



## ASSESSMENT TASK NOTIFICATION

Course: **Year 11 Biology**

<b>Task Number:</b>	1	<b>Task Type:</b>	Practical Assessment – In-Class Task
<b>Task Weighting:</b>	30%	<b>Due Date:</b>	Monday 3 April 2023 – Period 1

Related Core Topics: **Module 1 – Cells as the Basis of Life**

### Content Syllabus Outcomes:

A student:

> describes single cells as the basis for all life by analysing and explaining cells' ultrastructure and biochemical processes BIO11-8

### Working Scientifically Syllabus Outcomes:

A student:

> develops and evaluates questions and hypotheses for scientific investigation. BIO11/12-1

> conducts investigations to collect valid and reliable primary and secondary data and information BIO11/12-3

> analyses and evaluates primary and secondary data and information. BIO11/12-5

> solves scientific problems using primary and secondary data, critical thinking skills and scientific processes. BIO11/12-6

> communicates scientific understanding using suitable language and terminology for a specific audience or purpose. BIO11/12-7

## **TASK**

You will:

- *investigate the effects of the environment on **named enzyme** activity through the collection of primary data:*
  - *change in pH*
  - *change in substrate concentration*

YOUR TASK is to perform an investigation in class time on ONE of the above named factors that affect the activity of a named enzyme. At the end of the lesson you will submit a completed scientific report for the investigation.

- It is recommended that you prepare the initial part of your scientific report (as detailed in following bullet point) before performing the task in class.
- The scientific report is to include a **title, background information (identifying the data sources - references), aim, hypothesis, safety precautions, equipment and materials, method (can be completed before the test), results, discussion and conclusion.** (The bolded items are suggested to be done before the assessment task day)
- A draft can be submitted up to a week before the due date of the assessment task.
- Graph paper will be supplied on the day of the assessment task.
- **NO Results' tables and graphs** are to be pre-prepared.
- The actual investigation will be performed in groups. However, the scientific report is to be submitted by each student as an **INDIVIDUAL** submission. No copying permitted.

## Marking Criteria

CONTENT	AVAILABLE MARKS	ACTUAL MARKS
<u>Title, Aim, Hypothesis</u> : All clearly identified, logical and specific for the purpose of the investigation.	1	
<u>Background Information</u> : Information specific to the investigation eg role of enzymes, enzyme models, what is the effect of the factor on enzyme functioning, where the enzyme and substrate can be found and their role in organisms. Identifies the enzyme and substrate to be used. (½ - 1 page)	4	
<u>Variables and Control</u> : Independent, dependent and controlled variables correctly identified. The control for the experiment is also correctly identified.	2	
<u>Safety Precautions, Equipment and Materials</u>	1	
<u>Method</u> : Logical, sequential method with all correct equipment identified. Includes all variables and the use of a control. Details how measurements, data collection and observations will be made. Demonstrates the validity and reliability of the investigation.	1	
<u>Results</u> : Observations recorded. Data correctly presented in tabular form. Correct graphing style and format used. Relevant labelled diagrams and/or images used.	2	
<u>Discussion</u> : Discusses and analyses the results. Discusses problems that occurred during the investigation and possible solutions. Evaluates improvements to the investigation in regard to validity and reliability. Explain non-destructive <b>or</b> destructive with reference to this experiment.	6	
<u>Conclusion</u> : Conclusion is clearly supported by results and makes reference to the stated aim and hypothesis.	2	
Bibliography / References – Harvard Style (using .gov, .edu websites)	1	
<b>TOTAL MARKS</b>	<b>20</b>	

Please refer to “Year 11 2023 Handbook and Assessment Policy” which can be found at:

- Kingscliff High School website: [https://kingscliff-h.schools.nsw.gov.au/content/dam/doi/sws/schools/k/kingscliff-h/download-box/Year\\_11\\_2023\\_Handbook\\_and\\_Assessment\\_Policy5.pdf](https://kingscliff-h.schools.nsw.gov.au/content/dam/doi/sws/schools/k/kingscliff-h/download-box/Year_11_2023_Handbook_and_Assessment_Policy5.pdf)