

**Year 12 - 2021**  
**Biology**  
**Lawrence**



**Task Number: 1**  
**Weight: 20%**

**Notification Date: 25/10/2021**  
**Due Date: By 3.20pm 26/11/2021**

#### OUTCOMES ASSESSED

- BIO12-3** conducts investigations to collect valid and reliable primary and secondary data and information
- BIO12-6** solves scientific problems using primary and secondary data, critical thinking skills and scientific processes
- BIO12-7** communicates scientific understanding using suitable language and terminology for a specific audience or purpose
- BIO12-12** explains the structures of DNA and analyses the mechanisms of inheritance and how processes of reproduction ensure continuity of species

#### TASK DESCRIPTION

##### MODEL AND POSTER:

##### Key Content:

- model the processes involved in cell replication, including but not limited to:
  - mitosis and meiosis (ACSBL075) ⚙️ 🖨️
  - DNA replication using the Watson and Crick DNA model, including nucleotide composition, pairing and bonding (ACSBL076, ACSBL077)
- model the process of polypeptide synthesis, including: (ACSBL079)
  - transcription and translation
  - assessing the importance of mRNA and tRNA in transcription and translation (ACSBL079)

##### Students will:

- Develop a model to compare and contrast the processes of cell replication, including;
  - mitosis and meiosis
  - DNA Replication
  - Polypeptide synthesis: transcription and translation
- Support the model with a poster outlining the processes involved

#### TASK INSTRUCTIONS

- Utilise your secondary source research finding to prepare the model and supporting poster.
- Refer to the marking guidelines to ensure that you have addressed all criteria.
- Reference in a bibliography all research sources using Harvard formatting

Teacher's signature: \_\_\_\_\_

HT Admin signature: \_\_\_\_\_

Deputy Principal's signature: \_\_\_\_\_

Part	Description	Your Marks	Possible Marks
Background Research	Demonstrates extensive research of reliable and relevant sources with a bibliography referenced in APA style on the back of the poster		2
Mitosis and Meiosis	Cell structures are labelled and easily identified in model		2
	Model is an accurate and reliable representation		2
	Model effectively demonstrates how PMAT applies in mitosis and meiosis		3
	Poster describes the purposes of mitosis and meiosis		2
	Poster emphasizes the key differences in daughter cells between mitosis and meiosis		4
DNA Structure	DNA structures are labelled and easily identified in model		2
	Model is an accurate and reliable representation		2
	Model effectively demonstrates the unzipping of DNA during replication		3
	Poster describes the purposes of replication and base pairing rules		2
	Poster describes the contributions of Watson, Crick and Franklin in developing the DNA structure		4
Transcription and Translation	Cell structures are labelled and easily identified in model		2
	Model is an accurate and reliable representation		2
	Model effectively demonstrates the process of polypeptide synthesis		3
	Poster describes the purposes of transcription and translation		2
	Poster emphasizes the key differences in mRNA and tRNA		4
<b>ADDITIONAL FEEDBACK:</b>			
<b>Teacher's Signature:</b>			<b>Date:</b>
			<b>/50</b>
Task Mark	Task Rank	Accumulative Rank	