

90188



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NEW ZEALAND QUALIFICATIONS AUTHORITY
MANA TOHU MĀTAURANGA O AOTEAROA



For Supervisor's use only

Level 1 Science, 2009

90188 Describe aspects of biology

Credits: Five

9.30 am Monday 23 November 2009

Check that the National Student Number (NSN) on your admission slip is the same as the number at the top of this page.

You should answer ALL the questions in this booklet.

If you need more space for any answer, use the page(s) provided at the back of this booklet and clearly number the question.

Check that this booklet has pages 2–9 in the correct order and that none of these pages is blank.

YOU MUST HAND THIS BOOKLET TO THE SUPERVISOR AT THE END OF THE EXAMINATION.

For Assessor's use only		Achievement Criteria	
Achievement		Achievement with Merit	Achievement with Excellence
Describe aspects of biology.	☐	Explain aspects of biology.	☐
Overall Level of Performance		☐	

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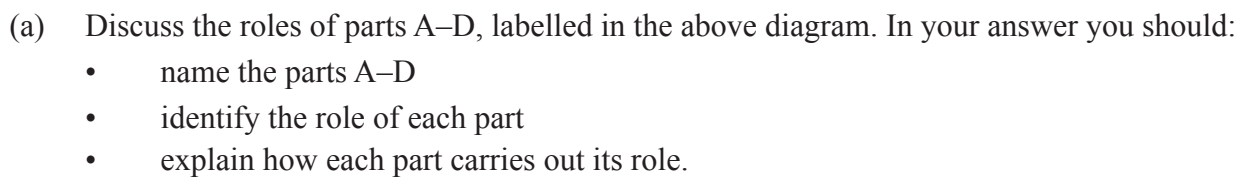
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- (b) Discuss why a person suffers **no** ill-effects in the first stages of a **bacterial infection**, whereas after a period of time, eg 24 hours, the toxins make the person unwell. Refer to bacterial life processes in your answer.

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The diagram shows the generalised structure of a fungus.

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

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QUESTION THREE : CATSAssessor's
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In cats, the polydactylism gene produces a paw with an extra digit (claw).
This is a dominant trait (E).

Normal cat paw

<http://www.maguirefarm.com/images/CatMistyFoot.jpg>

Polydactyl cat paw

<http://www.dogbreedinfo.com/catbreed/americanpolydactyl.htm>

- (a) State the **genotype** of a cat that has the normal number of digits / claws **and** explain why this genotype results in normal paws. In your answer you should use the terms allele and recessive.

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- This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Tomatoes have 24 chromosomes in each of their cells.
Cells can divide in one of two ways – mitosis or meiosis.
Study the information given in the table below.

	Mitosis	Meiosis
Number of daughter cells produced	2	4
Chromosome number in daughter cells	24	12
Variation	Nil	Yes
Purpose	Growth	Reproduction

In your answer consider:

- the processes of mitosis and meiosis
- how variation occurs in meiosis
- the chromosome number in daughter cells.

[illegible]

**Extra paper for continuation of answers if required.
Clearly number the question.**

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Question
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