



MOUNT ANNAN HIGH SCHOOL

ASSESSMENT TASK NOTIFICATION

FACULTY	Science	COURSE	Biology	YEAR	12
TASK NUMBER	1	TASK NAME	First Hand Investigation		
TASK WEIGHT	20%	MARKS AWARDED	35		
DATE OF NOTIFICATION	Wednesday 13 th November 2024, Term 4 Week 5				
DUE DATE	Thursday 28 th November 2024, Term 4 Week 7 Period 4				

TASK DESCRIPTION

Inquiry Question: How important is it for genetic material to be replicated exactly?

Students will perform a first-hand investigation to model the processes involved in cell replication. The students will individually justify and evaluate the use of a valid procedure that allows for the reliable collection and communication of data they will reflect on.

The First Hand investigation will comprise two components.

1. Modelling of a cellular process.

Students will be given the equipment to individually model a cellular process.

2. Reflection on the data and information presented.

Students will then work individually to address questions based on;

- The data they have collected and modelled.
- Working scientifically skills used in classroom practical activities.
- Knowledge and understanding of the structures of DNA, the mechanisms of inheritance and the processes of reproduction.

Task duration: 55 minutes in class.

Assessment Policy- This is a brief outline, you must check your assessment booklet for further details. Assessment tasks must be submitted on the due date.

- **Failure to complete an assessment task will result in a zero mark.**
- Late submission of assessment items **will be awarded zero** unless there are very extenuating circumstances (Doctor's Certificate, etc.)
- Students found guilty of malpractice will be awarded a zero mark. If a piece of work is incomplete at the time of submission, it should be submitted as is, and you will be given a mark on what has been completed.
- See your teacher or the Head Teacher of Science on the **first day you return** back to school.



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Support Material

Students are encouraged to refer to class notes and investigations prior to the assessment. Additional information can be found in the **Model 5 (Heredity)** workshops on ATOMI -*See links in Google Classroom.*

HOW DOES THIS TASK LINK TO MY LEARNING

Students will demonstrate their knowledge of evolution by understanding the cellular processes involved in increasing genetic diversity. When completing the in class modelling activity students will be required to select appropriate materials and technologies when designing and planning their model.

OUTCOMES

Students will be demonstrating their understanding of the following outcomes from **Module 5-Hereditary.**

- BIO12-2** Designs and evaluates investigations in order to obtain primary and secondary data and information.
- BIO12-3** Conducts investigations to collect valid and reliable primary and secondary data and information.
- BIO12-4** Selects and processes appropriate qualitative and quantitative data and information using a range of appropriate media.
- BIO12-12** Explains the structures of DNA and analyses the mechanisms of inheritance and how processes of reproduction ensure continuity of species.



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MARKING CRITERIA

Performance Descriptors	Marks/Grade
<p>Student can:</p> <ul style="list-style-type: none"> • Demonstrates an extensive knowledge in understanding the structures of DNA and analyses the mechanisms of inheritance and how processes of reproduction ensure continuity of species • Accurately conduct an investigation that demonstrates the ability develop and evaluate questions and hypotheses for scientific investigations • Conduct an accurate investigation to collect and evaluate valid and reliable primary data • Select and process appropriate qualitative and quantitative data and information 	<p>A 30-35</p>
<p>Student can:</p> <ul style="list-style-type: none"> • Demonstrates a thorough knowledge in understanding the structures of DNA and analyses the mechanisms of inheritance and how processes of reproduction ensure continuity of species • Accurately conduct an investigation that demonstrates the ability develop OR evaluate questions and hypotheses for scientific investigations • Conduct an accurate investigation to collect OR evaluate valid and reliable primary data • Select and process appropriate qualitative and quantitative data and information 	<p>B 25-29</p>
<p>Student can:</p> <ul style="list-style-type: none"> • Demonstrates a sound knowledge in understanding the structures of DNA and analyses the mechanisms of inheritance and how processes of reproduction ensure continuity of species • Accurately conduct an investigation that demonstrates the ability develop OR evaluate questions OR hypotheses for scientific investigations • Conduct an accurate investigation to collect OR evaluate valid primary data • Select OR process appropriate qualitative and quantitative data and information 	<p>C 15-24</p>
<p>Student can:</p> <ul style="list-style-type: none"> • Demonstrates a limited knowledge in understanding the structures of DNA and how processes of reproduction ensure continuity of species • Conducts an investigation that collects OR evaluate valid primary data 	<p>D 10-14</p>
<ul style="list-style-type: none"> • Demonstrates a limited knowledge of DNA • Conducts an investigation that collects primary data 	<p>E 1-9</p>
Non Attempt – Non Submission – Non Serious Attempt	0