



South Australian  
Certificate of Education

# Geography 2025

## Question booklet

**Section 1** (Questions 1 to 6) 28 marks

**Section 2** (Questions 7 to 13) 32 marks

- Answer **all** questions
- Write your answers in this question booklet
- You may write on page 24 if you need more space
- Allow approximately 65 minutes for **each** section

## Examination information

### Materials

- Question booklet
- Sheet of additional material
- SACE registration number label

### Instructions

- Use black or blue pen
- Approved calculators may be used

**Total time:** 130 minutes

**Total marks:** 60

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*The SACE Board of South Australia acknowledges that this examination was created on Kaurna Land. We acknowledge First Nations Elders, parents, families, and communities as the first educators of their children, and we recognise and value the cultures and strengths that First Nations students bring to the classroom. We respect the unique connection and relationship that First Nations peoples have to Country, and their ever-enduring cultural heritage.*

Attach your SACE registration number label here



Government  
of South Australia

## SECTION 1 (Questions 1 to 6)

(28 marks)

*Refer to the topographic map of Interlaken on the separate map sheet when answering Question 1.*

### Question 1 (a) to (c)

1. (a) Identify the element of the built environment that is found at grid reference 229871.

\_\_\_\_\_ (1 mark)

- (b) Select the grid square with the highest elevation.

☐

Area reference 2286

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Area reference 3085

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Area reference 2184

(1 mark)

- (c) You are standing on the mountain trail at Harderkulm (grid reference 235888). Looking down at the settlement of Unterseen, what direction are you looking?

\_\_\_\_\_ (1 mark)

*Refer to the topographic map of Interlaken on the separate map sheet when answering Question 2.*

**Question 2 (a) and (b)**

2. (a) Provide **two** pieces of evidence from the map that suggest that the eastern end of Lake Thunersee (area reference 2186) is subject to flooding.

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(2 marks)

- (b) The Aare watercourse flows from Lake Brienersee to Lake Thunersee.

A kayaking tour operator is planning a trip for a group of tourists along the Aare watercourse, starting from Lake Brienersee (grid reference 263885) to Lake Thunersee (grid reference 217855).

With reference to direction, distance, and land use, describe the route that the group of tourists will take.

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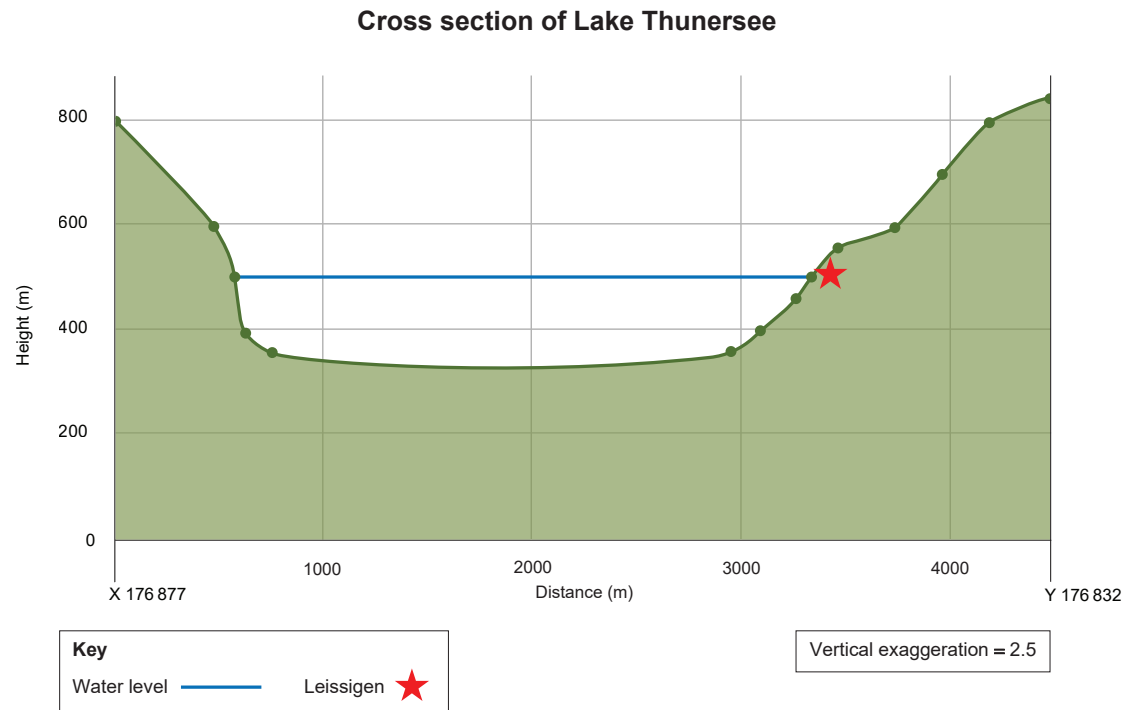
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(4 marks)

### Question 3 (a) and (b)

Source 1



Source: created using [geographyfieldwork.com/MapCrossSectionMaker.htm](http://geographyfieldwork.com/MapCrossSectionMaker.htm)

**Source 2**

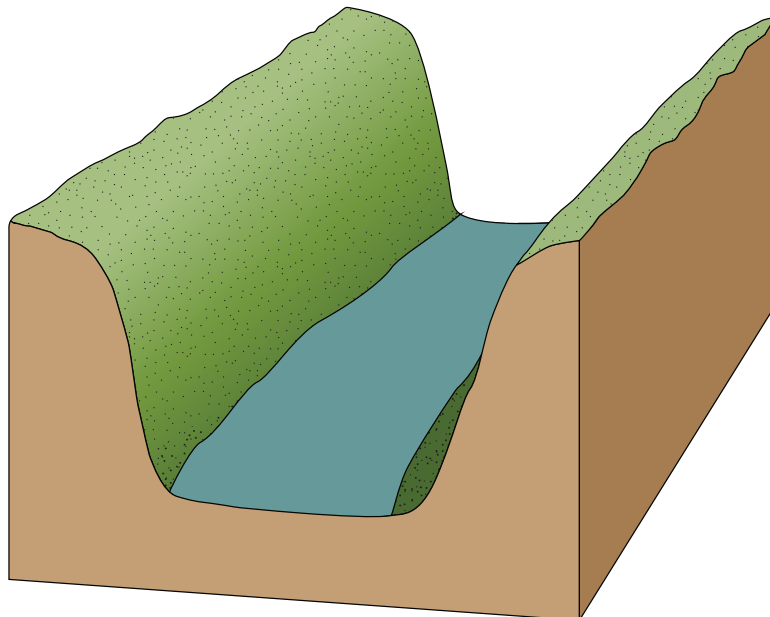
**Photograph of Leissigen, Lake Thunersee**



*Source:* adapted from Oli.loosli 2020, 'Leissigen am Thunersee', viewed 10 May 2025, commons.wikimedia.org, licensed under CC BY-SA 4.0 DEED

**Source 3**

**A U-shaped valley is a valley formed by glacial erosion.**



*Source:* adapted from 'Trough – Erosion by glaciers in a 'U' shape', Mammoth Memory, Viewed 20 June 2025, mammothmemory.net/geography/geography-vocabulary/glacial-landscapes/glacial-trough.html

*Refer to Sources 1 to 3, and to the topographic map of Interlaken on the separate map sheet when answering Question 3.*

Lake Thunersee is a large glacial lake in a U-shaped valley, west of Interlaken. It is known for its deep blue waters, stunning mountain scenery, and charming lakeside towns.

3. (a) Compare and contrast the effectiveness of the cross section and the photograph of Lake Thunersee in representing the relief of the U-shaped valley and its land use.

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(3 marks)

- (b) Describe how the physical features of Interlaken and surrounding areas have influenced the pattern of settlement shown on the topographic map.

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(2 marks)

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### Source 4

### Satellite image of Box A



Source: adapted from Google maps, viewed 10 May 2025, [google.com/maps/@46.6762034,7.8658385,2474m/data=!3m1!1e3!5m1!1e4?authuser=0&entry=ttu&g\\_ep=EgoyMDI1MDgxMC4wIwIXMDSoASAFQAw%3D%3D](https://google.com/maps/@46.6762034,7.8658385,2474m/data=!3m1!1e3!5m1!1e4?authuser=0&entry=ttu&g_ep=EgoyMDI1MDgxMC4wIwIXMDSoASAFQAw%3D%3D), [google.com/maps](https://google.com/maps)

*Refer to Source 4 and Box A marked on the topographic map of Interlaken on the separate map sheet when answering Question 4.*

4. An adventure tourism company has set up a centre for skydiving and helicopter tours at the location marked P (grid reference 255859) on the topographic map.

Using evidence from the map, explain why this site was chosen.

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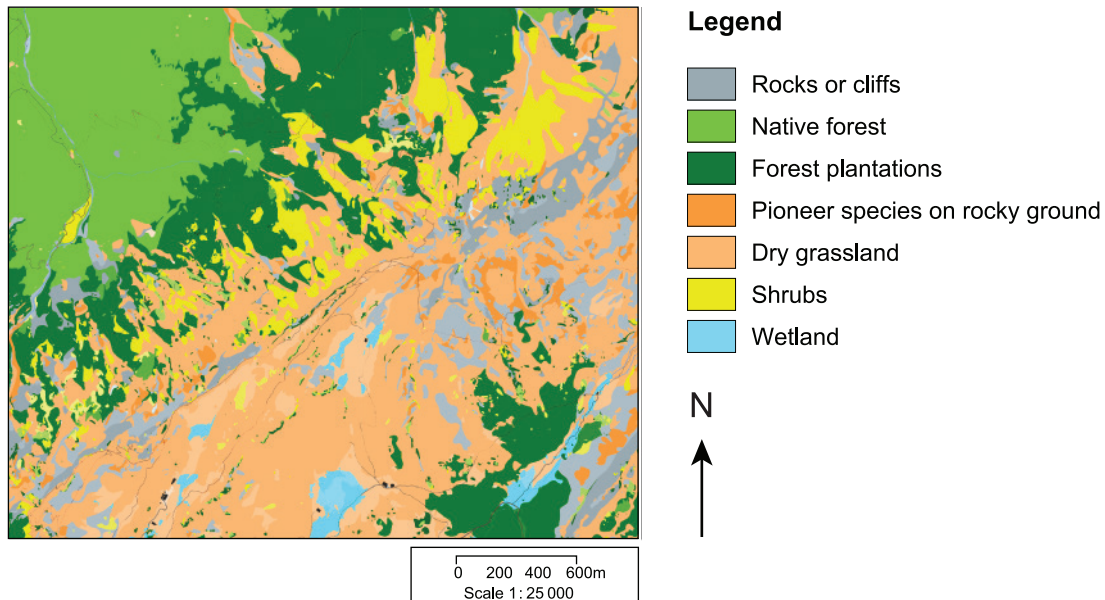
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(4 marks)

## Question 5

### Source 5

Habitats around Loucherhorn



Source: adapted from Maps of Switzerland, Federal Authorities of the Swiss Confederation, viewed 10 May 2025, map.geo.admin.ch, @data: swisstopo, FOEN

Refer to Source 5 and the topographic map of Interlaken on the separate map sheet when answering Question 5.

5. A group of Geography students are investigating the impact of human activity on the natural habitats found in the area around Loucherhorn. They have collected data on habitat types found in the area shown in Box B on the topographic map.

Suggest **and** justify **two** primary data collection techniques that students might use to investigate the impact of human activity on the habitats shown in Source 5.

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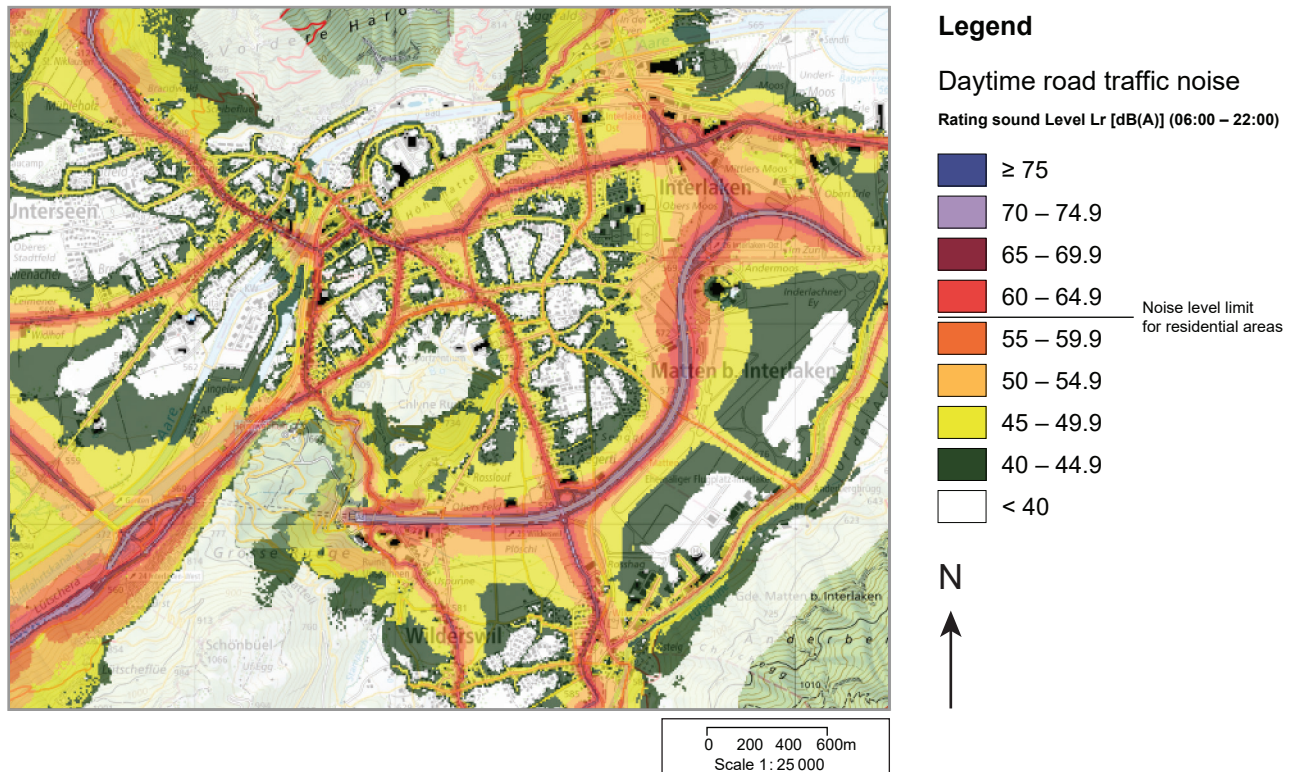
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(4 marks)

## Question 6 (a) to (c)

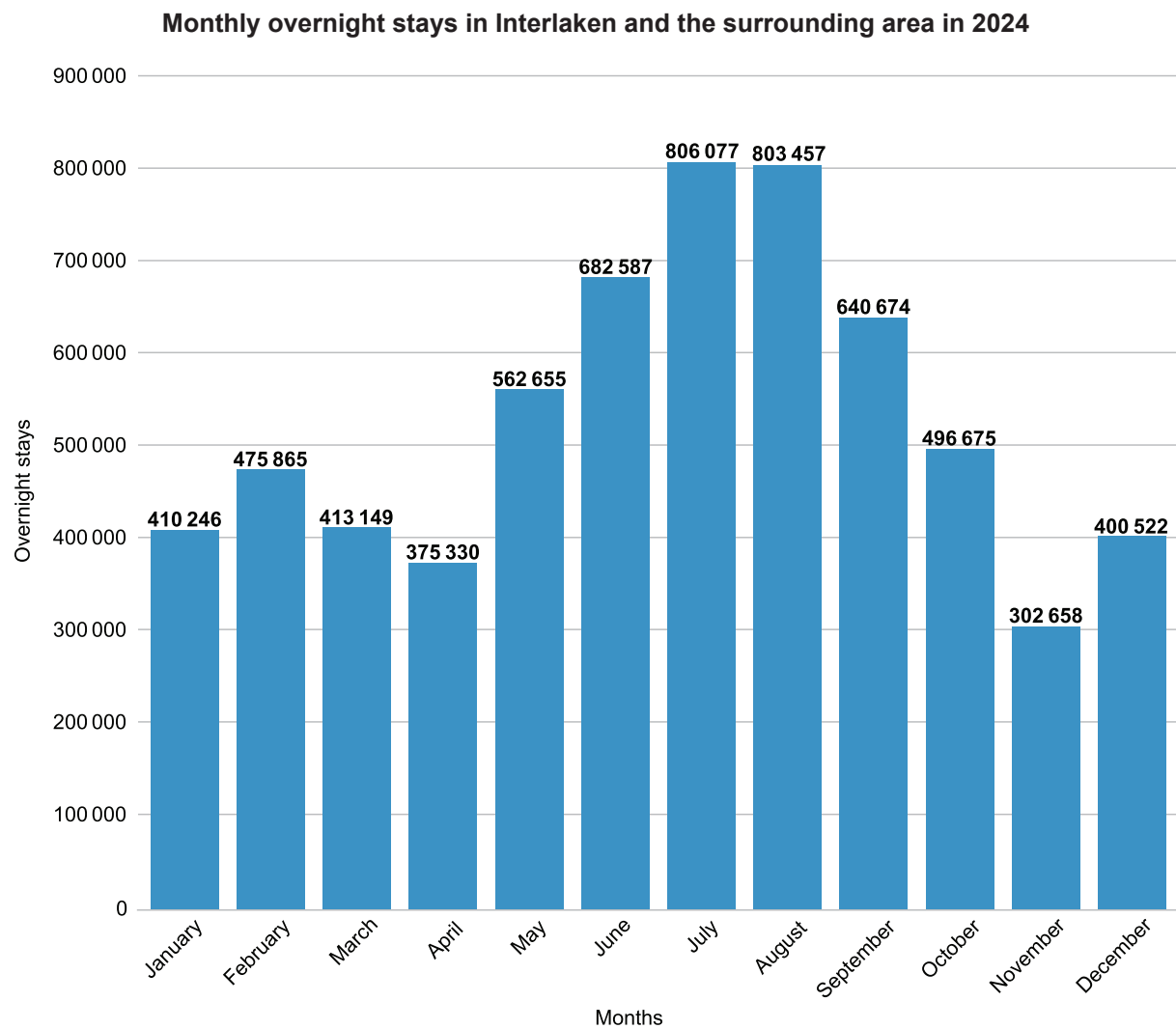
Source 6

### Daytime road traffic noise in Interlaken and the surrounding area



Source: adapted from Maps of Switzerland, Federal Authorities of the Swiss Confederation, viewed 10 May 2025, map.geo.admin.ch, @data: swisstopo, FOEN

**Source 7**



Source: adapted from Hotel sector: arrivals and overnight stays of open establishments for 186 communes, Federal Statistical Office, viewed 10 May 2025, <https://www.bfs.admin.ch/bfs/en/home/statistics/tourism/tourist-accommodation/hotel-accommodation/communes.assetdetail.35508808.html>

*Refer to the topographic map of Interlaken on the separate map sheet, and Source 6 and Source 7 when answering Question 6.*

Source 6 shows data on road traffic noise and Source 7 shows the monthly overnight stays in Interlaken and the surrounding area.

6. (a) Suggest a hypothesis that could be used to test a relationship between the two sets of data.

\_\_\_\_\_  
\_\_\_\_\_ (1 mark)

- (b) Using evidence from the topographic map, describe **and** explain the pattern of daytime road traffic noise.

Refer to the noise level limit for residential areas shown in Source 6.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ (3 marks)

- (c) Suggest an alternative method to present the daytime road traffic noise data, **and** justify your choice.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ (2 marks)

**SECTION 2** (Questions 7 to 13)  
(32 marks)

*Refer to the topographic map of Interlaken on the separate map sheet when answering Question 7.*

**Question 7 (a) to (c)**

The area shown in Box C on the topographic map provides a range of ecosystem services of significant benefit to humans.

Explain how the ecosystem services in the area shown in Box C contribute to:

7. (a) Regulating services

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(2 marks)

(b) Provisioning services

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(2 marks)

(c) Cultural services

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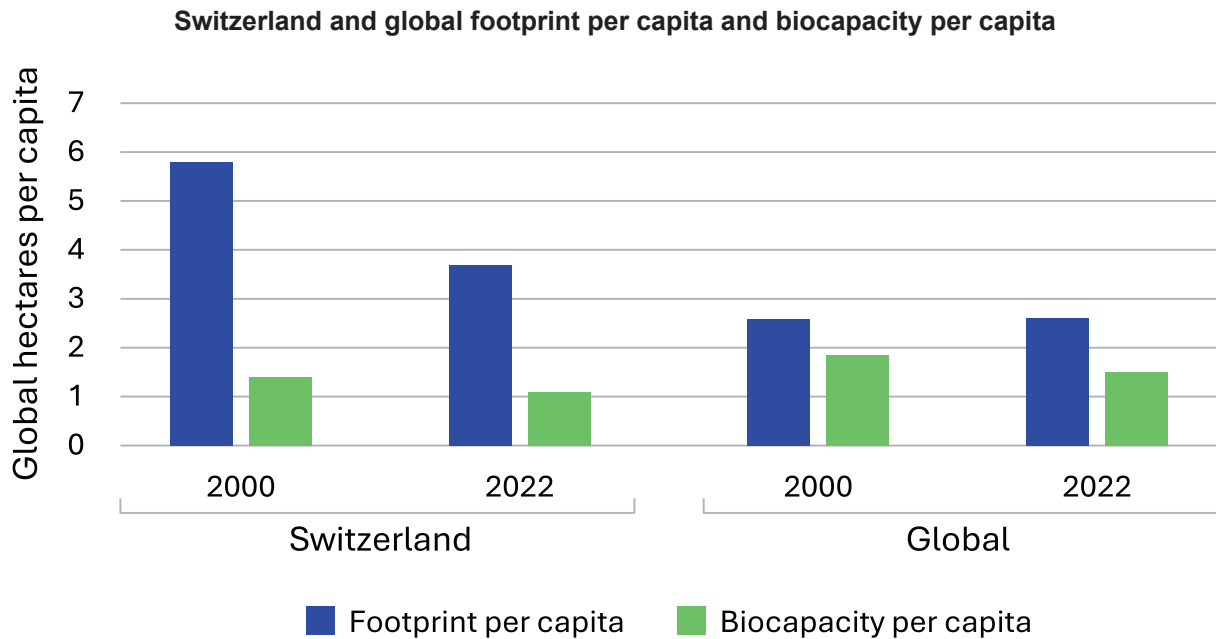
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(2 marks)

### Question 8 (a) and (b)

Source 8



Source: adapted from Global footprint network, viewed 10 May 2025, [data.footprintnetwork.org/?\\_ga=2.24430778.1642258523.1746844306-381838706.1745283487#/compareCountries?type=EFCpc&cn=5001&yr=2000](https://data.footprintnetwork.org/?_ga=2.24430778.1642258523.1746844306-381838706.1745283487#/compareCountries?type=EFCpc&cn=5001&yr=2000)

Source 9

**Switzerland and global total population**

|             | 2000 (million) | 2022 (million) |
|-------------|----------------|----------------|
| Switzerland | 7.184          | 8.777          |
| Global      | 6160           | 7990           |

Source: adapted from World Bank, viewed 10 May 2025, [data.worldbank.org/indicator/SP.POP.TOTL](https://data.worldbank.org/indicator/SP.POP.TOTL) and <https://data.worldbank.org/indicator/SP.POP.TOTL?locations=CH>

*Refer to Source 8 and Source 9 when answering Question 8.*

8. (a) Switzerland's ecological footprint per capita is significantly higher than the global average. Suggest **two** factors that might account for this.

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(2 marks)

- (b) Using the information provided in Source 8 and Source 9, and with reference to individual lifestyle choices, suggest reasons for the changes shown in Source 8.

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(5 marks)

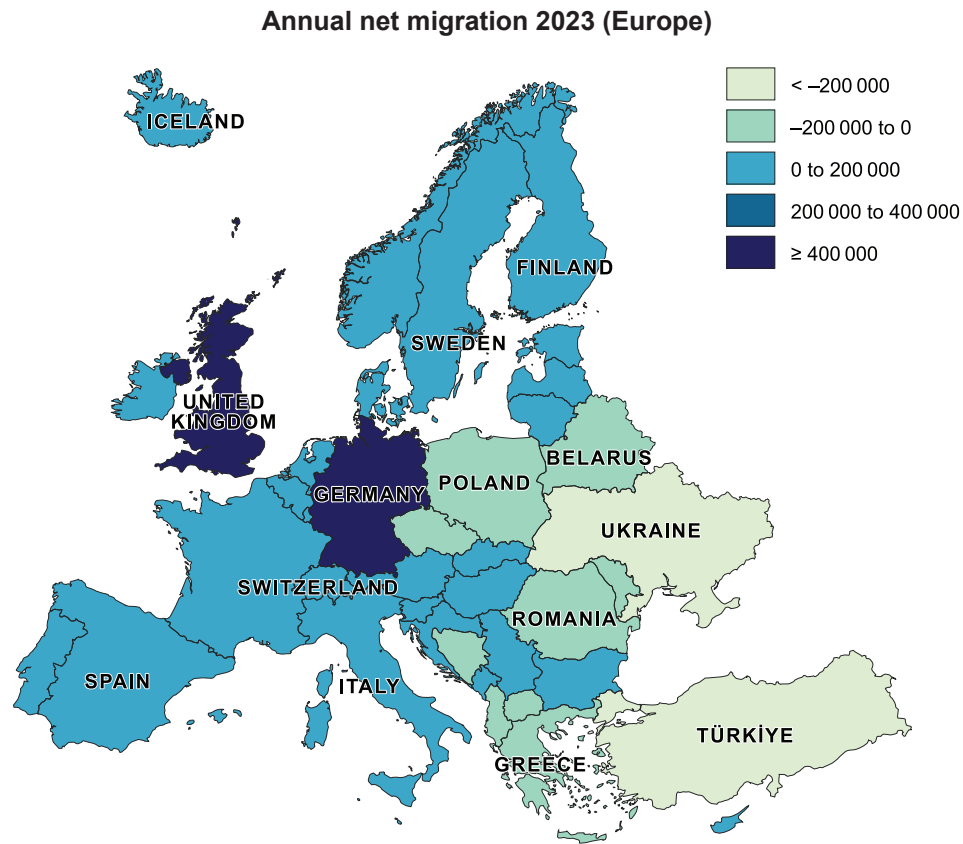
### Question 9

Using examples from your studies, explain **two** ways in which land cover change impacts biodiversity.

[illegible]

## Question 10

Source 10



Source: adapted from Our world in data, annual net migration, 2023, viewed 5 June 2025, [ourworldindata.org](https://ourworldindata.org); [www.datawrapper.de/\\_/HIEkH/](https://www.datawrapper.de/_/HIEkH/)

10. Net migration is the number of people entering a country minus the number of people leaving a country.

With reference to Source 10, describe the pattern of annual net migration for Europe in 2023.

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(2 marks)

**Question 11 (a) and (b)**

Identify **one** political and **one** economic barrier that may affect the flow of international migration.

1. (a) Political barrier

\_\_\_\_\_  
\_\_\_\_\_ (1 mark)

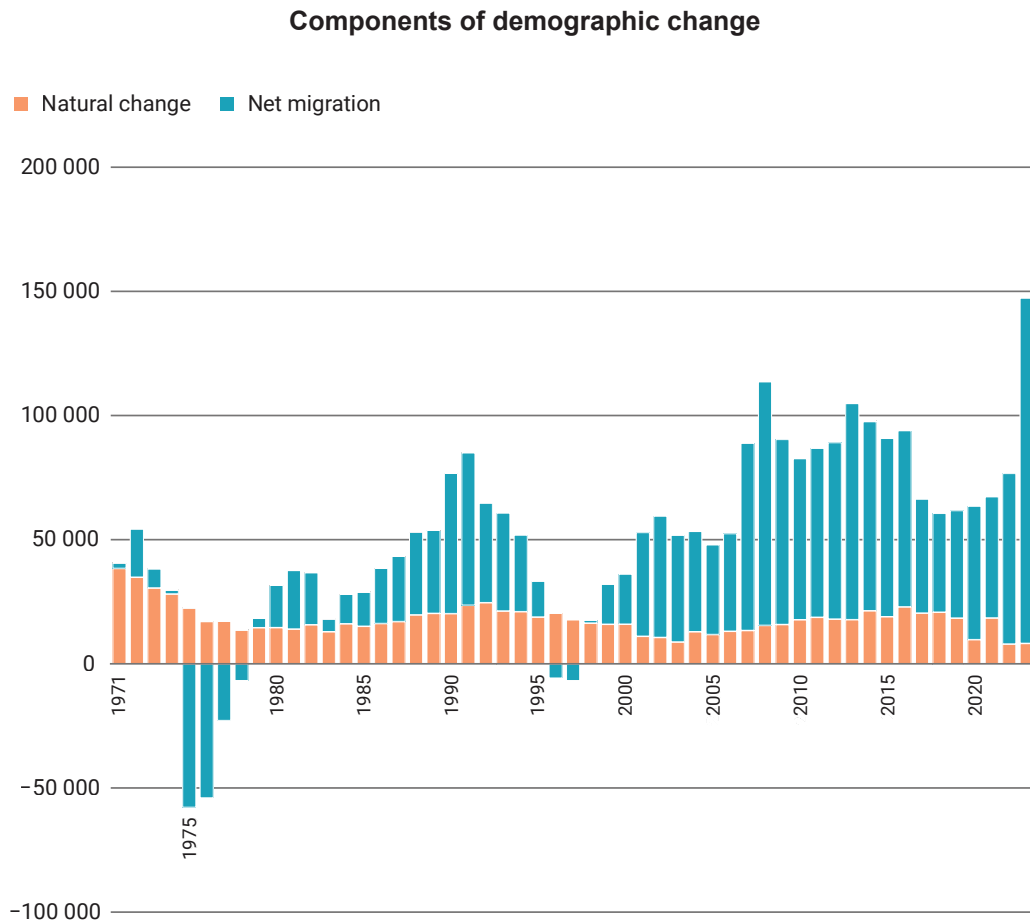
(b) Economic barrier

\_\_\_\_\_  
\_\_\_\_\_ (1 mark)

## Question 12

### Source 11

The graph below shows how natural change and net migration have contributed to Switzerland's total population from between 1971 and 2023.



Source: adapted from Components of population change, Federal Statistical Office, All Swiss Federal Authorities, viewed 5 June 2025, [www.bfs.admin.ch/bfs/en/home/statistics/population/effectif-change/components-population-change.html](http://www.bfs.admin.ch/bfs/en/home/statistics/population/effectif-change/components-population-change.html)

**Source 12****Demographic indicators for Switzerland (2023)**

|                              |           |
|------------------------------|-----------|
| Total fertility rate         | 1.33      |
| Birth rate                   | 9.0       |
| Death rate                   | 8.1       |
| Net migration                | 139,100   |
| Total population             | 8,815,400 |
| Population growth (annual %) | 1.3       |

Source: adapted from Births and deaths, Federal Statistical Office, All Swiss Federal Authorities, viewed 5 June 2025, <https://www.bfs.admin.ch/bfs/en/home/statistics/population/births-deaths.html>; Components of population change, Federal Statistical Office, All Swiss Federal Authorities, viewed 5 June 2025, [www.bfs.admin.ch/bfs/en/home/statistics/population/effectif-change/components-population-change.html](https://www.bfs.admin.ch/bfs/en/home/statistics/population/effectif-change/components-population-change.html); <https://www.bfs.admin.ch/bfs/en/home/statistics/catalogues-databases.gnpdetail.2023-0293.html>

12. Using Source 11 and Source 12, analyse the population trends of Switzerland. Comment on both natural change and net migration in your answer.

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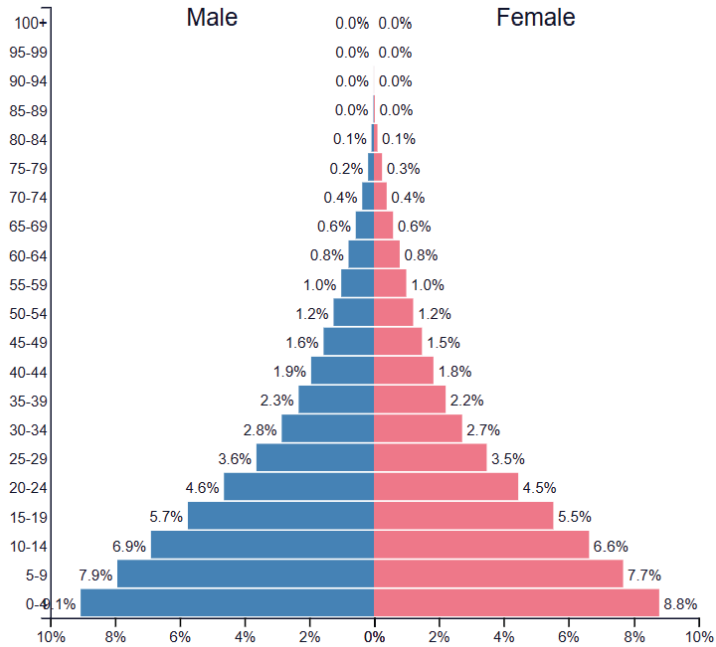
(4 marks)

## Question 13 (a) and (b)

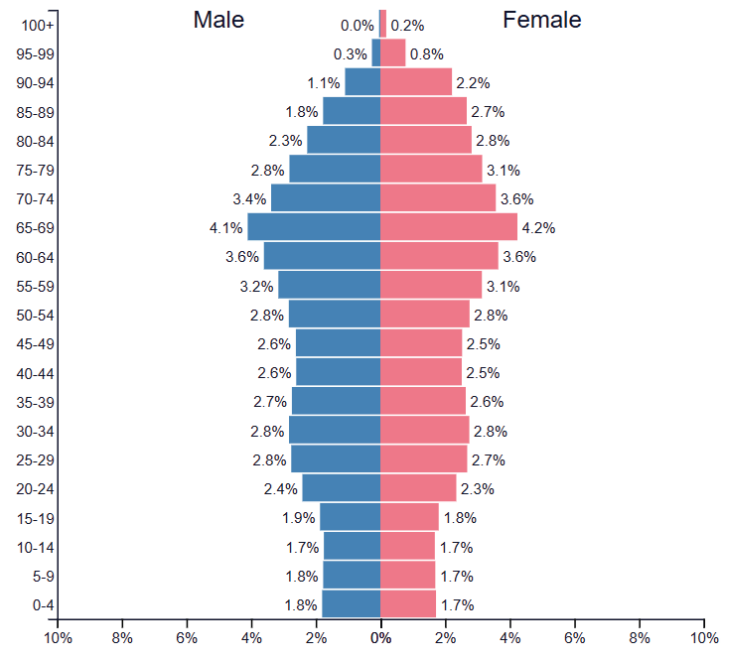
### Source 13

#### Youthful and ageing population structures

Pyramid A



Pyramid B



Source: adapted from Population pyramids of the world from 1950 to 2100, viewed 5 June 2025, [www.populationpyramid.net](http://www.populationpyramid.net)

Refer to Source 13 when answering Question 13.

13. (a) The population pyramids in Source 13 represent either youthful or ageing population structures.

(i) Select the population pyramid which represents an ageing population structure.

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Pyramid A

☐

Pyramid B

(1 mark)

(ii) Provide **one** reason for your choice in part (a)(i).

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(1 mark)

Using examples from your studies, select either an ageing or a youthful population structure.

(b) Explain challenges presented by that population structure and a specific government response to that challenge.

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(5 marks)

[illegible]