



For Supervisor's use only

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90176



NEW ZEALAND QUALIFICATIONS AUTHORITY
MANA TOHU MĀTAURANGA O AOTEAROA



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

Level 1 Human Biology, 2004

90176 Describe how humans respond to pathogens

Credits: Two

9.30 am Tuesday 23 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 page provided at the back of this booklet and clearly number the question.

Check that this booklet has pages 2–5 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			<i>For Assessor's use only</i>		
Achievement		Achievement with Merit		Achievement with Excellence	
Describe how humans respond to pathogens.	<input type="checkbox"/>	Explain how humans respond to pathogens.	<input type="checkbox"/>	Discuss how humans respond to pathogens.	<input type="checkbox"/>
Overall Level of Performance					<input type="checkbox"/>

You are advised to spend 20 minutes answering the questions in this booklet.

QUESTION ONE

John needs a new tetanus vaccine. This is an example of **passive** immunity.

- (a) Describe **passive immunity**.

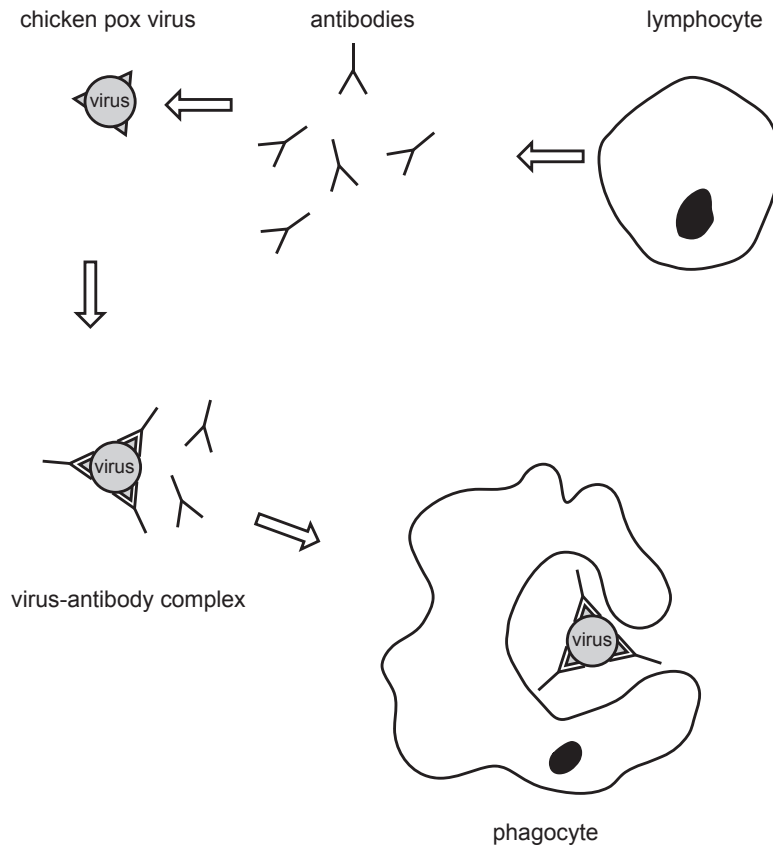
- (b) **Explain** why a person needs to be vaccinated against tetanus every twenty years.

A child has gained **active immunity** after recovering from chicken pox.

- (c) Explain how active immunity is gained.

The diagram below shows the immune response that occurred when the chicken pox virus first entered the child's body.

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(d) Describe the role of the lymphocyte.

(e) Discuss **how** antibodies help the body to **gain immunity** to chicken pox.
