Year 12 BIOLOGY
Heredity Assessment Task 2023

TOPIC: Conceptual Model (Module 5) Heredity		**MARKS:**	/25
SUBMISSION REQUIREMENTS: VIA CANVAS submission point Week 7 Friday 24th November 5pm		**WEIGHTING:**	25%

OUTCOMES TO BE ASSESSED:

BIO 12-4 Selects and **processes** appropriate qualitative and quantitative data and information using a range of appropriate media

BIO12-5 Analyses and **evaluates** primary and secondary data and information

BIO12-12 **Explains** the structures of DNA and analyses the mechanisms of inheritance and how processes of reproduction ensure continuity of species.

DIRECTIONAL VERBS:

Explain: Relate cause and effect; make the relationships between things evident; provide why and/or how

Evaluate Make a judgement based on criteria; determine the value of.

Process: A series of actions or steps taken in order to achieve a particular end.

TASK DESCRIPTION:

*Students are to **process** information on a topic from the following list:*
- *Polypeptide Synthesis*
- *DNA replication*
- *Mitosis and Meiosis*

Students are required to analyse the information obtained using their critical thinking skills and knowledge of scientific processes to create:
- *a model*
- *a video with a voiceover **explanation** of the biological process and **evaluation** of their model*
- *Transcript of voiceover*

ASSESSMENT CRITERIA:

All topics will be covered in class, however it will be expected that students conduct their own additional research on their specific allocated topic. These topics are key concepts that may have cover several syllabus outcomes which you should address in your model. REMEMBER: Module 5 is all about the continuity of a species.

The video should be between 3-8 minutes long.

Useful websites:

Biology Animations: https://dnalc.cshl.edu/resources/animations/

Learn Genetics: https://learn.genetics.utah.edu/

Exemplar 1: https://www.youtube.com/watch?v=N7DoDDirhpA

ASSESSMENT MARKING CRITERIA

OUTCOMES: BIO 12-4, BIO12-5, BIO12-12	Mark	Grade
Student demonstrates an extensive knowledge and understanding of complex scientific concepts through an outstanding immersive model. *The model accurately depicts the chosen biological process, including all relevant data points and annotations. The voiceover clearly **explains** all components of the **process** linking it appropriately to the continuity of the species, indicating a deep knowledge of their model and **how well** the model is representative of the process. There is evidence of comprehensive **investigation** and data **analysis**.*	21-25	A
Student demonstrates thorough knowledge and understanding of complex scientific concepts through a highly developed immersive model. *The model accurately depicts the chosen biological **process** linking it to the continuity of the species, including all relevant data points and annotations. The voiceover **explains** all components of the process, indicating a comprehensive knowledge of their model and how well the model is representative of the process. There is evidence of **investigation** and data **analysis**, although some components may be incomplete or lacking detail.*	16-20	B
Student demonstrates sound knowledge and understanding of complex scientific concepts through an engaging model. *The model depicts most features of the chosen biological process, including essential data points and annotations. The voiceover **explains** most components of the **process** and attempts to link it to the continuity of a species, indicating a sound knowledge of their model and an attempt to judge **how well** the model represents the process. There is evidence of **investigation** and data **analysis**, although some components are incomplete or lacking detail.*	11-15	C
Student demonstrates basic knowledge and understanding of complex scientific concepts through a model. *The model depicts the basic components of the chosen biological process. The voiceover outlines some components of the process. The evaluation of model in relation to the **process** is not present. There is evidence of some **investigation**, although some components are incomplete or lacking detail.*	6-10	D
Student demonstrates limited knowledge and understanding of complex scientific concepts through a model. *The model depicts the limited components of the chosen biological process OR the voiceover outlines some components of the process. There is no evaluation of the model in relation to the **process**.*	1-5	E