

## Year 12 General Biology

Task 4: Extended Response – Genetic Variation Part A			Weighting 10%
Marks Received	Marks Available	Percentage	
	10		

Name: \_\_\_\_\_

### Task 4: Extended Response – Genetic Variation

#### Student Instructions:

This extended answer is 10 marks and worth 10% of your year grade. You can use notes and the Part B extended response will be completed under test conditions. You will have 50 minutes to complete Part B based on the research you have made in the previous lesson.

#### Extended Response Question:

Genetic variation is a prerequisite for evolution. Mutation is one source of genetic variation and meiosis is another. Genetic diversity in specific species within a population is due to mutation and meiosis. In the answer section below, **identify** and **explain** how meiosis and mutation produce genetic variation, **explaining** how these processes contributed to natural selection and **providing** a detailed example.

**In your notes make sure you include the following topics in your notes:**

- Process of meiosis (1 mark)
- Labelled diagram of the stages of meiosis (2 marks)
- Homologous chromosomes (1 mark)
- Chromosome crossover (1 mark)
- How mutations occur in genes (1 mark)
- The process of natural selection (1 mark)
- Factors that influence natural selection (1 mark)
- Speciation (1 mark)
- References (1 mark)