk 4) | 1. Define precipitation  
2. Write the general word equation for the reaction between an acid and a metal.  
3. Write the word equation for HCl + Magnesium metal  
4. Write the general word equation for the reaction between an acid and a carbonate.  
5. Write the word equation for HCl + calcium carbonate  
6. Define neutralisation and write a general word equation for the reaction between an acid and a base.  
7. Write a word equation for HCl + NaOH  
8. Define decomposition  
9. Write a word equation for the decomposition of water  
10. Define and explain the use of indicators. Give examples of indicators we use in science | |
| Building a Greenhouse (Due last lesson Term2wk 6) | 1. What is an ecosystem?  
2. Define the following: photosynthesis, biotic, abiotic, distribution, abundance  
3. Label a diagram of the water cycle using the following terms- transpiration, evaporation, condensation, precipitation, respiration. Write a paragraph explaining the water cycle.  
4. Describe and draw the carbon and nitrogen cycles  
5. Explain how the following methods; recycling, reducing packed and composting, reduces waste disposal on how society.  
6. Describe how people have changed the environment by: pollution, damming rivers, introduced species, changing land through agriculture.  
7. Describe the impact of salinity and deforestation on the environment | |

### TERM 3

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| Physical World I (Due last lesson in Term3wk 4) | 1. Define a wave?  
2. Draw and give an example of each wave type. Label a diagram of each wave with wavelength, crest, trough, amplitude and displacement  
3. Explain the relationship between frequency and wavelength.  
4. Define each member of the EM spectrum in terms of wavelength- radio waves, microwaves, infrared, visible, x-rays, gamma rays, UV radiation.  
5. Explain why sound doesn’t travel through a vacuum but light does.  
6. Explain, in terms of wave properties, how loud, soft, high pitch and low pitch sounds are produced. | |
| Physical World II (Due last lesson Term3wk 8) | 1. Define Newton’s three law’s of motion  
2. In each scenario predict what will happen and name which of the Newton’s Laws it represents:  
   a. A hose is lying on the ground (not held in any way) and the water is turned on fully.  
   b. A table cloth is pulled quickly from under a set of dishes  
   c. A 100N force is applied to an object and causes it to move. The force is doubled on the same object.  
3. Define acceleration and explain why its units are ms$^{-2}$.  
4. Define and velocity and why its units are m/s. What other units are commonly recognised for velocity?  
5. Define speed. How are speed and velocity different?  
6. Calculate the following:  
   a. A man walks 55m in 28 seconds. What is his speed?  
   b. If you can run at an average speed of 7ms. How far can you run in 30secs.  
7. Draw the following motions on a simple x vs t graph: stationary, increasing speed, decreasing speed, acceleration and deceleration. | |
| Earth and Space (Due last lesson Term3wk 10) | 1. Compare and contrast alternate theories for the origin of the universe.  
2. Define white dwarf, red giant, nebula, black hole, supernova, pulsar  
3. Sequence the steps in the life of a star  
4. Explain the difference between mass and weight. Apply the formula W=mg  
5. List factors affecting gravity including mass size, distance apart  
6. Define Plate Tectonics, plate, plate boundary, trench, mid-ocean ridge, subduction zones, sea floor spreading, mountain building, folding, faulting  
7. Draw diagrams/model each of the above |