



Coonabarabran High School Assessment Notification

Subject: Year 10 Science **Assessment task 2:** Stations Task
Date of Notification: 10.05.21 **Date:** Week 6 – see exam schedule
Weighting: 20%
Teachers: K. Christoff, R. Blanch, K. Nash

Topics: Chemical Reactions, Newton and Motion, Working Scientifically
Equipment needed: Blue or black pen, lead pencil, pencil sharpener, ruler, eraser and school approved calculator.
Length of exam: 1 period
Assessment structure: The assessment format is a stations test. Students rotate through 12 stations with 3.5 minutes allocated to each station. A further 3 minutes is allocated at the completion of 12 stations for students to check their responses.

Revision Guide

Knowledge and Understanding

Chemical Reactions

- Recall that all matter is composed of atoms and has mass
- Recall a range of elements and compounds using their common names and chemical symbol or chemical formulae
- Recall that compounds are classified into groups based on common chemical characteristics
- Investigate a range of types of important chemical reactions that occur in non-living systems and involve energy transfer, including:
Corrosion, Combustion, Precipitation, Decomposition
- Construct word equations from observations and written descriptions of a range of chemical reactions
- Deduce that new substances are formed during chemical reactions by rearranging atoms rather than creating or destroying them
- Identify that chemical reactions involve energy transfer and can be exothermic or endothermic
- Identify an Acid + Base (neutralisation) reaction; an Acid + Metal reaction; an Acid + Carbonate reaction
- Identify reactions involving acids that occur in the body such as during digestion

Newton and Motion

- Qualitatively explain the relationship between distance, speed and time
- Qualitatively describe the relationship between force, mass and acceleration
- Use mathematical equations to solve problems
- Analyse everyday situations in terms of Newton's Laws of motion

Skills may include

- Recognising/selecting equipment
- Taking accurate measurements (reading scales, choice of equipment)
- Risk assessment
- Graphing skills
- Making observations
- Making inferences
- Interpreting diagrams
- Drawing equipment
- Recording results in tables
- Drawing conclusions from data/information
- Analyzing results

Year 10 Science Ideas for Stations Task Revision

1. i) Use your senses to observe something and then use these observations to infer what is happening.
ii) For the following sentences, circle the observation and underline the inference:
Bubbles were produced and the solution changed colour, therefore a reaction has taken place.
The reaction must be endothermic because the temperature is decreasing.
There are pieces of paper on the floor. The last class must have cut out pictures.
3. Name three elements from Group 1 of the periodic table. Write their chemical symbol. Draw the arrangement of electrons for one of the elements.
4. Name three elements from Group 8 in the periodic table. Identify two characteristics you would predict all elements in this group to have.
5. List four observations which indicate a chemical reaction has occurred.
6. Make a table that identifies and describes four ways metals can be protected from corrosion.
7. Write a word equation as an example of each of the following reaction types:
 - i) Decomposition reaction
 - ii) Combustion reaction
 - iii) Corrosion reaction
 - iv) Precipitation
 - v) Acid + Base (neutralisation) reaction
 - vi) Acid + Metal reaction
 - vii) Acid + Carbonate reaction
8. Underline the reactants and circle the products for each of the word equations you wrote for Question. What does the arrow in a chemical equation mean?
9. List Newton's three laws of motion and provide an everyday example of each.
Draw a diagram for each example and identify the direction of each force
Solve equations to find distance, speed, time, force, mass, acceleration.
10. Make up a risk assessment suitable for working safely with chemicals and glassware
11. For a named prac you have done this year, identify:
 - the aim
 - the independent variable
 - the dependent variable
 - two controlled variables
 - what you tested
 - what you observed/measured
12. Draw a labelled scientific diagram of the equipment you would use if you were to investigate the effectiveness of a coating of oil on an iron nail compared to no corrosion protection on an iron nail.