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NZQA

NEW ZEALAND QUALIFICATIONS AUTHORITY
MANA TOHU MĀTAURANGA O AOTEAROA

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SUPERVISOR'S USE ONLY

Level 1 Biology, 2012

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

9.30 am Thursday 15 November 2012
Credits: Four

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 2–8 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.

TOTAL

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

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QUESTION ONE: REPRODUCTION

Old man's beard reproduces using both sexual and asexual methods. Old man's beard reproduces primarily by seed. New plants can also grow from plant cuttings.

www.gw.govt.nz/assets/council-publications/Land%20Management_20040923_095116.pdf

Discuss the advantages and disadvantages of sexual and asexual reproduction to old man's beard.

In your answer you should:

- describe the differences between sexual and asexual reproduction
- explain the role of seeds and plant cuttings
- relate the advantages and disadvantages of sexual and asexual reproduction to these different reproductive structures.

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QUESTION TWO: GERMINATION AND GROWTH

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(a) For a seed to germinate, it needs certain environmental conditions to be present.

Describe the environmental conditions a seed needs, and explain why these are important for germination.

(b) Once the seed has germinated, primary and secondary growth occur.

Discuss the role each plays in the growth of the young plant.

In your answer you should:

- describe primary and secondary growth
- explain how both types of growth are important to the overall development of the plant.

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QUESTION THREE: PHOTOSYNTHESIS

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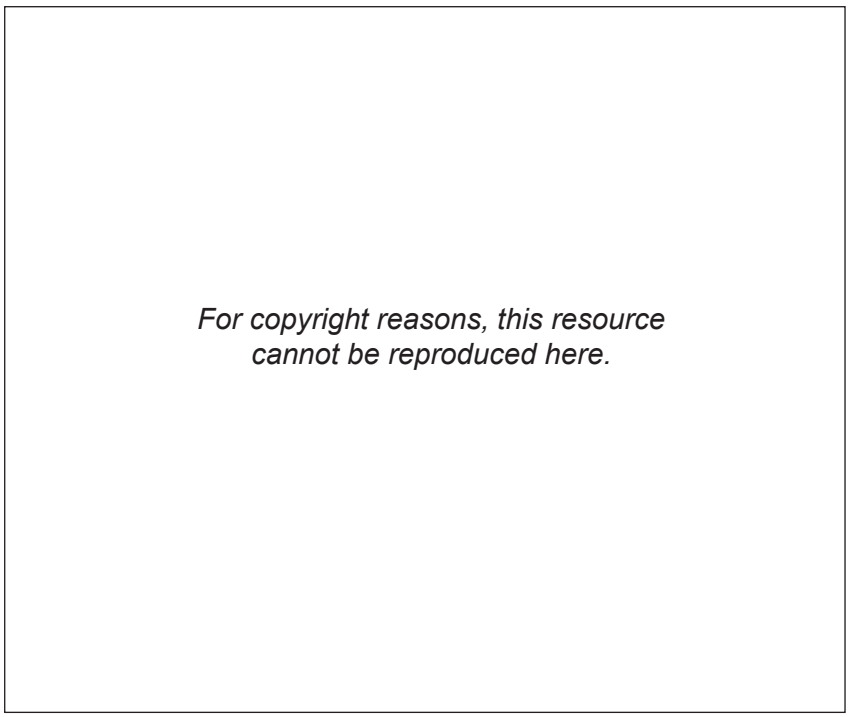
The diagram below shows the structure of the leaf of a typical plant.



Martin Hanson and Maria Sinclair, *NCEA Level 1 Biology & Human Biology* (Auckland, ESA Publications, 2008), p 244.

Discuss how the structures in the leaf optimise the rate of photosynthesis.

In your answer you should:

- describe the structures in the leaf and their functions
- explain how each structure you have described is suited to its function
- explain how the structures work together to make photosynthesis efficient.

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

QUESTION NUMBER

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