See back cover for an English translation of this cover



90929M



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Koiora, Kaupae 1, 2012

90929M Te whakaatu māramatanga mō ngā ariā koiora e pā ana ki te whāngote hei kaikame

9.30 i te ata Rāpare 15 Whiringa-ā-rangi 2012 Whiwhinga: Toru

Paetae	Paetae Kaiaka	Paetae Kairangi
Te whakaatu māramatanga mō ngā ariā koiora e pā ana ki te whāngote hei kaikame.	Te whakaatu māramatanga hōhonu mō ngā ariā koiora e pā ana ki te whāngote hei kaikame.	Te whakaatu māramatanga matawhānui mō ngā ariā koiora e pā ana ki te whāngote hei kaikame.

Tirohia mehemea e ōrite ana te Tau Ākonga ā-Motu (NSN) kei tō pepa whakauru ki te tau kei runga ake nei.

Me whakautu e koe te KATOA o ngā pātai kei roto i te pukapuka nei.

Ki te hiahia koe ki ētahi atu wāhi hei tuhituhi whakautu, whakamahia te (ngā) whārangi kei muri i te pukapuka nei, ka āta tohu ai i ngā tau pātai.

Tirohia mehemea kei roto nei ngā whārangi 2–15 e raupapa tika ana, ā, kāore hoki he whārangi wātea.

HOATU TE PUKAPUKA NEI KI TE KAIWHAKAHAERE HEI TE MUTUNGA O TE WHAKAMĀTAUTAU.

TAPEKE

Kia 60 meneti hei whakautu i ngā pātai o tēnei pukapuka.

MĀ TE KAIMĀKA ANAKE

PĀTAI TUATAHI: NGĀ KAIOTA ME NGĀ KAIKIKO

He kaiota te rāpeti, ā, he kaikiko te kurī. Ka whakaatu te hoahoa o raro i ngā pūnaha nakunaku kai o aua whāngote e rua.

Te pūnaha nakunaku kai o te rāpeti Te pūnaha nakunaku kai o te kurī He tapu tēnei rauemi. E kore taea te tuku atu. Aata tirohia ki ngā kupu kei raro iho i te pouaka nei. Tracy Greenwood, Lissa Bainbridge-Smith, Richard Allan, Year 12 Biology Student Workbook (Biozone, Kirikiriroa, 2008), wh 205 Whakamahia te hoahoa o runga ki te matapaki i te hiranga o ngā rerekētanga i waenganui i ngā pūnaha nakunaku kai o te rāpeti me te kurī. I tō whakautu me: whakaahua ngā rerekētanga i waenganui i te kōpiro nui, i te hiku whēkau hoki o te rāpeti me te kurī whakamārama te mahi o te kopiro nui me te hiku whēkau i te tukanga nakunaku whakamārama he pēhea e whiwhi ai i aua whāngote te uara taiora mōrahi rawa mā ēnei hanganga i te kai ka kainga e rāua.

You are advised to spend 60 minutes answering the questions in this booklet.

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QUESTION ONE: HERBIVORES AND CARNIVORES

A rabbit is a herbivore and a dog is a carnivore. The diagram below shows the digestive systems of each of these mammals.

For copyright reasons, this resource cannot be reproduced here.

Tracy Greenwood, Lissa Bainbridge-Smith, Richard Allan, Year 12 Biology Student Workbook (Biozone, Hamilton, 2008), p 205

Use the diagram above to discuss the significance of the differences in the digestive systems of a rabbit and a dog.

In your answer you should:

- describe the differences between the rabbit's and the dog's large intestine and caecum
- explain the function of the large intestine and caecum in digestion
- explain how these structures allow each mammal to gain maximum nutrient value from the food that they eat.

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PĀTAI TUARUA:	TĪNGOINGO
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MĀ TE KAIMĀKA ANAKE

Ka whakaatu te hoahoa o raro i tētahi tīngoingoi mai i te kiriroto o te kōpiro iti, me tētahi whakarahinga e whakaatu ana i ngā tīngoimoroiti.

He tapu tēnei rauemi. E kore taea te tuku atu. Aata tirohia ki ngā kupu kei raro iho i te pouaka nei.

Martin Hanson, NCEA Level 1 Biology & Human Biology (Tāmaki Makaurau, ESA Publications, 2003), wh 58.

Matapakihia he pēhea nei te mahi tahi a ngā tīngoimoroiti, te whātuinga ia-tōiti me te ia-tōiti lacteal e tuku ai kia mahia ngā mahi e ngā tīngoingoi.

I tō whakautu me:

 whakaahua te mahi whānui a ngā tīngoing

•	whakahāngai te hanganga o ia wāhanga ki te mahi ka mahia e taua wāhanga ki te tuku i te tīngoingoi kia mahia tāna mahi.					

QUES	STION TWO: VILLI	ASSESSOR'S USE ONLY			
The diagram below shows a villus (plural villi), from the lining of the small intestine, with an enlargement showing microvilli.					
	For copyright reasons, this resource cannot be reproduced here.				
	Martin Hanson, NCEA Level 1 Biology & Human Biology (Auckland, ESA Publications, 2003), p 58. ss how the microvilli, capillary network and lacteal work together to allow the villi to carry				
	eir function.				
	r answer you should: describe the overall role of the villi				
• r	relate the structure of each part to the role it plays in allowing the villus to carry out its function.				

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PĀTAI TUATORU: TE TAUPŪ pH ME NGĀ PŪMUA WHĀKŌKĪ

MĀ TE KAIMĀKA ANAKF

He rerekē ngā taumata o te taupū pH i ngā wāhanga rerekē o te pūnaha nakunaku kai o te whāngote.

Matapakihia te hiranga o te taumata pH ki te mahi a ngā pūmua whākōkī i te tukanga nakunaku kai.

I tō whakautu me:

- whakaaroaro kia RUA ngā wāhanga rerekē o te pūnaha nakunaku kai me ngā taupū pH rerekē hoki
- whakamārama te pānga o te panoni haere o te taupū pH ki te hohenga pūmua whākōkī
- whakamahi tētahi pūmua whākōkī hei tauira, ā, whakahāngai atu ngā panoni pH ki tāna mahi mō te nakunaku kai i ngā wāhi e rua o te pūnaha nakunaku kai ka whakaaroarohia.

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QUESTION THREE: pH AND ENZYMES

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Different parts of the digestive system of mammals have different pH levels.

Discuss the importance of pH levels to the functioning of enzymes in the process of digestion. In your answer you should:

- consider TWO different parts of the digestive system with differing pH levels
- explain the effect of changing pH levels on the enzyme action
- use a specific example of an enzyme, and link pH changes to its role in digestion in the two parts of the digestive system considered.

Parts of the digestive system considered:	
1	
2	

MĀ TE KAIMĀKA ANAKE
ANAKE

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TAU PĀTAI		Tuhia te (ngā) tau pātai mēnā e hāngai ana.
PATAI		

		Extra paper if required.	
DUESTION		Write the question number(s) if applicable.	
QUESTION NUMBER		(с) и орринения	

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English translation of the wording on the front cover

Level 1 Biology, 2012

90929 Demonstrate understanding of biological ideas relating to a mammal as a consumer

9.30 am Thursday 15 November 2012 Credits: Three

Achievement	Achievement with Merit	Achievement with Excellence
Demonstrate understanding of biological ideas relating to a mammal as a consumer.	Demonstrate in-depth understanding of biological ideas relating to a mammal as a consumer.	Demonstrate comprehensive understanding of biological ideas relating to a mammal as a consumer.

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 attempt 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 2–15 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.