

91156M



NEW ZEALAND QUALIFICATIONS AUTHORITY
MANA TOHU MĀTAURANGA O AOTEAROA

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

2

SUPERVISOR'S USE ONLY

Koiora, Kaupae 2, 2018

91156M Te whakaatu māramatanga ki ngā tukanga ora e pā ana ki te pūtau

9.30 i te ata Rāmere 23 Whiringa-ā-rangi 2018
Whiwhinga: Whā

Paetae	Kaiaka	Kairangi
Te whakaatu māramatanga ki ngā tukanga ora e pā ana ki te pūtau.	Te whakaatu māramatanga hōhonu ki ngā tukanga ora e pā ana ki te pūtau.	Te whakaatu māramatanga matawhānui ki ngā tukanga ora e pā ana ki te pūtau.

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 KATOA kei roto i tēnei pukapuka.

Mēnā ka hiahia whārangi atu anō koe 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 2–21 kei roto i tēnei pukapuka, ā, kāore tētahi o aua whārangi i te takoto kau.

ME HOATU RAWA KOE I TĒNEI PUKAPUKA KI TE KAIWHAKAHAERE Ā TE MUTUNGA O TE WHAKAMĀTAUTAU.

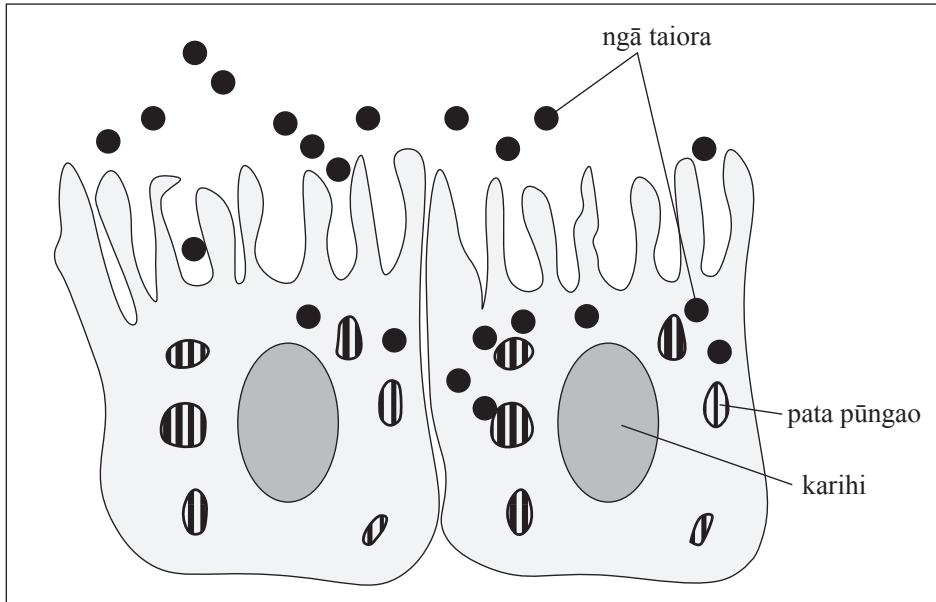
TAPEKE

MĀ TE KAIMĀKA ANAKE

TŪMAHI TUATAHI: NEKEHANGA O NGĀ MATŪ

I roto i te kōpiro iti, ko te mahi a ngā pūtau tīngoi he ngongo i ngā taiora. I te urunga tuatahi atu o ngā taiora ki ngā kōpiro, ka taea ngā taiora te kuhu atu ki ngā pūtau tīngoi mā te ingotanga. Ka taea anō e ngā pūtau tīngoi ēnei taiora te ngongo mā te kawenga hohe.

Ngā pūtau tīngoi i roto i te kōpiro iti

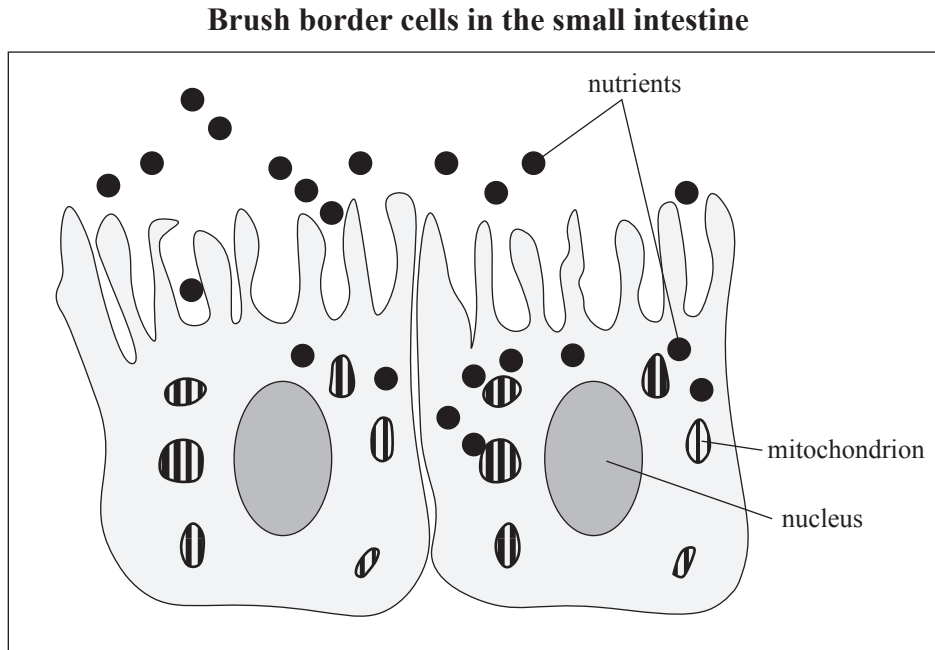


(a) Whakaahuatia te tukanga ingotanga.

(b) Whakamāramahia te tukanga o te kawenga hohe.

QUESTION ONE: MOVEMENT OF MATERIALS

In the small intestine, it is the function of the brush border cells to absorb nutrients. When nutrients first enter the intestines, the nutrients can move into the brush border cells by diffusion. The brush border cells can also absorb these nutrients using active transport.



(a) Describe the process of diffusion.

(b) Explain the process of active transport.

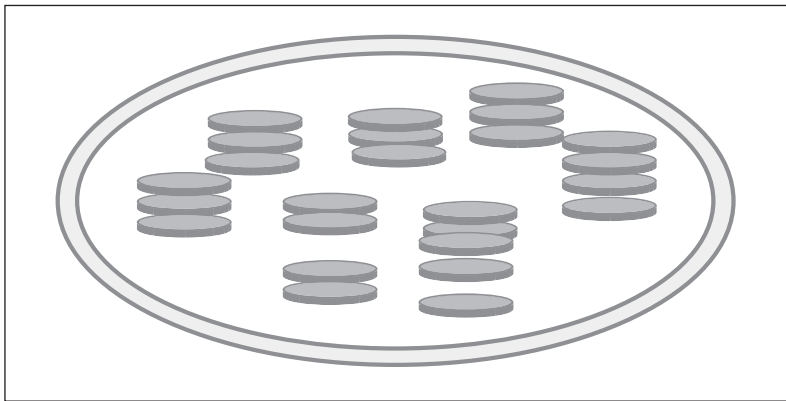
TŪMAHI TUARUA: TE AHOTAKAKAME ME NGĀ PŪMUA WHĀKŌKĪ

He hohenga hira te ahotakakame e tautoko ana i ētahi atu tukanga ora i roto i ngā tipu.

- (a) Tuhia he whārite kupu matawhānui mō te ahotakakame.

- (b) Tapaina ngā wāhanga e rua o tētahi pūkārīki kei te hoahoa i raro ME te whakamārama he pēhea te whakahohe a ia wāhanga kua tapaina i te pūkārīki ki te whakahaere i te ahotakakame.

He hoahoa māmā o te pūkārīki



TŪMAHI TUATORU: TE TĀRUATANGA PĪTAUIRA ME TE WHĀŪ PŪIRA

Ka pā te whāū pūira me te tāruatanga pītauira i ngā pāpātanga rerekē, e ai ki te wā o te tau, te wāhanga o te tipu, me te wāhanga o te mataora o te tipu.

Hoahoa e whakaatu ana i te tinakutanga o te kākano



Mātāpuna: www.dreamstime.com/stock-illustration-bean-seed-germination-isolated-white-image56489327

- (a) Whakaahuahia mai **āhea** nei pā mai ai te tāruatanga pītauira, me te whakamārama **he aha** e hiahiatia ai te tāruatanga pītauira.

QUESTION THREE: DNA REPLICATION AND MITOSISASSESSOR'S
USE ONLY

Mitosis and DNA replication occur at different rates, depending on the time of year, the plant part, and the stage of the plant's life cycle.

Diagram showing seed germination

Source: www.dreamstime.com/stock-illustration-bean-seed-germination-isolated-white-image56489327

- (a) Describe **when** DNA replication happens, and explain **why** DNA replication is necessary.

English translation of the wording on the front cover

Level 2 Biology, 2018

91156 Demonstrate understanding of life processes at the cellular level

9.30 a.m. Friday 23 November 2018
Credits: Four

91156M

Achievement	Achievement with Merit	Achievement with Excellence
Demonstrate understanding of life processes at the cellular level.	Demonstrate in-depth understanding of life processes at the cellular level.	Demonstrate comprehensive understanding of life processes at the cellular level.

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 2–21 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.