



For Supervisor's use only

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90168



NEW ZEALAND QUALIFICATIONS AUTHORITY  
MANA TOHU MĀTAURANGA O AOTEAROA



National Certificate of Educational Achievement  
TAUMATA MĀTAURANGA Ā-MOTU KUA TAEA

## Level 1 Biology, 2004

### 90168 Describe how humans use and are affected by micro-organisms

Credits: Two

9.30 am Thursday 25 November 2004

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 pages provided at the back of this booklet and clearly number the question.

Check that this booklet has pages 2–7 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.**

Achievement Criteria			For Assessor's use only		
Achievement		Achievement with Merit		Achievement with Excellence	
Describe biological ideas relating to how humans use and are affected by micro-organisms.	<input type="checkbox"/>	Explain biological ideas relating to how humans use and are affected by micro-organisms.	<input type="checkbox"/>	Discuss biological ideas relating to how humans use and are affected by micro-organisms.	<input type="checkbox"/>
Overall Level of Performance					<input type="checkbox"/>

You are advised to spend 40 minutes answering the questions in this booklet.

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### QUESTION ONE: FAST FOOD FEARS!



More people than ever before are buying ready-to-eat food, fast food, and dining out in cafes and restaurants. This change has given people new choices in the food they eat – but it has also created new problems. One of these is the risk of bacterial food poisoning.

- (a) **Describe** TWO ways that food can become contaminated during preparation and storage, **and** TWO ways of preventing this contamination.

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- (b) Food poisoning bacteria are often present naturally in food, but in numbers so small they do not affect us. **Explain** how the reproduction of bacteria can cause high numbers of bacteria in food in a very short time.

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- (c) Most of us have food somewhere in the kitchen that is many weeks, months or even years old. The bacteria in these foods have been killed or have not been able to reproduce. Choose any TWO methods of **food preservation**, and **compare and contrast** how they control bacteria within the food.

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**QUESTION TWO: FUN WITH FUNGI!**Assessor's  
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Fungi are almost entirely multi-cellular, and they are all heterotrophic (obtaining their energy from another organism, whether alive or dead).

- (a) **Describe** the structure **and** function of the following parts of a typical fungus: Spores, Sporangium, Hyphae. (You may use a diagram if you wish.)

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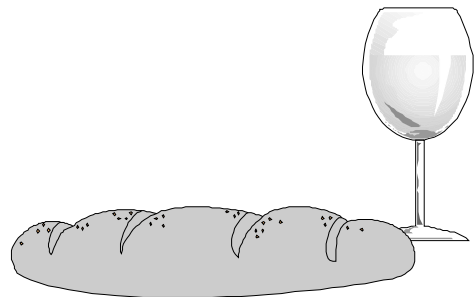
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- (b) Yeast is a single-celled fungus that is used in bread-making, wine-making and brewing.

**Explain** how the life processes of yeast make it so useful in making these products.



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**QUESTION THREE: VIRUS ATTACK!**Assessor's  
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- (a) A virus is **not** a cell. **Describe** the TWO main parts that all viruses have in common. You may use a diagram if you wish.

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- (b) **Explain** why a virus will **not** grow on an agar plate.

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