



# AUSTRALIAN GEOGRAPHY COMPETITION


## 2023 Year 9 - answers

**Instructions**

Welcome to the 2023 Australian Geography Competition!

You have 30 minutes to complete 40 questions.

NOTE: Due to the size of some graphics, you may need to scroll down the page to see the complete graphic.



Some questions require the use of a ruler or calculator. To use, click on the icon at the top right of the screen. To turn off, click the icon again.

If you want to enlarge a graphic or text, click on the magnifying glass at the top left of the screen.

There is a timer count-down at the top left of the screen.

The flag button at the bottom right of the screen can be used as a reminder for a question you want to come back to. On the question overview page you can see which questions you flagged.

The tiles button in the top middle of the screen next to the question number takes you to the question overview.

The question overview shows a summary of questions not started, completed or flagged.


**Progress summary**

Show all 1 Answered 3 Not answered 36 Not read 1 Flagged


**Questions**  
Click a number to go to that question


1 2 3 4 5 6 7 8 9

Supported by



Good luck!

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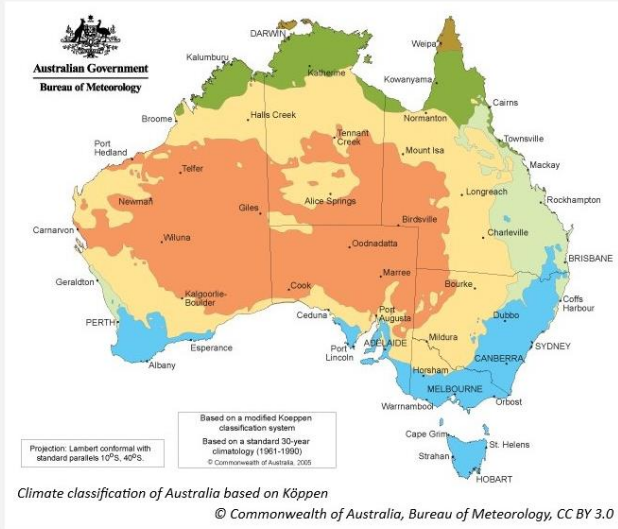
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**Question 1 of 40**



Drag and drop the labels to create a correct legend for the map.



Major classification groups

- Equatorial
- Tropical
- Subtropical
- Desert
- Grassland
- Temperate

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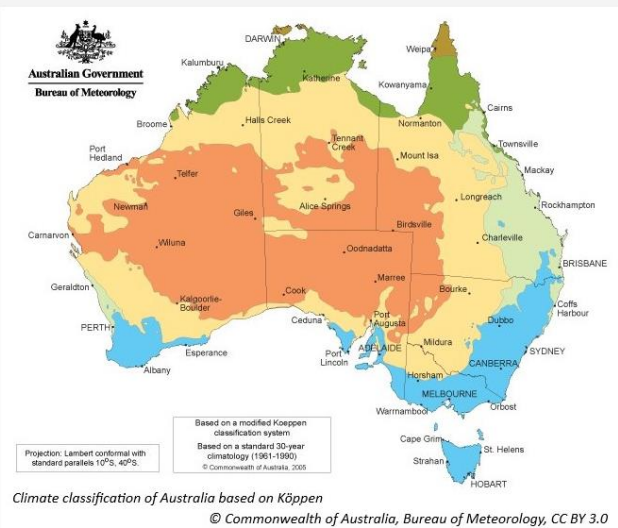
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**Question 2 of 40**



Drag and drop the food and fibre words to create the best match with the climate zones.



Climate Zone      Food or Fibre Produced

Desert      **Spinifex grass**

Grassland      **Beef**

Temperate      **Dairy**


Tropical      **Sugarcane**

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Question 3 of 40




Farm in Darién, Colombia © N Palmer, GDFL

Which agricultural strategy is shown in the photo?

- crop rotation
- contour planting
- extensive agriculture
- intercropping

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Question 4 of 40



Farm in Darién, Colombia © N Palmer, GDFL

What are some benefits of the strategy shown in the photo above? Select all that apply.

- improves soil fertility
- reduces pest problems
- requires less planning
- easier to harvest

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Question 5 of 40

Aboriginal peoples in Australia commonly manipulated the land to enhance food availability through:

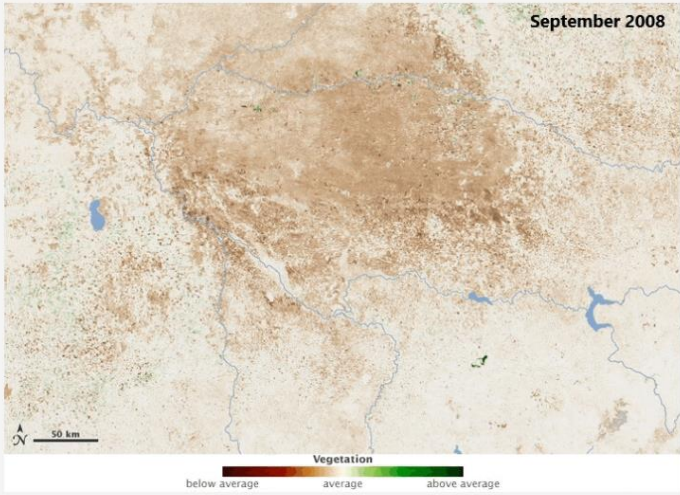
- controlled burning
- irrigation systems
- crop rotation
- contour ploughing

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Question 6 of 40

Which factor best accounts for the 2006 difference in the vegetation pattern shown in the animation below?

- cropping
- deforestation
- drought
- seasonal change



September 2008

50 km

Vegetation  
below average    average    above average

Land bordering the Murray River, NSW/Vic      Images source: NASA Earth Observatory

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**Question 7 of 40**



Which type of land degradation is highlighted in the photo below?

- gully erosion       salinity       deforestation       desertification



Land degradation

© Government of Western Australia

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**Question 8 of 40**



Which of these are negative effects of the type of land degradation in the photo? Select all that apply.

- hazardous for livestock and vehicles       loss of topsoil  
 causes nutrient deficiency in plants       waterlogging affects the germination of seeds



Land degradation

© Government of Western Australia

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**Question 9 of 40**



Which of these is the most effective strategy to prevent the land degradation in the photo?

- maintaining natural vegetation along drainage lines
- planting shelterbelts at right angles to the wind
- keeping heavy machinery off the land
- improving drainage to reduce soil waterlogging



Land degradation

© Government of Western Australia

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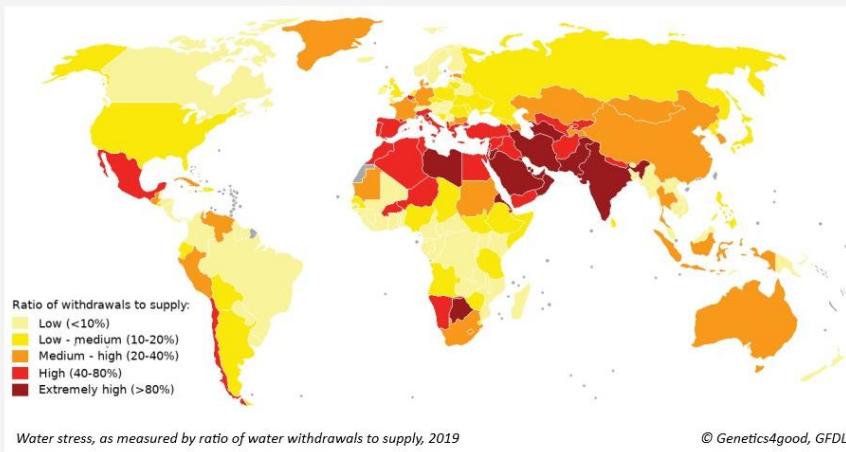


**Question 10 of 40**



Which type of map is the one below?

- choropleth
- cadastral
- physical
- topographic

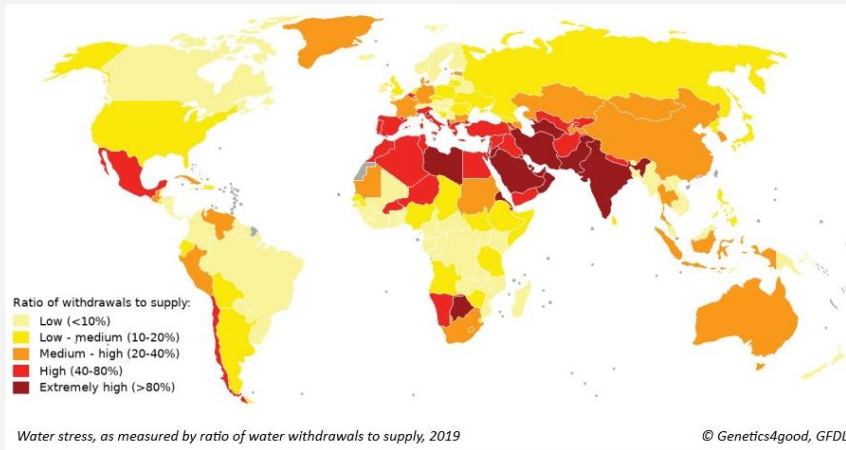


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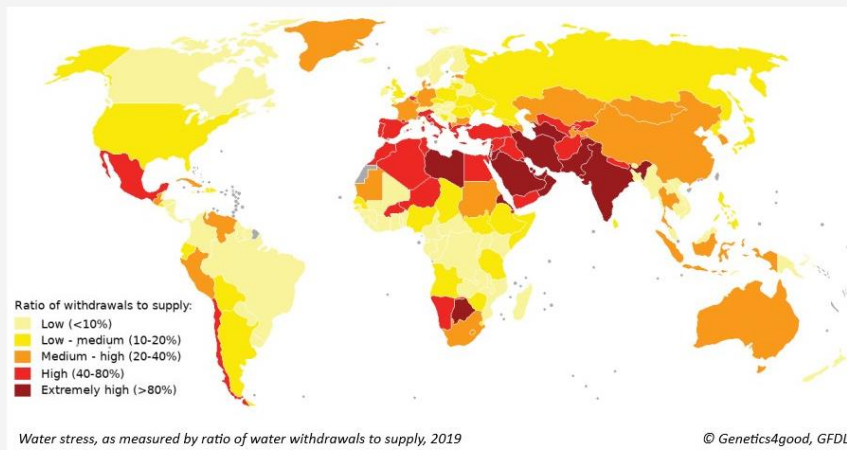
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Using the map below, Mexico's level of water stress is



Which of these is the most significant limitation of the data shown in the map below?

- does not include country name labels
- does not show variation within countries
- missing data for some countries
- does not show major dams





Question 13 of 40



Which of these initiatives are most likely to help reduce the risk of water scarcity for residents? Select all that apply.

- recycling water
- promoting water conservation measures
- privatising the water supply
- deregulating discharge from sewage treatment facilities

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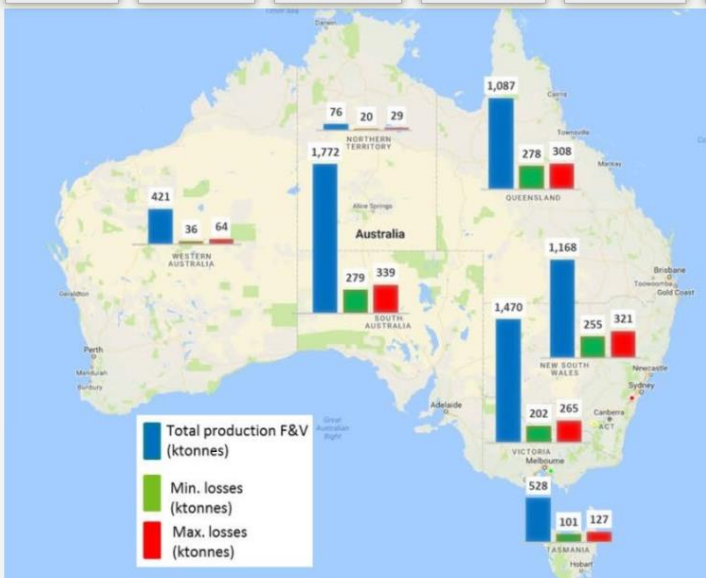


Question 14 of 40



Based on the map below, drag the state names so they are in order for production of fruit and vegetables, from the highest on the left to the lowest on the right.

- SA
- VIC
- NSW
- QLD
- TAS
- WA



Fruit and vegetables: production and estimated losses in primary production, packing and processing © CSIRO

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Question 15 of 40



Which strategy would decrease fruit loss in primary production?

- better harvesting technology to extract more fruit
- increase the cost of fruit to consumers to limit waste
- production plants closer to grower sites to avoid spoilage
- training factory workers to reduce the volume of rejection

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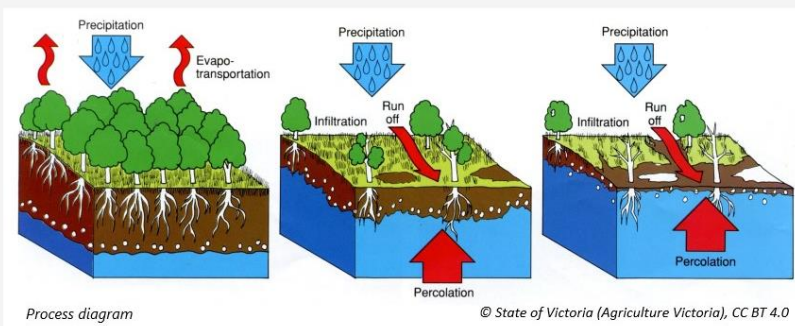


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Food production is impacted by which process represented in the diagram below?

- habitat loss
- soil acidification
- salinisation
- soil erosion



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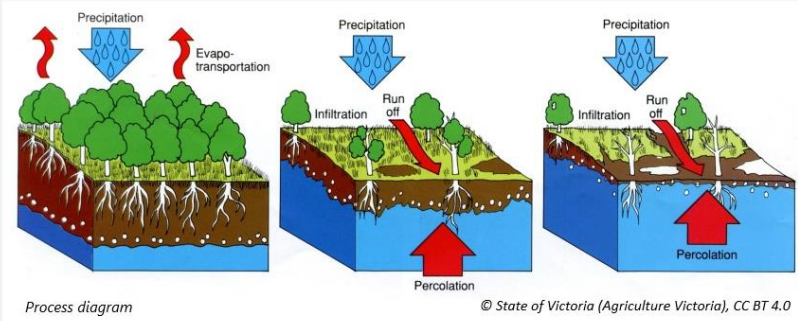


Question 17 of 40



Which of these is a suitable response to the problem shown in the diagram?

- planting rows of pine trees
- irrigating the land more intensively
- ploughing the land to break the surface
- planting salt tolerant plants, e.g. saltbush



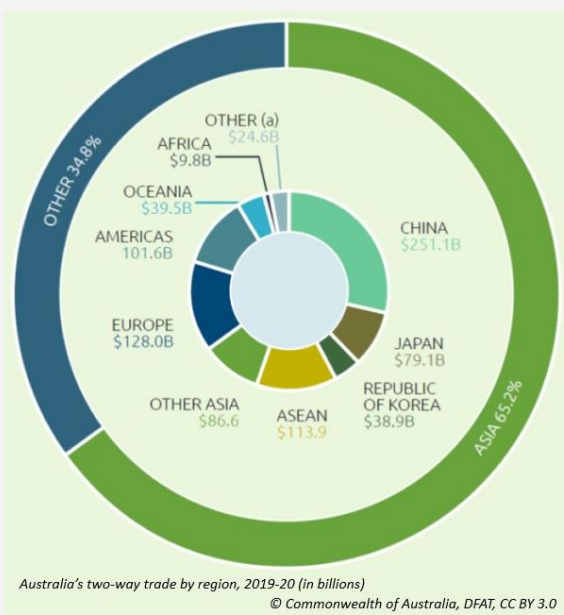
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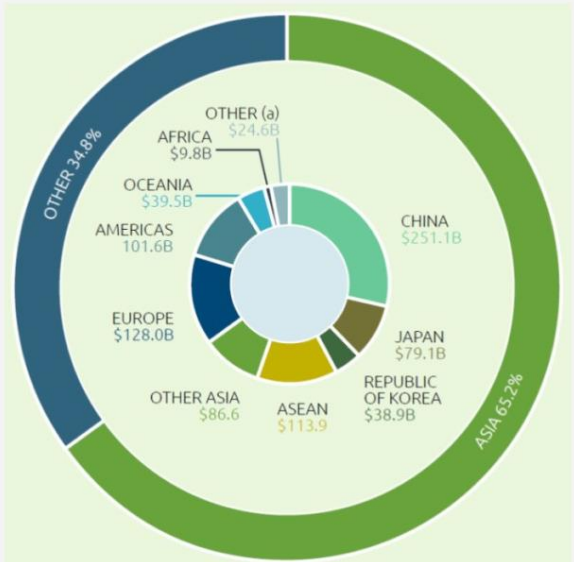
Which concept is represented by the graph?

- scale
- change
- interconnection
- sustainability

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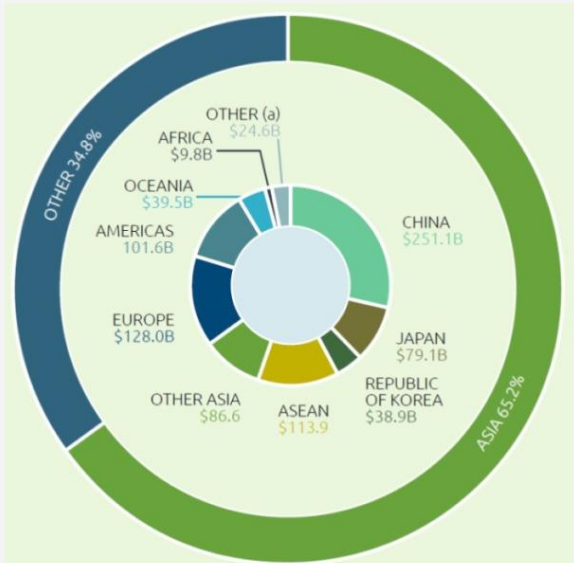
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Australia's two-way trade by region, 2019-20 (in billions)  
© Commonwealth of Australia, DFAT, CC BY 3.0

The graph is a variation of a:

- pie chart
- rose diagram
- bar chart
- scatter plot



Australia's two-way trade by region, 2019-20 (in billions)  
© Commonwealth of Australia, DFAT, CC BY 3.0

You may use the on-screen calculator for this question. Click on the icon in the top right corner.

Australia's total two-way trade is valued at \$873.1 billion. Using data from the graph, calculate what percentage of Australia's two-way trade is with China.

Round your answer to a whole number and enter in the box.

29

Based on the table, the majority of Australia's exports in 2019/20 were the product of primary industries.

**Australia's top 10 exports, 2019-20**

Rank	Commodity	\$ million	% share
1	Iron ores & concentrates	102,864	21.6
2	Coal	54,620	11.5
3	Natural gas	47,525	10.0
4	Education-related travel services	39,661	8.3
5	Gold	24,394	5.1
6	Personal travel (excl education) services	16,368	3.4
7	Beef	11,258	2.4
8	Aluminium ores & concentrates (incl alumina)	8,875	1.9
9	Crude petroleum	8,568	1.8
10	Copper ores & concentrates	6,854	1.4

© Commonwealth of Australia, DFAT, CC BY 3.0

Which of these is an environmental impact of the mine in the image?

- major contribution to Australia's Gross Domestic Product
- alteration of surface water flows
- contaminated run-off affecting marine biodiversity
- greenhouse gases released from the iron ore



Mount Whaleback iron ore mine Source: NASA Earth Observatory



Question 23 of 40



What type of image is shown below?



aerial



satellite



terrestrial



Mount Whaleback iron ore mine

Source: NASA Earth Observatory

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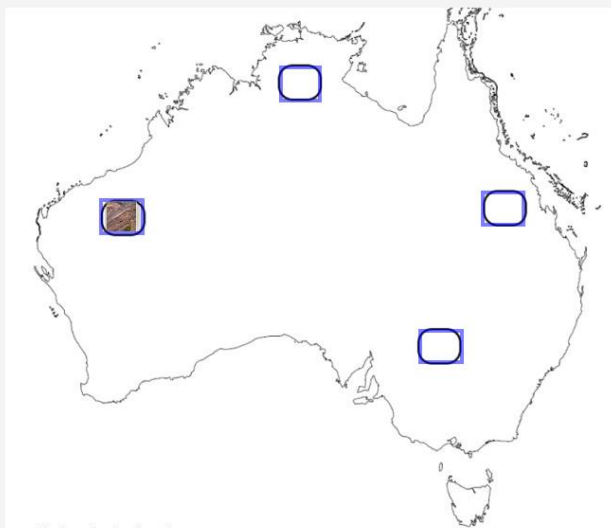
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Question 24 of 40



The thumbnail image is of the iron ore mine from the previous question. Drag the thumbnail to one of the areas marked on the map to show its location in Australia.



Choice of mine location

Base map: © Commonwealth of Australia, Geoscience Australia, CC BY 3.0

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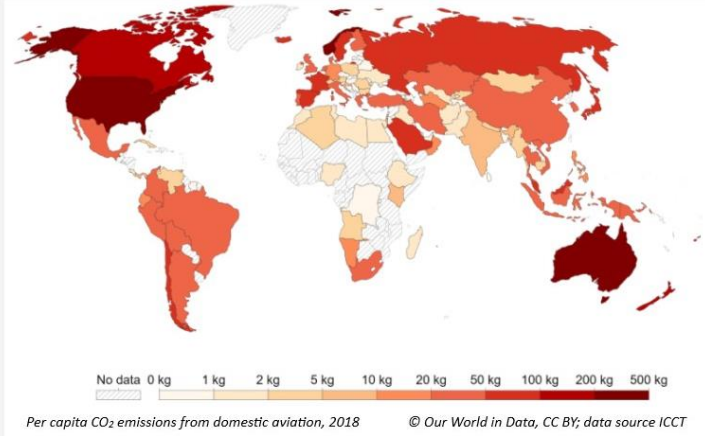


**Question 25 of 40**



Based on the map below, how much CO<sub>2</sub> did Australia emit per capita from domestic aviation in 2018?

- 48 kg     
  92 kg     
  183 kg     
  267 kg



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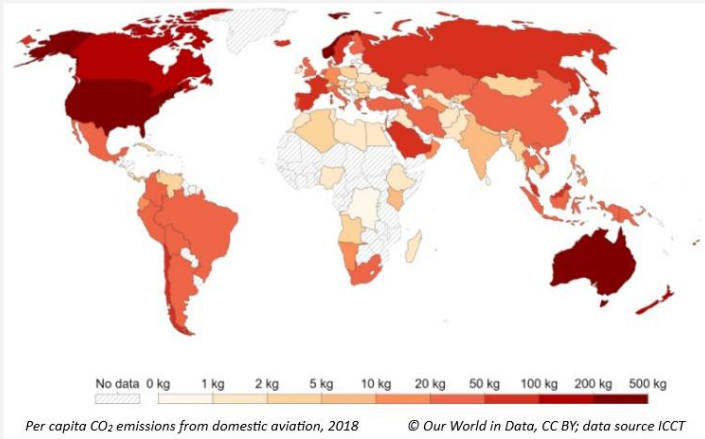


**Question 26 of 40**



What is the main reason for the difference in per capita CO<sub>2</sub> domestic aviation emissions in Australia compared with the United Kingdom, as shown in the map below?

- settlement distribution     
  gross domestic product  
 population size     
  distance between the countries



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Question 27 of 40



This cartoon best illustrates the concept of:

- globalisation
- global distribution
- risk management
- social exclusion

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Question 28 of 40



Which of these statements best explains why some Australian companies have moved their information services to Asian countries such as China?

- It is cheaper than having their information services in Australia.
- More of their customers live in China.
- Chinese workers are better at answering questions than Australian workers.
- Levels of technology are higher in China than in Australia.

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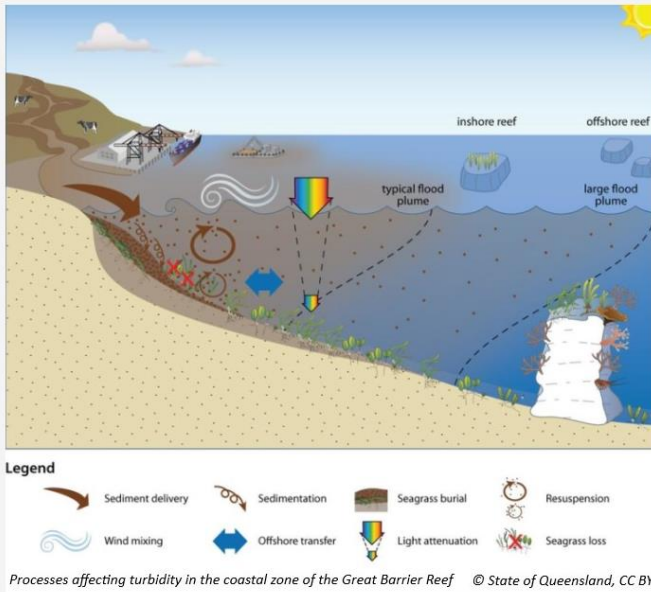


**Question 29 of 40**



Choose the drop-down text that correctly completes the sentence.

The negative impacts of agriculture on the adjacent marine environment are more likely to occur in the wet season.



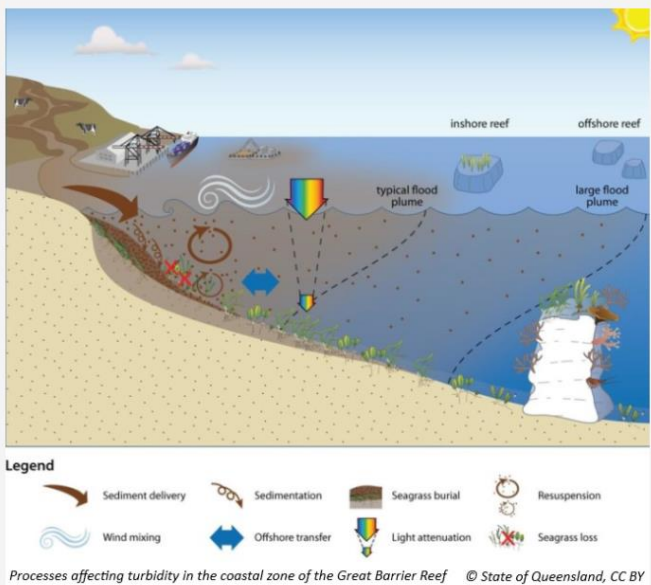
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**Question 30 of 40**



Based on the diagram, number the sequence of events outlining the impacts of agricultural practises on the adjacent marine environment from 1 to 4.

Event	Order
Paddocks are compacted, creating a higher volume of run-off into rivers, and then sea.	1
Algae covers the reef due to lack of marine herbivores.	4
Large marine herbivores migrate away in search of more plentiful food sources.	3
Run-off contains nutrients, which causes algal blooms in the sea, blocking sunlight from coral and seagrass.	2

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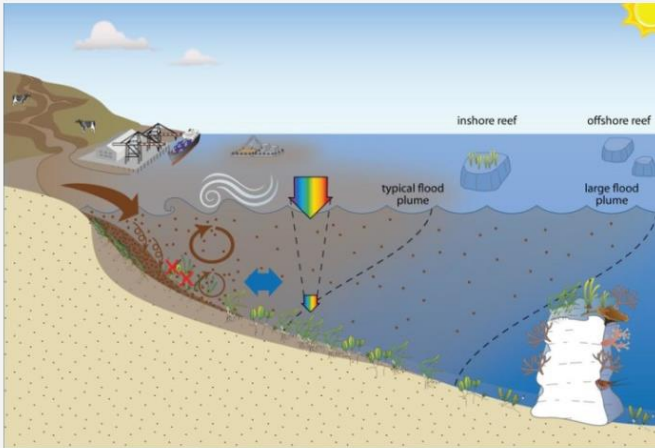


**Question 31 of 40**



Which actions would it be reasonable for a farmer to implement to mitigate the impacts on the adjacent marine environment? Select all that apply.

- reduce erosion by revegetating hillsides
- grow organically to remove pesticides and artificial fertiliser from the soil
- relocate livestock further away from waterways
- create sandy embankments in the river to filter out excess sediment



**Legend**

- Sediment delivery
- Sedimentation
- Seagrass burial
- Resuspension
- Wind mixing
- Offshore transfer
- Light attenuation
- Seagrass loss

Processes affecting turbidity in the coastal zone of the Great Barrier Reef © State of Queensland, CC BY

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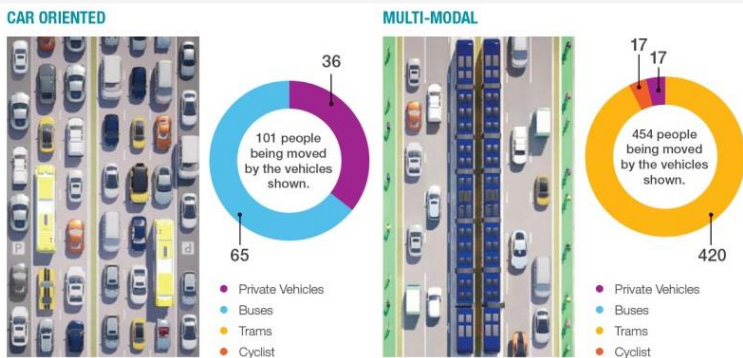


**Question 32 of 40**



Based on the image below, in which ways can multi-modal transport improve liveability? Select all that apply.

- reduces traffic congestion
- reduces carbon emissions
- reduces destination choice
- improves social connections



**Note assumptions:**

- 30 Private vehicles with 1.2 people per car moving 36 people
- 2 Buses with 50% occupancy moving 65 people

**Note assumptions:**

- 14 Private vehicles with 1.2 people per car moving 17 people (with less traffic congestion)
- 2 Trams with 70% occupancy moving 420 people
- 17 Bicycles moving 17 people

Using the Gold Coast's road space more efficiently

© City of Gold Coast

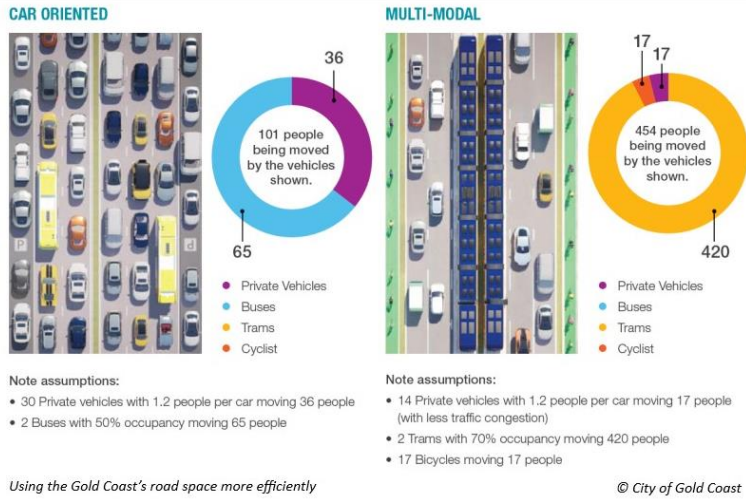
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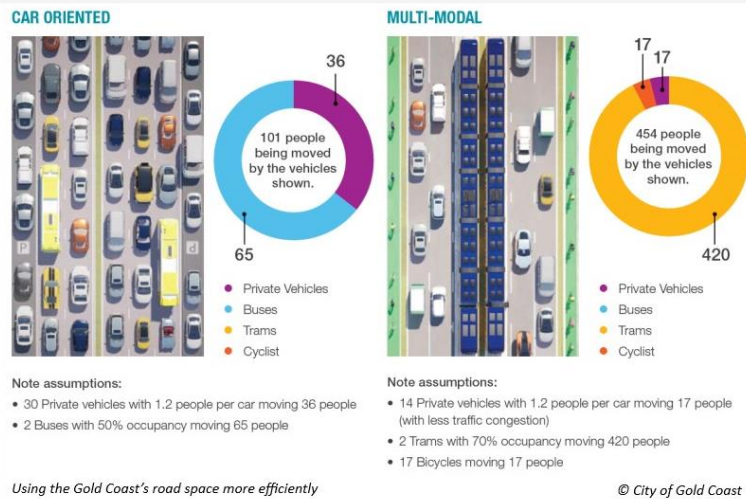
What is the best explanation why buses are shown as having a lower occupancy rate than trams in the image below?

- Trams only travel on popular routes.
- More people can travel on trams.
- Trams emit fewer greenhouse gases.
- Buses are very noisy.



Which of these would be a negative consequence of shifting to the multi-modal transport model shown in the image below?

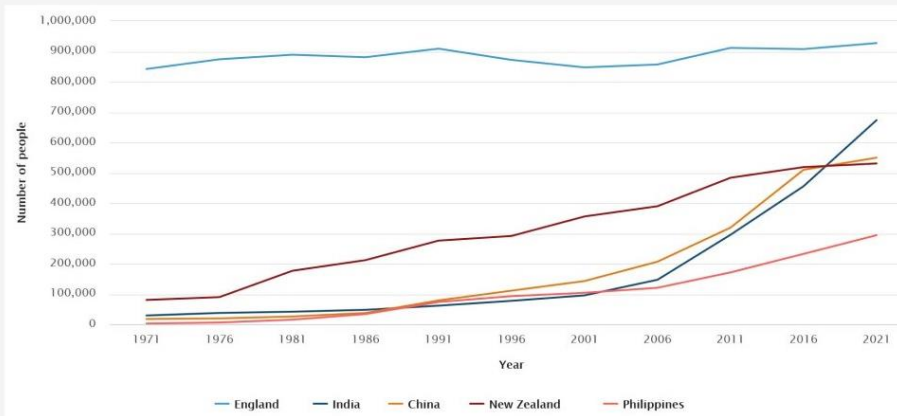
- Lack of parking reduces trade in local businesses.
- Active transport methods are discouraged.
- Commuters spend less time travelling to work.
- Private car ownership becomes more expensive.



Question 35 of 40

Based on the graph below, the highest number of migrants to Australia between 2006 and 2021 came from:

- England
  India
  China
  New Zealand



Number of people in Australia born in the top 5 overseas countries of birth 1971 to 2021

Source: ABS

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Question 36 of 40

Read the text below. Which kind of migration is it describing?

- permanent migration  
 temporary labour migration  
 student migration  
 forced migration

Oliver Tari is from Vanuatu and is moving to Renmark in South Australia where he has a job picking and packing citrus fruits. When the fruit picking season ends, Oliver will return to Vanuatu.

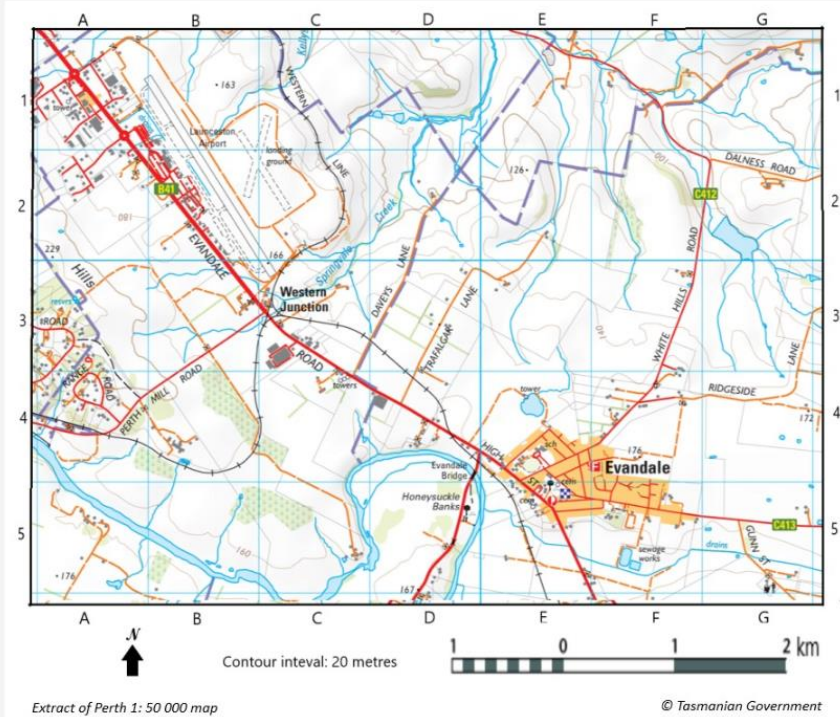
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**Question 37 of 40**

Remember to scroll down if you can't see all of the map.

The map below is an extract. Which element is missing that a complete map should have?

- legend     
  orientation     
  scale     
  title



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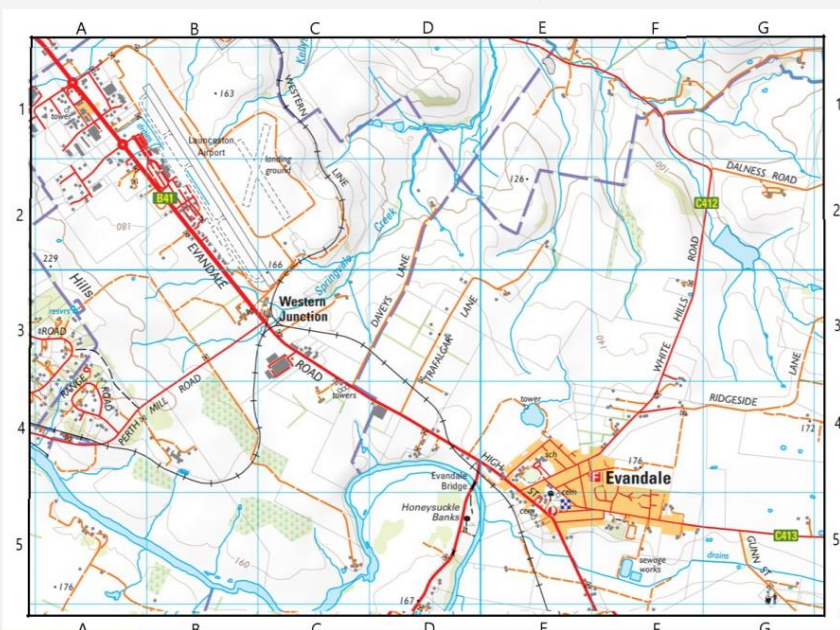
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**Question 38 of 40**

Drag and drop the number that correctly completes the sentence. You may need to scroll down to see all the map.

150
170
190
200

The plantation shown in grid square C5 on the map is approximately  metres above sea level.



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Which of these is located in grid square G2 on the map?

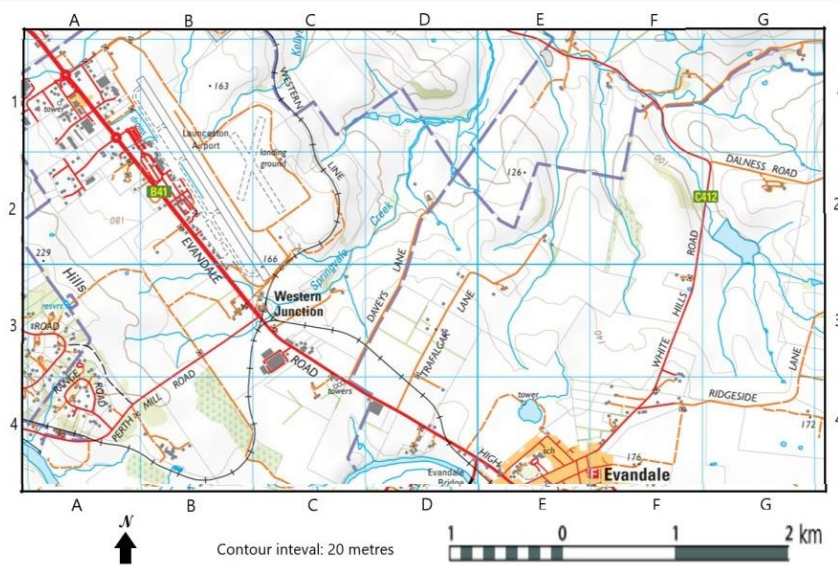
- farm dam
- hydroelectric station
- lagoon
- swamp



Drag and drop the number that correctly completes the sentence. You may use the on-screen ruler - click on the symbol in the top right corner, drag and rotate it.

- 1.2
- 3.2
- 4.3

Using the map below, the length of Launceston Airport's main runway (see B1) is approximately  km.



Extract of Perth 1: 50 000 map

© Tasmanian Government