

See back cover for an English translation of this cover

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91156M



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NEW ZEALAND QUALIFICATIONS AUTHORITY
MANA TOHU MĀTAURANGA O AOTEAROA

SUPERVISOR'S USE ONLY

Koiora, Kaupae 2, 2012

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

2.00 i te ahiahi Rāpare 22 Whiringa-ā-rangi 2012
Whiwhinga: Whā

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

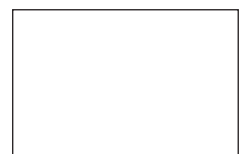
Me whakautu e koe te KATOĀ o ngā pātai kei roto i te pukapuka nei.

Ki te hiahia koe i ētahi atu wāhi hei tuhituhi whakautu, whakamahia te (ngā) whārangi kei muri i te pukapuka nei ka āta tuhi i te 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



MĀ TE KAIMĀKA ANAKE

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

PĀTAI TUATAHI: AHOTAKAKAME

He tukanga tino nui te tukanga ahotakakame mō te ora o ngā tipu me te oranga tonutanga o ētahi atu rauropi e whai oranga mai i ngā tipu. Ka rerekē te pāpātanga o te ahotakakame mai i tētahi tipu ki tētahi, ka rerekē i te wā o te rā me te wā tau, ā, kei te wāhi me te tohatohatanga o ngā whēkauiti motuhake i roto ake i te tipu.

Matapakitia te tukanga o te ahotakakame, ka whai whakaaro ki ngā take e whai ake ana mō tō whakautu:

- te pūtake o te ahotakakame
- he aha ngā mea e hiahiatia kia puta mai te ahotakakame, ā, he aha ka hua i taua tukanga
- te hanganga me te taumahi o te whēkauiti e mahi ai te ahotakakame
- ngā pūtake mō ngā rerekētanga o te pāpātanga o te ahotakakame kua kōrerohia i runga ake.

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

QUESTION ONE: PHOTOSYNTHESIS

The process of photosynthesis is a critical process to the survival of plants and the survival of other organisms that depend on plants for their food. The rate of photosynthesis changes from plant to plant, varies with the time of day and the season, and depends upon the location and distribution of specialised organelles within the plant itself.

Discuss the process of photosynthesis, considering the following points in your answer:

- the purpose of photosynthesis
- what is needed for photosynthesis to occur and what the process produces
- the structure and function of the organelle where photosynthesis takes place
- reasons for changes in the rate of photosynthesis as mentioned above.

PĀTAI TUATORU: WEHENGĀ PŪTAU

Ko te tāruatanga pītauirea te tīmatanga mō te wehenga pūtau. Pērā i ētahi atu tukanga ā-pūtau, ka whakahirihi te tāruatanga pītauirea ki te whai wāhi o ētahi pūmua whākōkī me te pāpātanga e taea ai e ēnei te mahi ā rātou mahi.

Ka pāngia te pāpātanga o te hohenga pūmua whākōkī e ngā āhuatanga pēnei i te paemahana, te pH, te matū, te kukūtanga, ngā hoa pūmua whākōkī me ngā paihana pūmua whākōkī.

Matapaki ka pēhea e whakarerekē ai pea ētahi mea e TORU o ēnei āhuatanga i te pāpātanga o te hohenga pūmua whākōkī, ā, he aha i hira ai tēnei mō te tāruatanga pītauirea.

QUESTION THREE: CELL DIVISION

DNA replication is the starting point for cell division. In common with other cellular processes, the replication of DNA is reliant on the presence of a number of enzymes and the rate at which they can carry out their function.

The rate of enzyme activity can be affected by factors such as temperature, pH, substrate, concentration, co-enzymes and enzyme poisons.

Discuss how any THREE of these factors can change the rate of enzyme activity, and why this would be important in the case of DNA replication.

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

TAU
PĀTAI

MĀ TE
KAIMĀKA
ANAKE

English translation of the wording on the front cover

Level 2 Biology, 2012

91156 Demonstrate understanding of life processes at the cellular level

2.00 pm Thursday 22 November 2012

Credits: Four

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 2–15 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.

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