90929M

909295

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SUPERVISOR'S USE ONLY

NEW ZEALAND QUALIFICATIONS AUTHORITY
MANA TOHU MĀTAURANGA O AOTEAROA

Koiora, Kaupae 1, 2014

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

2.00 i te ahiahi Rāhina 17 Whiringa-ā-rangi 2014
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 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 ngā pātai KATOA 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 2–19 e raupapa tika ana, ā, kāore hoki he whārangi wātea.

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

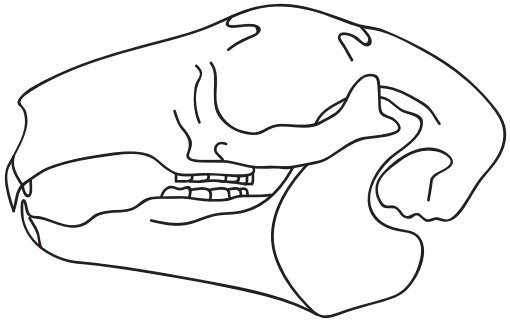
TAPEKE

MĀ TE KAIMĀKA ANAKE

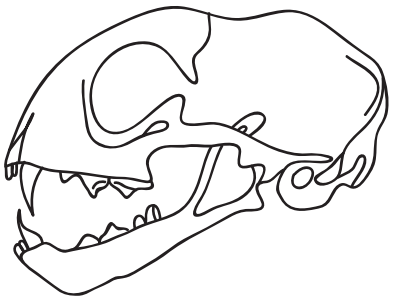
PĀTAI TUATAHI: TE NAKUNAKU[1] ŌKIKO

MĀ TE KAIMĀKA ANAKE

Mō te hipa o te kai mai i te waha ki te puku, he maha ngā tukanga ka mahi. Ko tētahi o ēnei tukanga ko te **nakunaku ōkiko**, e wāwāhi haerehia ai ngā korakora kai e ngā niho. E whakaatu ana ngā hoahoa e rua i raro i ngā angaanga[2] o tētahi kaiota me tētahi kaikiko. He rerekē ngā niho o ngā whāngote **kaiota** i ō ngā **kaikiko** i te mea he rerekē ā rātou momo kai.



Angaanga A



Angaanga B

Mātāpuna (he mea urutau): H. Poletti rāua ko R. McGowan, *Year 11 Biology, NCEA Level 1: Achievement Standard Biology 1.5 Demonstrating understanding of biological ideas relating to a mammal as a consumer* (Kirikiriroa: ABA Books Ltd, 2011), wh. 19.

(a) Tautohua ko tēhea te angaanga o te kaiota, ā, ko tēhea te angaanga o te kaikiko.

Tuhia he pūtake mō ō kōwhiringa.

Angaanga A: _____

Pūtake: _____

Angaanga B: _____

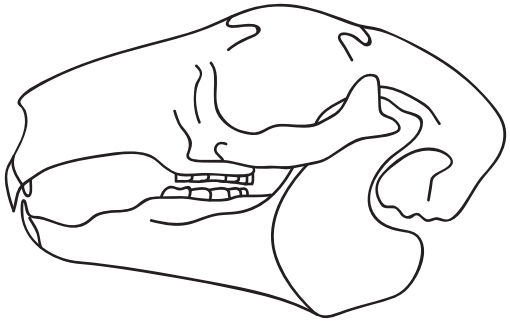
Pūtake: _____

[1] kūnatutanga
[2] pārihirihi

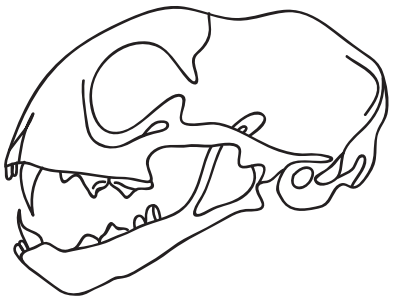
QUESTION ONE: PHYSICAL DIGESTION

ASSESSOR'S USE ONLY

For food to pass from the mouth to the stomach, several processes need to occur. One of these processes is **physical digestion**, where food particles are mechanically broken down by the teeth. The two diagrams below show skulls of a herbivore and a carnivore. The teeth of **herbivore** and **carnivore** mammals are different because they eat different types of food.



Skull A



Skull B

Source (adapted): P. Poletti & R. McGowan, *Year 11 Biology, NCEA Level 1: Achievement Standard Biology 1.5 Demonstrating understanding of biological ideas relating to a mammal as a consumer* (Hamilton: ABA Books Ltd, 2011), p 19.

(a) Identify which skull belongs to a herbivore, and which skull belongs to a carnivore.

Give reasons for your choices.

Skull A: _____

Reason: _____

Skull B: _____

Reason: _____

(b) Whakamahia ngā hoahoa angaanga e rua kei te whārangi o mua ake ki te matapaki i ngā niho o tētahi kaiota ME ngā niho o tētahi kaikiko.

I tō whakautu me:

- tautohu ngā huihuinga niho rerekē mō ia whāngote
- whakamārama he aha i hiahiatia ai he huihuinga niho rerekē
- parahau he aha i noho ai ngā ōritetanga ME ngā rerekētanga.

Ka whakaaetia te whakamahi hoahoa hei tautoko i tō whakautu.

MĀ TE KAIMĀKA ANAKE

(b) Use both skull diagrams on the previous page to discuss the teeth of a herbivore AND the teeth of a carnivore.

ASSESSOR'S USE ONLY

Your answer should:

- identify the different combinations of teeth for each mammal
- explain why the different combinations of teeth are needed
- justify why the similarities AND differences exist.

You may use diagrams to support your answer.

PĀTAI TUARUA: NGĀ PŪMUA WHĀKŌKĪ NAKUNAKU

MĀ TE KAIMĀKA ANAKE

(a) Whakaahuahia te mahi a ngā pūmua whākōkī i roto i te nakunaku kai.

(b) Whakamāramahia he aha i hiahiatia ai neke atu i te kotahi ngā momo pūmua whākōkī mō te nakunaku kai.

QUESTION TWO: DIGESTIVE ENZYMES

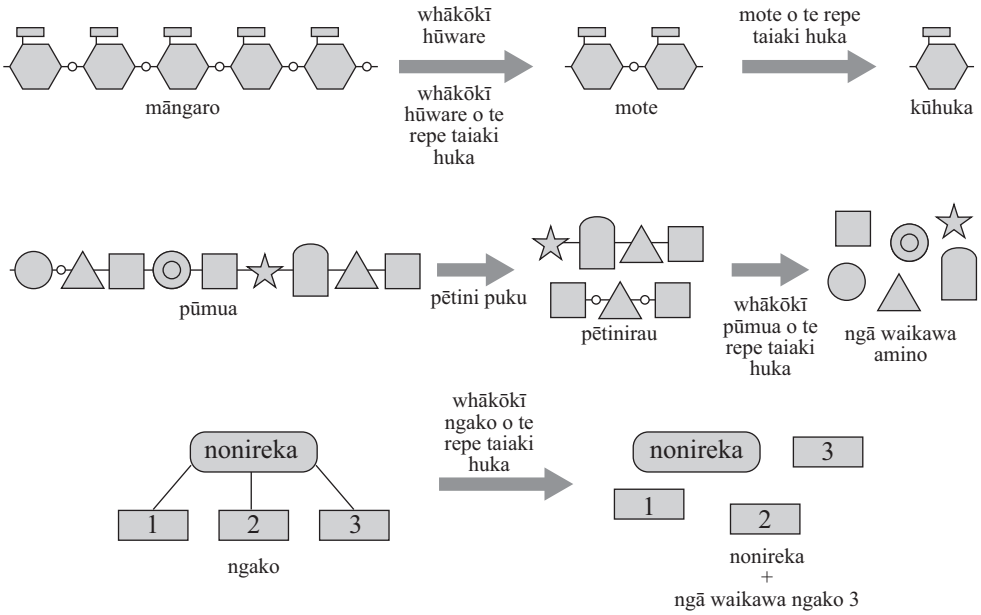
ASSESSOR'S USE ONLY

(a) Describe the role of enzymes in digestion.

(b) Explain why more than one type of enzyme is required for digestion.

(c) E whakaatu ana ngā hoahoa i raro i te pānga o ngā pūmua whākōkī ki ngā rōpū kai matua katoa e toru i te wā o te nakunaku.

MĀ TE KAIMĀKA ANAKE



Mātāpuna (he mea urutau): H. Poletti rāua ko R. McGowan, *Year 11 Biology, NCEA Level 1: Achievement Standard Biology 1.5 Demonstrating understanding of biological ideas relating to a mammal as a consumer* (Kirikiriroa: ABA Books Ltd, 2011), wh. 33.

Matapakihia he pēhea te mahi a ngā pūmua whākōkī i ā rātou mahi i roto i te ara nakunaku, ka whakamahi i ngā tauira i te hoahoa i runga ake hei tautoko i tō whakautu.

I tō whakautu me:

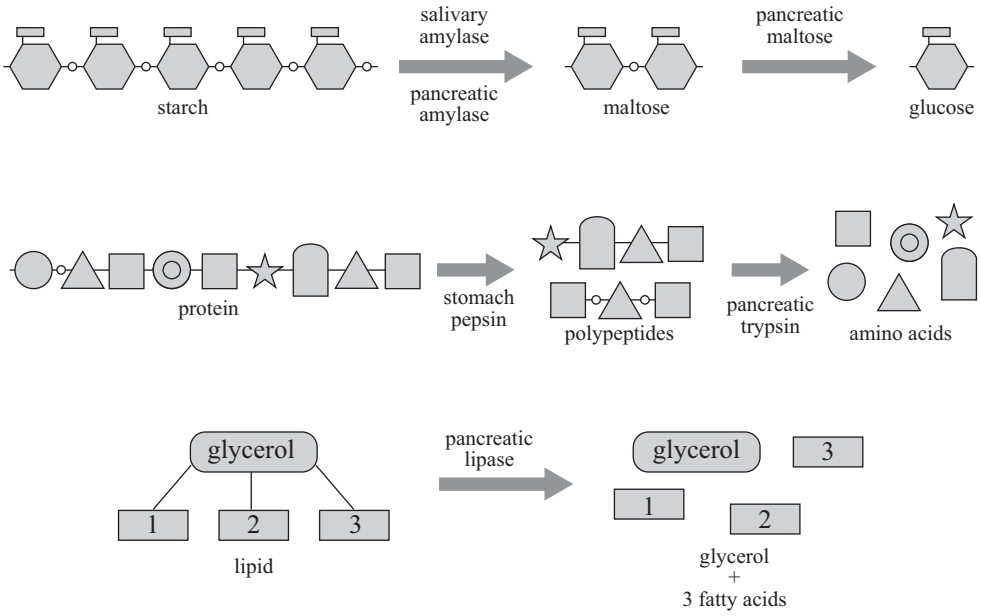
- whakamārama he pēhea te whakaawe a te pH i ngā mahi a ngā pūmua whākōkī
- whakataurite te tino pH mō ngā tauhohenga o te whākōkī hūware, te pētini me te whākōkī ngako, ME te whakahāngai i tēnei ki ngā wāhi rerekē o te ara nakunaku kai.

Ka whakaaetia te whakamahi hoahoa hei tautoko i tō whakautu.

He wāhi anō mō tō whakautu ki te Pātai Tuarua (c) kei te whārangi 10.

ASSESSOR'S USE ONLY

(c) The diagrams below show the effect of enzymes on all three main food groups during digestion.



Source (adapted): P. Poletti & R. McGowan, *Year 11 Biology, NCEA Level 1: Achievement Standard Biology 1.5 Demonstrating understanding of biological ideas relating to a mammal as a consumer* (Hamilton: ABA Books Ltd, 2011), p 33.

Discuss how enzymes carry out their function in the digestive tract, and use the examples in the diagram above to support your answer.

Your answer should:

- explain how pH can influence enzyme activity
- compare the optimum pH for amylase, pepsin, and lipase reactions AND relate this to different parts of the digestive tract.

You may use diagrams to support your answer.

There is more space for your answer to Question Two (c) on page 11.

MĀ TE KAIMĀKA ANAKE

ASSESSOR'S USE ONLY

PĀTAI TUATORU: TE TUKUPŪNGAO

MĀ TE KAIMĀKA ANAKE

Me whai pūngao ia whāngote kia ora ia me te mahi i ana mahi koiora pēnei i te nekeneke, te whakaputa uri me te tukupara.

Ko te tukupūngao te tukanga matū i roto i ngā pūtau e tuku pūngao ana mai i ngā kai e kainga ana e ngā whāngote kia pai ai te mahi i ā rātou mahi koiora. He tukupūngao hāora-kore, tukupūngao ā-hāora rānei.

(a) Whakatauritea ngā momo tukupūngao e rua.

I tō whakautu me:

- whakaahua te tukupūngao hāora-kore me te tukupūngao ā-hāora
- whakamārama ngā ōritenga ME ngā rerekētanga i waenga i ngā momo tukupūngao e rua.

QUESTION THREE: RESPIRATION

ASSESSOR'S USE ONLY

Every mammal requires energy to survive and carry out life processes such as movement, reproduction, and excretion.

Respiration is the chemical process in cells that releases energy from the food that mammals eat so they can carry out their life processes. This can be either anaerobic or aerobic respiration.

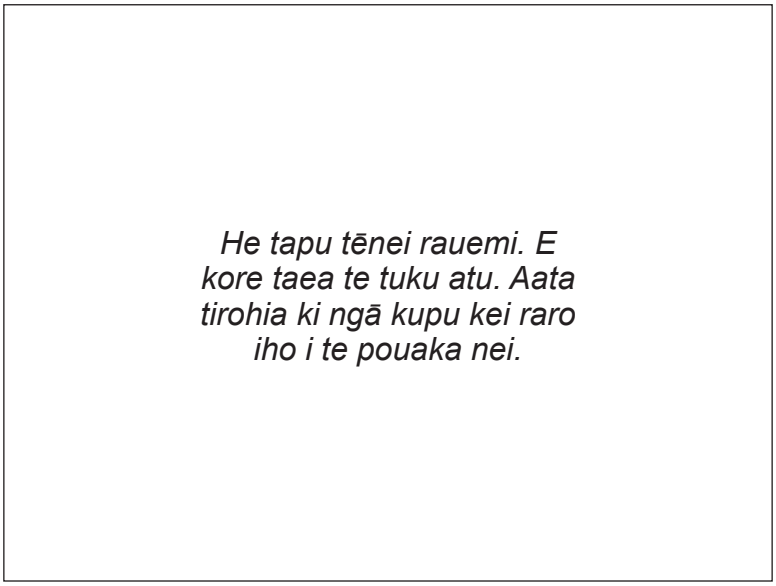
(a) Compare and contrast the two types of respiration.

Your answer should:

- describe anaerobic and aerobic respiration
- explain the similarities AND differences between the two types of respiration.

(b) E taea ana e tētahi konihi pēnei i te tīta te tino whakatere rawa atu ki te whai i tana pārurenga. Ka eke te tere o tētahi tīta ki te 96 kiromita i te haora; engari he iti noa iho te wā e āhei ana ia te oma pēnei rawa te tere.

MĀ TE KAIMĀKA ANAKE



http://eofdreams.com/photo/cheetah/05/

Matapakihia te momo tukupūngao e whakamahia ana e te tīta ki te tuku pūngao i a ia e whai ana i tana pārurenga.

I tō whakautu me:

- whakaahua te momo tukupūngao e whakamahia ana e te tīta i a ia e whakatere ana
- hoatu pūtake hei parahau i tō whakautu, ME te tūhono i te tukupūngao kua whakaingoatia ki te momo pūngao, me te nui hoki, e tukuna ana.

He wāhi anō mō tō whakautu ki te Pātai Tuatoru (b) kei te whārangi 15.

ASSESSOR'S USE ONLY

(b) A predator such as a cheetah is able to accelerate very quickly to chase its prey. A cheetah's speed can reach 96 kilometres per hour; however it can maintain this speed for only a very short period of time.

http://eofdreams.com/photo/cheetah/05/

Discuss the type of respiration the cheetah is using to release energy while chasing its prey.

Your answer should:

- describe the type of respiration the cheetah is most likely using while accelerating (or speeding up)
- provide reasons to justify your answer, AND link the named respiration to the type and amount of energy released.

There is more space for your answer to Question Three (b) on page 16.

MĀ TE KAIMĀKA ANAKE

ASSESSOR'S USE ONLY

He puka anō mēnā ka hiahiatia.
Tuhia te (ngā) tāu pātai mēnā e hāngai ana.

TAU PĀTAI

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, 2014

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

2.00 pm Monday 17 November 2014
Credits: Three

Achievement	Achievement with Merit	Achievement with Excellence
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).

90929M

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 2–19 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.