

90929M



909295



NEW ZEALAND QUALIFICATIONS AUTHORITY  
MANA TOHU MĀTAURANGA O AOTEAROA

QUALIFY FOR THE FUTURE WORLD  
KIA NOHO TAKATŪ KI TŌ ĀMUA AO!

SUPERVISOR'S USE ONLY

## Koiora, Kaupae 1, 2017

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

9.30 i te ata Rāpare 16 Whiringa-ā-rangi 2017  
Whiwhinga: Toru

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

Tirohia mēnā e rite ana te Tau Ākonga ā-Motu (NSN) kei runga i tō puka whakauru ki te tau kei runga i tēnei whārangi.

**Me whakamātau koe i ngā tūmahi KATOĀ kei roto i tēnei pukapuka.**

Mēnā ka hiahia whārangi atu anō mō ō tuinga, whakamahia te (ngā) whārangi wātea kei muri o tēnei pukapuka, ka āta tohu ai i te tau tūmahi.

Tirohia mēnā e tika ana te raupapatanga o ngā whārangi 2–15 kei roto i tēnei pukapuka, ka mutu, kāore tētahi o aua whārangi i te takoto kau.

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

TAPEKE

MĀ TE KAIMĀKA ANAKE

## TŪMAHI TUATAHI: TE NAKUNAKU KAI<sup>1</sup>

E whakaatu ana ngā hoahoa i raro i te pūnaha nakunaku kai i roto i te tinana me te pH o ngā wāhanga rerekē.



<http://pulpbits.net/7-label-the-parts-of-the-digestive-system/the-digestive-system-with-labels/>

<http://www.badgut.org/information-centre/a-z-digestive-topics/pill-coating/>

Whakatauritea te nakunaku ōkiko me te nakunaku matū o ngā pūmua, warowaihā me ngā ngako i roto i te pūnaha nakunaku o tētahi whāngote pērā i te tangata.

I tō tuhinga, me:

- whakaahua i te pūtake me te wāhi o te mahi nakunaku ōkiko me te nakunaku matū
- whakamārama he pēhea te nakunaku o ngā pūmua, warowaihā me ngā ngako
- matapaki he aha i hira ai te pH o ngā wāhanga rerekē o te pūnaha nakunaku i roto i te nakunaku kai, ā, he pēhea te whakahaere i te pH.

---

---

---

---

---

---

---

---

<sup>1</sup> kūnatutanga

**QUESTION ONE: DIGESTION**ASSESSOR'S  
USE ONLY

The diagrams below show the digestive system in the body and the pH of the different parts.



<http://pulpbits.net/7-label-the-parts-of-the-digestive-system/the-digestive-system-with-labels/>

<http://www.badgut.org/information-centre/a-z-digestive-topics/pill-coating/>

Compare and contrast the physical and chemical digestion of proteins, carbohydrates and fats in the digestive system of a mammal such as a human.

In your answer:

- describe the purpose and location of the processes of physical and chemical digestion
- explain how digestion of proteins, carbohydrates, and fats occurs
- discuss why the pH of the different parts of the digestive system is important in the digestion of food, and how the pH is regulated.

---

---

---

---

---

---

---

---

---

---





## TŪMAHI TUARUA: NGĀ PŪNAHA NAKUNAKU KAIOTA ME TE KAIKIKO

He rerekētanga kei roto i ngā waha me ngā puku o ngā kaiota me ngā kaikiko hei āwhina ki te nakunaku i ngā kai rerekē.



### Puku rāpeti (kaiota)

### Puku kurī (kaikiko)

<http://www.vivahealth.org.uk/wheat-eaters-or-meat-eaters/length-digestive-tract>



### Angaanga rāpeti (kaiota)

### Angaanga kurī (kaikiko)

<https://nz.pinterest.com/pin/299419075201863865/>

<http://www.angelfire.com/mi/dinosaurs/dogs.htm>

Whakatauritea ngā rerekētanga i roto i te pūnaha nakunaku kai me te waha o tētahi kaiota me tētahi kaikiko.

I tō tuhinga, me:

- whakaahua i ngā kai a tētahi kaiota pērā i te rāpeti, me tētahi kaikiko pērā i te kurī
- whakamārama i te take me te āhua e rerekē ai te nakunaku i ngā waha o tētahi kaiota me tētahi kaikiko
- whakamārama i ngā rerekētanga matua i roto i ngā hanganga me ngā mahi i roto i te puku kaiota me te puku kaikiko
- aromātai i te whaikikotanga o te pūnaha nakunaku o tētahi kaiota me tētahi kaikiko.

---



---



---

## QUESTION TWO: HERBIVORE AND CARNIVORE DIGESTIVE SYSTEMS

ASSESSOR'S  
USE ONLY

Herbivores and carnivores have differences in their mouths and guts which help them digest their different diets.



### Rabbit gut (herbivore)

<http://www.vivahealth.org.uk/wheat-eaters-or-meat-eaters/length-digestive-tract>

### Dog gut (carnivore)



### Rabbit (herbivore) skull

<https://nz.pinterest.com/pin/299419075201863865/>

### Dog (carnivore) skull

<http://www.angelfire.com/mi/dinosaurs/dogs.htm>

Compare and contrast the differences in the digestive system and mouth of a herbivore and a carnivore.

In your answer:

- describe the diet of a herbivore such as a rabbit, and a carnivore such as a dog
- explain why and how the digestion that occurs in the mouths of a herbivore and a carnivore are different
- explain the main differences in structures and functions of the herbivore and carnivore gut
- evaluate the effectiveness of the digestive systems of a herbivore and a carnivore.

---



---



---







## TŪMAHI TUATORU: TE MIMITITANGA, KAWÉ TOTO, WHAKAWAIMEHATANGA ME TE TUKUPŪNGAO

E whakaatu ana ngā pikitia i raro i ngā wāhi matua o te nakunaku kai me te āhua o te rere o te toto i roto i te tinana.



<http://www.mentone-educational.com.au/how-food-is-digested-the-heart-and-blood-circulati>

Matapakitia he pēhea te mahi tahi a ngā tukanga o te mimititanga, kawé toto, whakawaimehatanga me te tukupūngao ki te whakaū ka tuarhia ngā hua o te nakunaku kai, ā, ka whakamahia e te tinana.

I tō tuhinga, me:

- whakaahua i ngā tukanga o te mimititanga, kawé toto, whakawaimehatanga me te tukupūngao, ā, kei hea ēnei tukanga e mahi ana
- whakamārama he pēhea, me te take hoki e pā mai ai ngā tukanga o te mimititanga, kawé toto, whakawaimehatanga me te tukupūngao i roto i te tinana
- matapaki he pēhea te mahi tahi a ngā tukanga o te mimititanga, kawé toto, whakawaimehatanga me te tukupūngao hei whakaū kei te hauora te tinana.

---

---

---

---

---

---

---

**QUESTION THREE: ABSORPTION, CIRCULATION, ASSIMILATION AND RESPIRATION**ASSESSOR'S  
USE ONLY

The pictures below show the main sites of digestion and how blood is circulated in the human body.



<http://www.mentone-educational.com.au/how-food-is-digested-the-heart-and-blood-circulati>

Discuss how the processes of absorption, circulation, assimilation, and respiration work together to ensure the products of food digestion are distributed around and used by the body.

In your answer:

- describe the processes of absorption, circulation, assimilation, and respiration, and where these processes occur
- explain how and why the processes of absorption, circulation, assimilation, and respiration occur in the body
- discuss how the processes of absorption, circulation, assimilation, and respiration work together to ensure the healthy functioning of the body.

---

---

---

---

---

---

---

---





**He whārangi anō ki te hiahiatia.  
Tuhia te (ngā) tau tūmahi mēnā e tika ana.**

TAU TŪMAHI

MĀ TE  
KAIMĀKA  
ANAKE

**Extra paper if required.**  
**Write the question number(s) if applicable.**

QUESTION  
NUMBER

ASSESSOR'S  
USE ONLY

*English translation of the wording on the front cover*

## **Level 1 Biology, 2017**

### **90929 Demonstrate understanding of biological ideas relating to a mammal(s) as a consumer(s)**

9.30 a.m. Thursday 16 November 2017  
Credits: Three

<b>Achievement</b>	<b>Achievement with Merit</b>	<b>Achievement with Excellence</b>
Demonstrate understanding of biological ideas relating to a mammal(s) as a consumer(s).	Demonstrate in-depth understanding of biological ideas relating to a mammal(s) as a consumer(s).	Demonstrate comprehensive understanding of biological ideas relating to a mammal(s) as a consumer(s).

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.**

90929M