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90928M



909285



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, 2016

90928M Te whakaatu māramatanga ki ngā ariā koiora e pā ana ki te hurihanga ora o ngā tipu whaipua

9.30 i te ata Rāapa 23 Whiringa-ā-rangi 2016
Whiwhinga: Whā

Paetae	Kaiaka	Kairangi
Te whakaatu māramatanga ki ngā ariā koiora e pā ana ki te hurihanga ora o ngā tipu whaipua.	Te whakaatu māramatanga hōhonu ki ngā ariā koiora e pā ana ki te hurihanga ora o ngā tipu whaipua.	Te whakaatu māramatanga matawhānui mō ngā ariā koiora e pā ana ki te hurihanga ora o ngā tipu whaipua.

Tirohia mēnā e rite ana te Tau Ākongā 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 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 2–19 kei roto i tēnei pukapuka, ka mutu, 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 TUARUA: TE TŪHURA AHOTAKAKAME

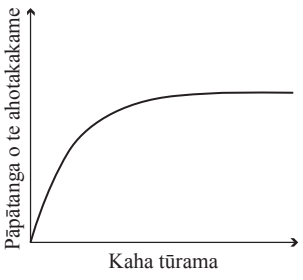
He tukanga hira te ahotakakame e pā mai ana i roto i ngā tipu. Ka āwhina te ahotakakame i te tipu ki te kapo pūngao, me te tuku hua e hiahiatia ana e te tipu kia ora ai, kia tipu ai.

(a) E pāngia ana te pāpātanga o te ahotakakame e ngā take taiao.

Mātaihia ngā kauwhata i raro e whakaatu ana i te āhua o te pānga o te pāpātanga o te ahotakakame e ngā take taiao e toru.

Whakaotihia ngā tūtohi hei whakaahua i te ia e whakaaturia ana i ia kauwhata ME te whakamārama i te take e pā mai ana ia ia.

Tūtohi 1

Take Taiao Tuatahi	Kauwhata	Whakaahuatanga o te ia e whakaaturia ana i te kauwhata
Kaha tūrama		
Whakamāramatanga he aha e pā mai ai te ia i roto i te kauwhata		

QUESTION TWO: INVESTIGATING PHOTOSYNTHESIS

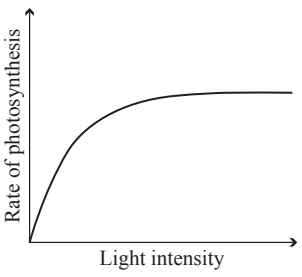
Photosynthesis is an important process that occurs inside plants. Photosynthesis helps the plant capture energy, and provides products needed by the plant to survive and grow.

- (a) The rate of photosynthesis is affected by environmental factors.

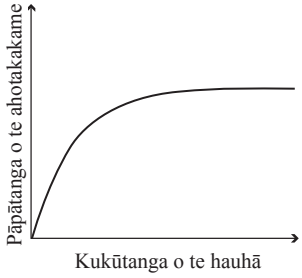
Study the graphs below that show how the rate of photosynthesis is affected by three environmental factors.

Complete the tables to describe the trend shown in each graph AND explain why each trend occurs.

Table 1

Environmental Factor One	Graph	Description of the trend shown in the graph
Light intensity		
Explanation of why the trend shown in the graph occurs		

Tūtohi 2

Take Taiao Tuarua	Kauwhata	Whakaahuatanga o te ia e whakaaturia ana i te kauwhata
Kukūtanga o te hauhā		
Whakamāramatanga he aha e pā mai ai te ia i roto i te kauwhata		

Tūtohi 3

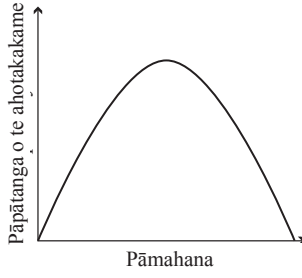
Take Taiao Tuatoru	Kauwhata	Whakaahuatanga o te ia e whakaaturia ana i te kauwhata
Pāmahana		
Whakamāramatanga he aha e pā mai ai te ia i roto i te kauwhata		

Table 2

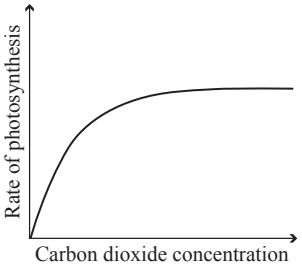
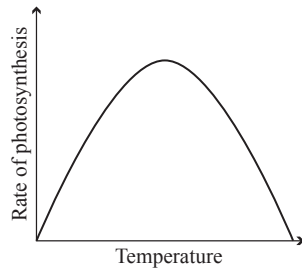
Environmental Factor Two	Graph	Description of the trend shown in the graph
Carbon dioxide concentration	 <p>The graph shows the rate of photosynthesis on the y-axis and carbon dioxide concentration on the x-axis. The curve starts at the origin (0,0), rises steeply, and then levels off, indicating that the rate of photosynthesis increases with carbon dioxide concentration up to a point and then remains constant.</p>	
Explanation of why the trend shown in the graph occurs		

Table 3

Environmental Factor Three	Graph	Description of the trend shown in the graph
Temperature	 <p>The graph shows the rate of photosynthesis on the y-axis and temperature on the x-axis. The curve starts at the origin (0,0), rises to a peak, and then falls, indicating that the rate of photosynthesis increases with temperature up to an optimal point and then decreases.</p>	
Explanation of why the trend shown in the graph occurs		

TŪMAHI TUATORU: TE WHAKAPUTA URI O NGĀ TIPU WHAIPUA

Ka tāea e ētahi tipu whaipua te whakaputa uri mā ngā āhuatanga e rua: tōrua me te tōtahi. E whakaaturia ana hei tauira i raro ko tētahi hoahoa o ngā hurihanga whakaputa uri e rua a tētahi tipu rōpere.



He mea urutau mai i: <http://www.dummies.com/how-to/content/plant-reproduction.html>

Matapakitia ngā hua pai me ngā hua kino ki te tipu o te whakaputa uri tōrua, tōtahi hoki.

I tō tuhinga me:

- whakaahua i te whakaputa uri tōrua, tōtahi hoki i roto i ngā tipu
- whakamārama i ngā hua pai me ngā hua kino ki te tipu o te whakaputa uri tōrua
- whakamārama i ngā hua pai me ngā hua kino ki te tipu o te whakaputa uri tōtahi
- whakataurite i ngā hua pai me ngā hua kino ki te tipu o te whakaputa uri tōrua, tōtahi hoki.

**He wāhi anō mō tō tuhinga mō
tēnei tūmahi kei te whārangi 16.**

English translation of the wording on the front cover

Level 1 Biology, 2016

90928 Demonstrate understanding of biological ideas relating to the life cycle of flowering plants

9.30 a.m. Wednesday 23 November 2016
Credits: Four

90928M

Achievement	Achievement with Merit	Achievement with Excellence
Demonstrate understanding of biological ideas relating to the life cycle of flowering plants.	Demonstrate in-depth understanding of biological ideas relating to the life cycle of flowering plants.	Demonstrate comprehensive understanding of biological ideas relating to the life cycle of flowering plants.

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.