

91429R



NEW ZEALAND QUALIFICATIONS AUTHORITY
MANA TOHU MĀTAURANGA O AOTEAROA

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

Level 3 Geography 2021

91429 Demonstrate understanding of a given environment(s) through selection and application of geographic concepts and skills

Credits: Four

RESOURCE BOOKLET

Refer to this booklet to answer the questions for Geography 91429.

Check that this booklet has pages 2–10 in the correct order and that none of these pages is blank.

YOU MAY KEEP THIS BOOKLET AT THE END OF THE EXAMINATION.

Relevant geographic concepts

Environments

May be natural and / or cultural. They have particular characteristics and features, which can be the result of natural and / or cultural processes. The particular characteristics of an environment may be similar to and / or different from another. A cultural environment includes people and / or the built environment.

Perspectives

Ways of seeing the world that help explain differences in decisions about, responses to, and interactions with environments. Perspectives are bodies of thought, theories, or worldviews that shape people's values and have built up over time. They involve people's *perceptions* (how they view and interpret environments) and *viewpoints* (what they think) about geographic issues. Perceptions and viewpoints are influenced by people's *values* (deeply held beliefs about what is important or desirable).

Processes

A sequence of actions, natural and / or cultural, that shape and change environments, places, and societies. Some examples of geographic processes include erosion, migration, desertification, and globalisation.

Patterns

May be spatial (the arrangement of features on the earth's surface) or temporal (how characteristics differ over time in recognisable ways).

Interaction

Involves elements of an environment affecting each other and being linked together. Interaction incorporates movement, flows, connections, links, and interrelationships, which work together and may be one- or two-way interactions. Landscapes are the visible outcome of interactions. Interaction can bring about environmental change.

Change

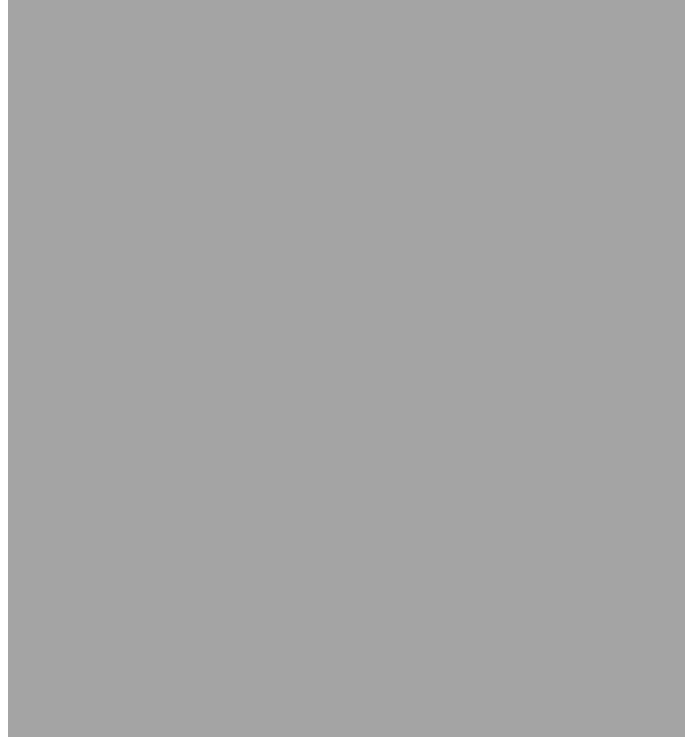
Involves any alteration to the natural or cultural environment. Change can be spatial and / or temporal. Change is a normal process in both natural and cultural environments. It occurs at varying rates, at different times, and in different places. Some changes are predictable, recurrent, or cyclic, while others are unpredictable or erratic. Change can bring about further change.

Sustainability

Involves adopting ways of thinking and behaving that allow individuals, groups, and societies to meet their needs and aspirations without preventing future generations from meeting theirs. Sustainable interaction with the environment may be achieved by preventing, limiting, minimising, or correcting environmental damage to water, air, and soil, as well as considering ecosystems and problems related to waste, noise, and visual pollution.

WASTE AND THE CIRCULAR ECONOMY IN SINGAPORE

RESOURCE A: Location of Singapore



RESOURCE B: Land reclamation 1989–2018

These images show the physical growth of this island city-state where Singapore has created new land for airports, shipping, and oil refineries.



Figure 1: Singapore 1989



Figure 2: Singapore 2018

Key: Vegetation is green and water is blue-black. Bare soil and pavement look pale or pink.

RESOURCE C: Limited land, expanding population

RESOURCE D: What happens to the waste Singapore generates?**RESOURCE E: Singapore's waste incineration and landfill**

Semakau Landfill

RESOURCE F: Volume of waste in Singapore from 2009–2018 (in million tonnes)**RESOURCE G: Disposal and recycling rates**

RESOURCE H: Water and the circular economy

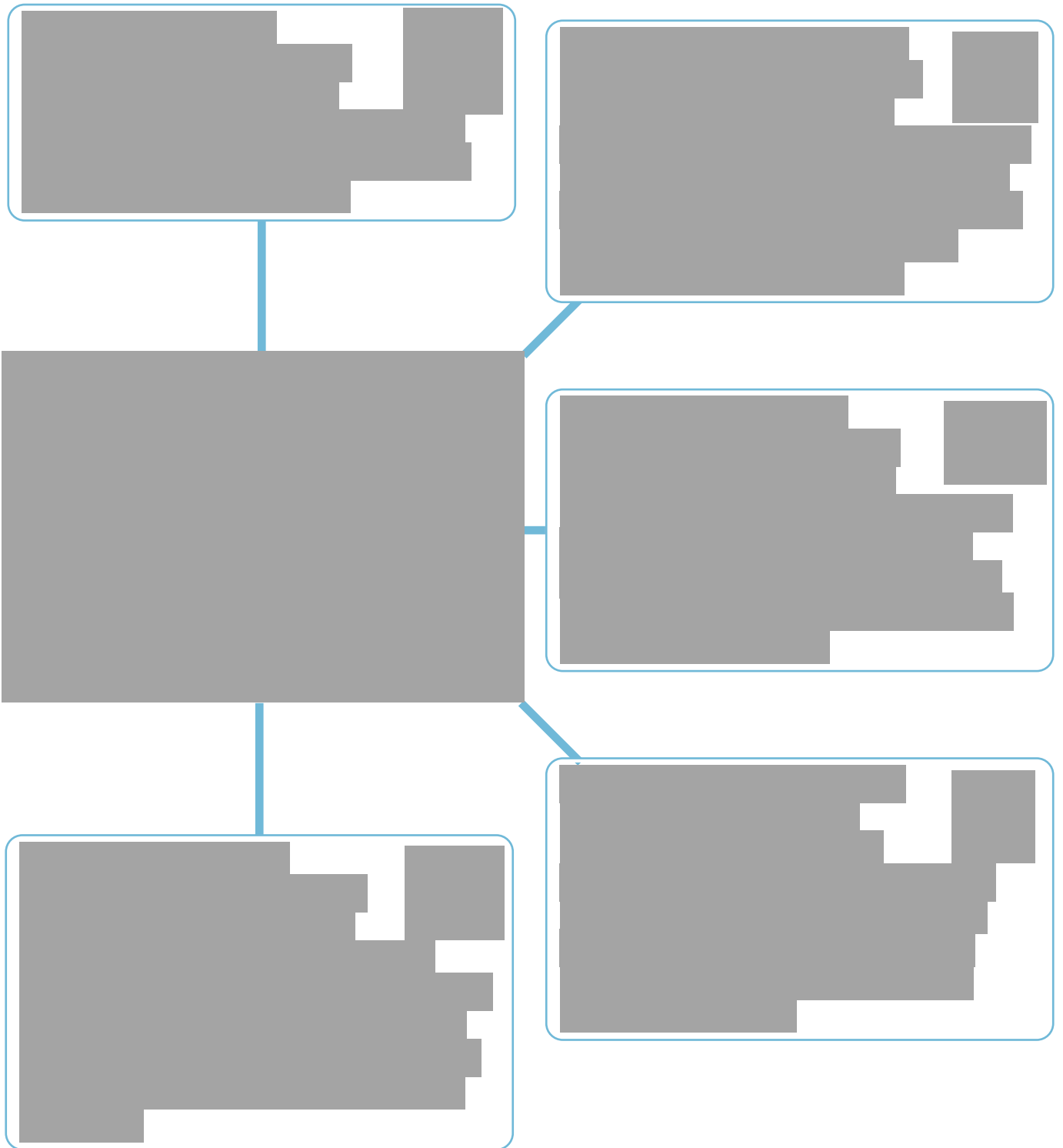
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†‘Synergies’, in this instance, means the interaction of two or more sectors to produce a combined effect greater than the sum of the separate sectors.

*‘Potable’ means safe to drink.

RESOURCE I: Food waste

RESOURCE J: Plastic waste

Using a reverse vending machine



Reverse vending machines inside a mall

Acknowledgements

Material from the following sources has been adapted for use in this examination:

Resource A

Map 1: <https://www.worldatlas.com/maps/singapore>

Map 2: <https://www.worldmap1.com/singapore.asp>

Text: <https://en.wikipedia.org/wiki/Singapore>

Resource B

Images: <https://eros.usgs.gov/image-gallery/earthshot/singapore>

Resource C

Text: <https://www.statista.com/statistics/778525/singapore-population-density/>

Image: <https://www.straitstimes.com/singapore/dip-in-population-density-but-not-in-crowded-feeling>

Resource D

Text: <https://www.nea.gov.sg/our-services/waste-management/overview>

Image: <https://recycleeveryday.wordpress.com/2015/03/10/what-happens-to-waste-in-singapore/>

Resource E

Text: <https://www.towardszerowaste.gov.sg/zero-waste-masterplan/chapter1/our-past>

<https://www.towardszerowaste.gov.sg/zero-waste-masterplan/chapter1/case-for-zero-waste>

https://www.towardszerowaste.gov.sg/semakau_landfill/

Image: <https://www.eco-business.com/news/how-will-singapore-defuse-a-16-year-waste-timebomb/>

Resource F

Data: <https://www.statista.com/statistics/628048/waste-recycled-in-singapore/>

<https://www.statista.com/statistics/628000/waste-disposed-in-singapore/>

Resource G

Image 1: <https://www.towardszerowaste.gov.sg/zero-waste-masterplan/chapter2/managing-waste-sustainably/>

Image 2: <https://www.channelnewsasia.com/news/singapore/in-focus-singapore-recycling-sustainability-blue-bins-waste-12972634>

Resource H

Text: <https://www.towardszerowaste.gov.sg/zero-waste-masterplan/chapter1/case-for-zero-waste>

<https://www.towardszerowaste.gov.sg/zero-waste-masterplan/chapter2/circular-economy/>

Image: <https://www.towardszerowaste.gov.sg/zero-waste-masterplan/chapter2/circular-economy/>

Resource I

Image and text:

<https://www.todayonline.com/singapore/got-ideas-recycling-household-rubbish-join-new-citizens-workgroup>

<https://www.towardszerowaste.gov.sg/zero-waste-masterplan/chapter3/food/>

Icons: <https://thenounproject.com/>

Resource J

Text: <https://www.towardszerowaste.gov.sg/waste-streams/packaging-waste/>

<https://www.channelnewsasia.com/news/singapore/china-bans-plastic-waste-whats-next-for-recycling-in-singapore-10281026>

<https://www.todayonline.com/features/trash-talk-no-time-waste-dealing-singapores-mounting-trash-problem>

Image 1: <https://www.channelnewsasia.com/news/singapore/in-focus-singapore-recycling-sustainability-blue-bins-waste-12972634>

Image 2: <https://www.recyclensave.sg/wp-content/uploads/2019/12/Waterway-Point-2.jpg>

