

Surname	Centre Number	Candidate Number
First name(s)		0



GCSE

C112U10-1


MONDAY, 23 MAY 2022 – MORNING
GEOGRAPHY B – Component 1
Investigating Geographical Issues

1 hour 50 minutes

ADDITIONAL MATERIALS

In addition to this paper you may use a calculator and a ruler if required.

INSTRUCTIONS TO CANDIDATES

Use black ink or black ball-point pen.
Do not use gel pen or correction fluid.

You may use a pencil for graphs and diagrams only.

Write your name, centre number and candidate number in the spaces at the top of this page.

Theme 1: Answer Question 1.

Theme 2: Answer the compulsory Questions 2(a), 2(b) and 2(c).

Answer **either** Question 2(d) **or** Question 2(e).

Theme 3: Answer **one** Question: **either** Question 3 **or** Question 4.

Write your answers in the spaces provided in this booklet.

Additional space is provided for some questions within the booklet (if required). If further space is required for any question, you should use the lined page(s) at the end of this booklet. The question number(s) should be clearly shown.

INFORMATION FOR CANDIDATES

The number of marks is given in brackets [] at the end of each question or part-question.

You are reminded that assessment will take into account your ability to spell, punctuate and use grammar and specialist terminology accurately in your answer to Question 1(d).

For Examiner's use only			
	Question	Maximum Mark	Mark Awarded
Theme 1	1	32	
	SPaG	4	
Theme 2	2(a)–2(c)	24	
	either 2(d)	8	
	or 2(e)	8	
Theme 3	either 3	32	
	or 4	32	
	Total	100	

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Theme 1: Changing Places – Changing Economies

Answer Question 1.

1. (a) (i) International migration is one feature of globalisation.

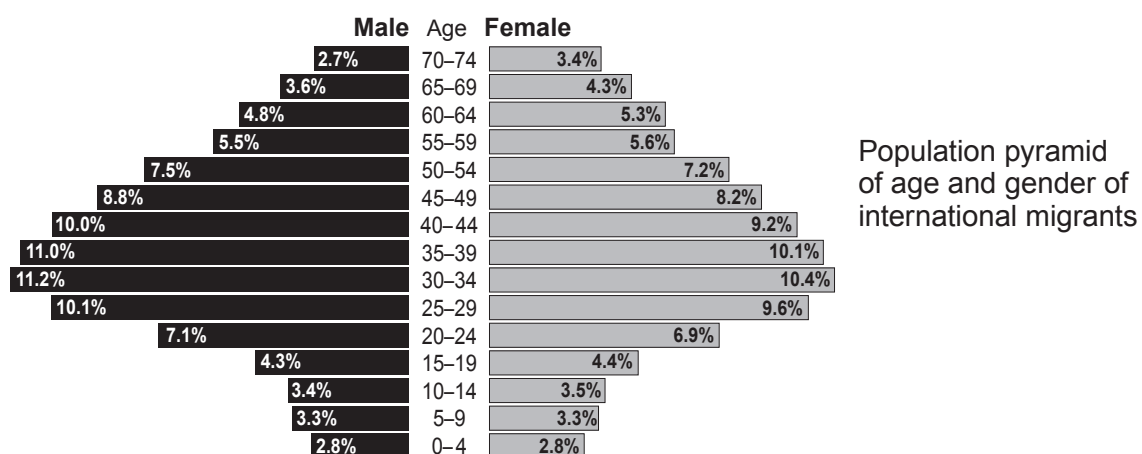
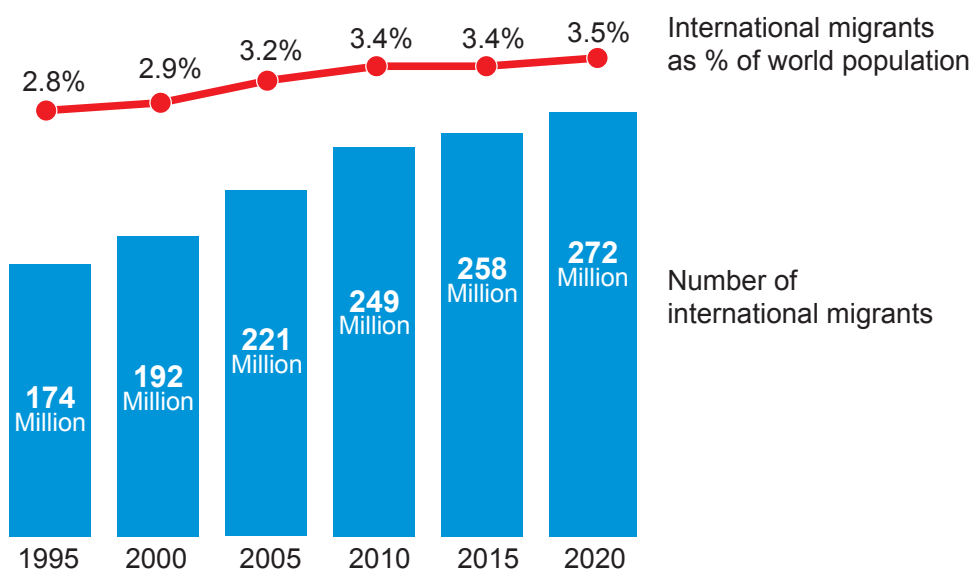
Tick (✓) **one** box below to give the correct definition of the term 'international migrant'.

[1]

	Tick (✓)
Someone who moves from part of a city to a different part	
Someone who moves from one country to another country	
Someone whose parents were born in a different country	

- (ii) Study **Figure 1.1** below.

Figure 1.1 – Global changes in the number of international migrants



Circle the correct answer in each of the following sentences.

[4]

Between 1995 and 2020 the total number of international migrants increased by
(**84 million** / **89 million** / **98 million**) people.

Between 2010 and 2020 the proportion of the world's population who are
international migrants (**decreased** / **slightly increased** / **rapidly increased**).

The lowest percentage of international migrants are
(**males aged 70–74** / **females aged 65–69** / **males aged 0–4**).

The difference between male and female international migrants aged 30–39 is
(**0.8%** / **1.1%** / **1.7%**).

(iii) Give **four push** factors which can lead to international migration.

[4]

Factor 1

Factor 2

Factor 3

Factor 4

(iv) Give **two** reasons why international migration can have social consequences. [4]

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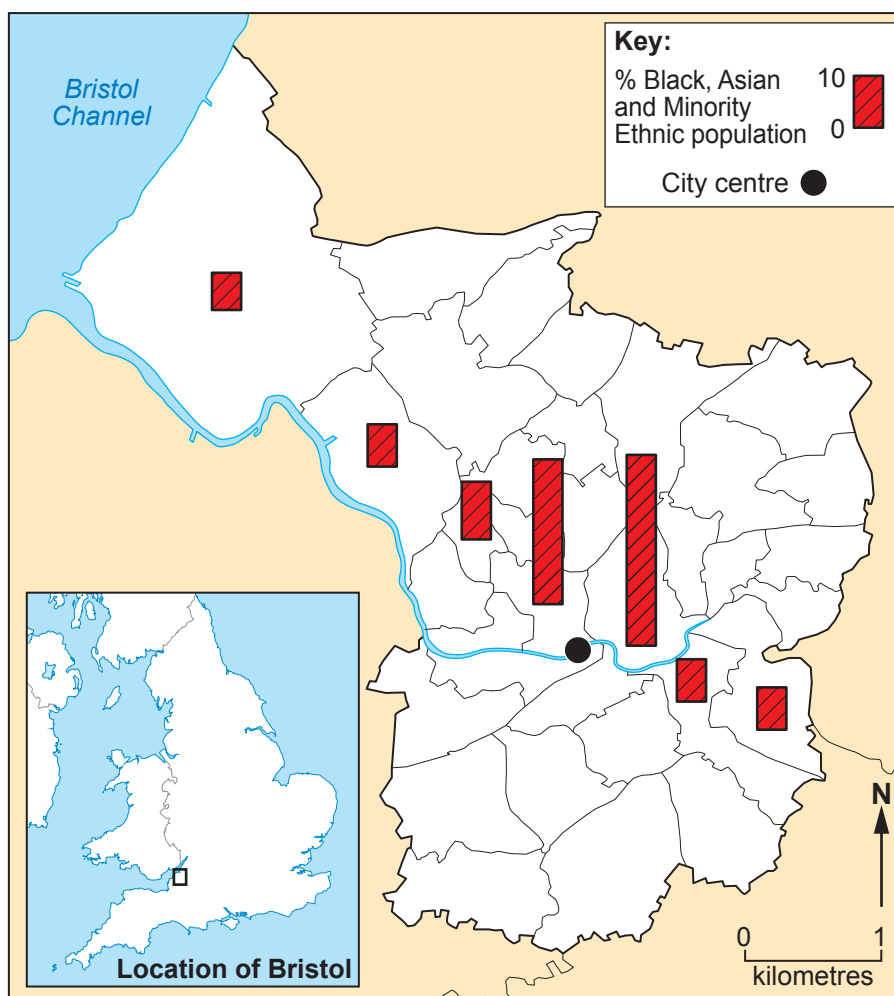
- (b) (i) Many UK cities have zones where there is a mix of different ethnic groups of people.

Tick (✓) the box below which gives the correct term for the zones of a city where there is a mix of different ethnic groups. [1]

	Tick (✓)
Multipurpose	
Multinational	
Multiplier	
Multicultural	

- (ii) Study **Figure 1.2** below. It shows a transect through the UK city of Bristol with the percentages of Black, Asian and Minority Ethnic population.

Figure 1.2 – Transect through Bristol showing percentage of Black, Asian and Minority Ethnic population



Suggest **two** weaknesses of **Figure 1.2** to show the information.

[2]

1.

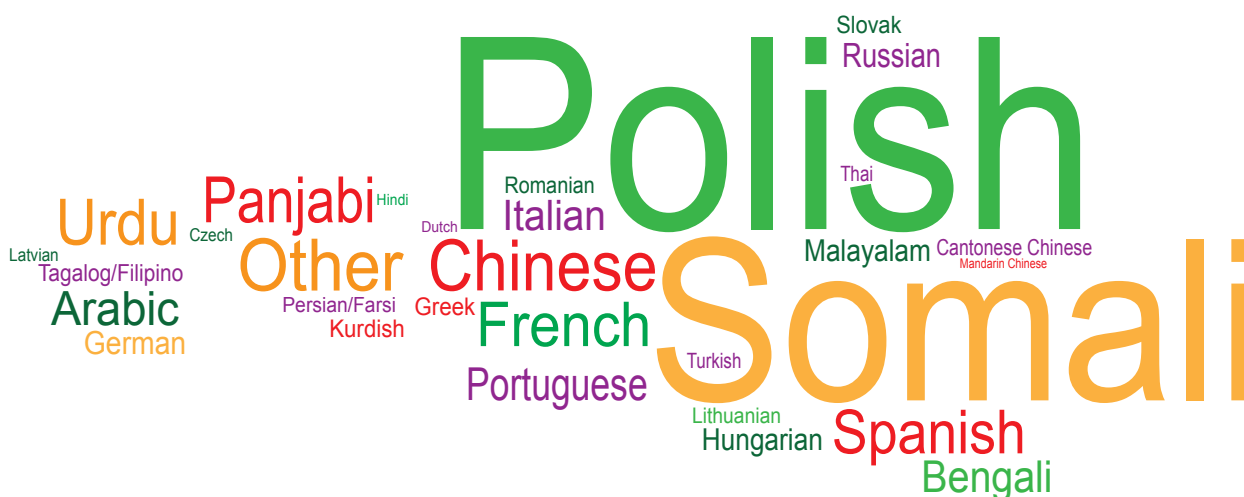
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2.

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- (iii) A student used data on languages spoken in Bristol (other than English) to produce this word cloud (**Figure 1.3**). The size of the word is proportional to the number of speakers of that language.

Figure 1.3 – Word cloud of languages, other than English, spoken in Bristol



Give **two** other appropriate techniques to display this information.

[2]

1.

2.



- (c) (i) Emergency aid is sometimes needed when a disaster occurs. Countries that send aid are called 'donor countries'.

Describe **two** advantages for a **donor** country when short-term emergency aid is given. [2]

Advantage 1

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Advantage 2

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- (ii) Explain why **short-term emergency aid** was needed in an LIC (Low Income Country) you have studied. [4]

Name of country

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- (d) Study **Figure 1.4** below which shows the Queen Elizabeth Olympic Park in London. This was developed for the 2012 Olympic Games.

Figure 1.4



Fact Box

- The Olympic Park includes the Olympic (London) Stadium and other buildings and parklands.
- Built on 200 hectares of toxic wasteland using 25% recycled materials.
- Events held at the stadium since 2012 include World Athletics, Women's Hockey World Cup, Rugby World Cup.
- West Ham United Football Club pay £2.5 million a year to rent the converted Olympic Stadium.
- Stadium expected to lose £140 million of public money over the next decade.
- More than 23 million people have visited the Olympic Park since 2012.
- Local transport links improved.
- High unemployment and lack of affordable housing in the surrounding area of East London.



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End of Question 1

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Theme 2: Changing Environments

Answer the compulsory Questions 2(a), 2(b) and 2(c).

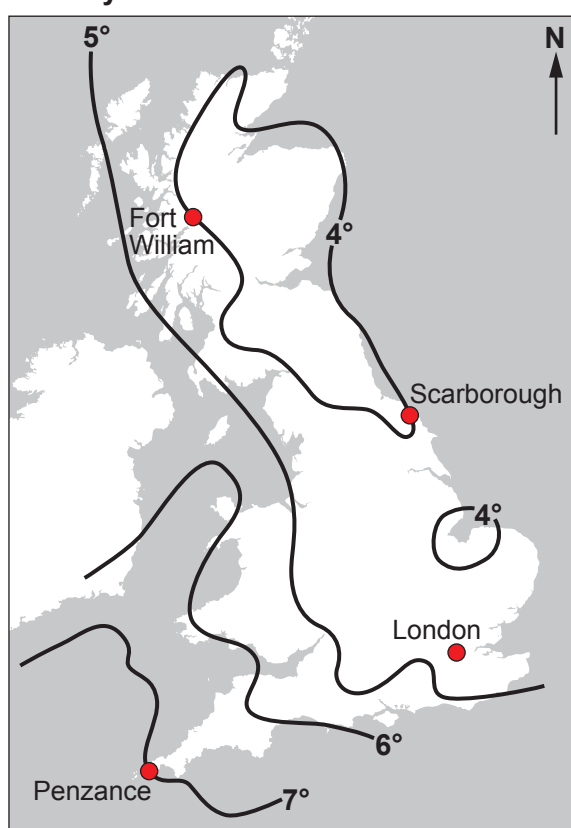
Choose **either** Question 2(d) (Coasts and coastal management) **or** Question 2(e) (Rivers and river management).

2. (a) (i) Study **Figure 2.1** below.

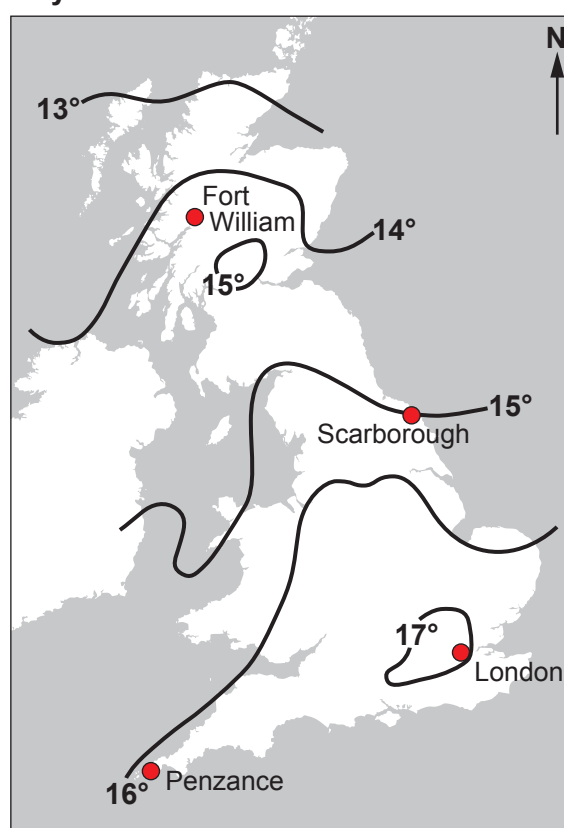
Figure 2.1 – Average UK temperatures in January and July

An isotherm is a line joining places of equal temperature.

January Isotherms



July Isotherms



Key: 14 — = temperature °C

Use the information in **Figure 2.1** to complete the following sentences. [3]

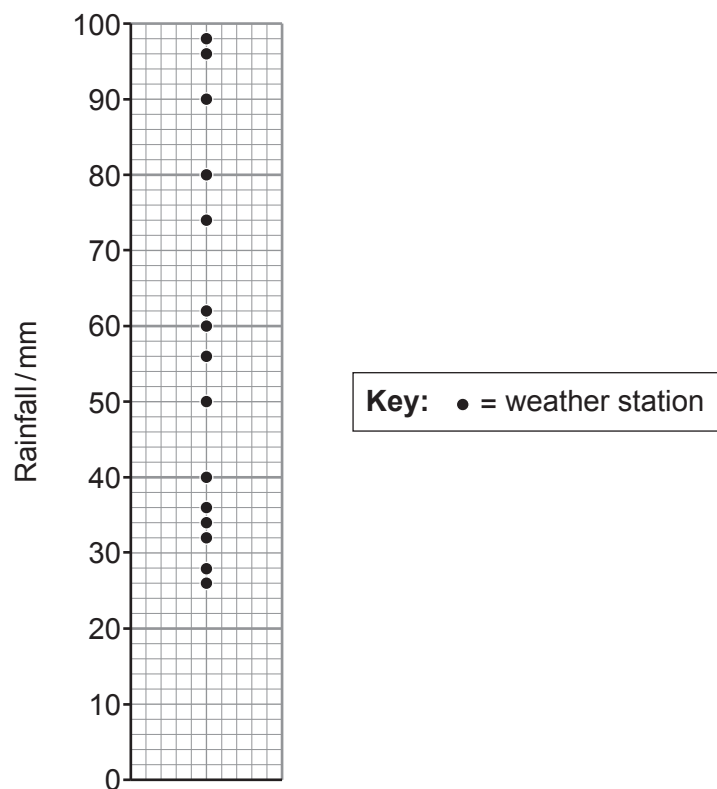
In January there is a °C temperature difference between Fort William and Penzance.

In July, the warmest place is , while Scarborough's temperature is °C.



Study **Figure 2.2** below.

Figure 2.2 – Dispersion graph showing total rainfall for September 2020 for some places in the UK



(ii) What is the **median** value of this rainfall data? mm [1]

(iii) Calculate the **range** of the rainfall data in **Figure 2.2**. Show your working in the box below. [2]

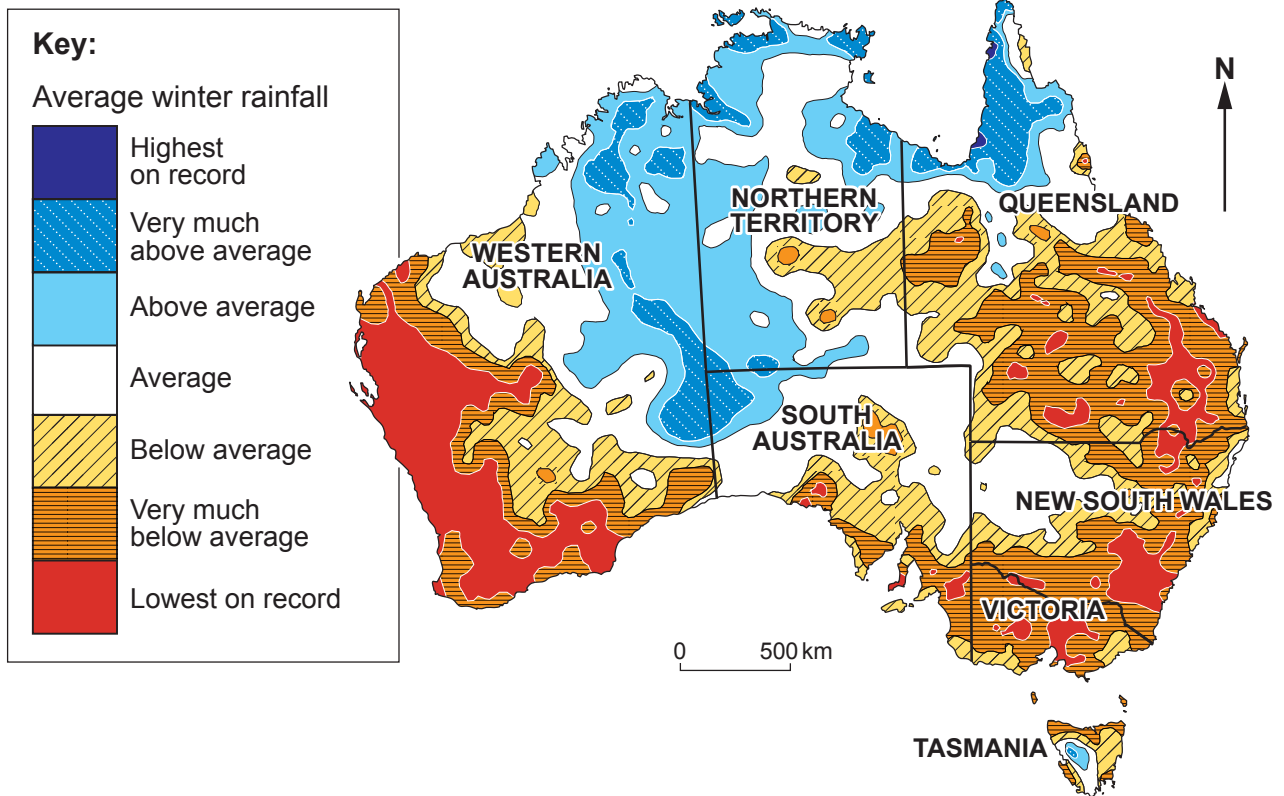
Range =



- (c) (i) Australia regularly experiences drought conditions.

Study **Figure 2.3** below.

Figure 2.3 – Average winter rainfall patterns for Australia 1999–2018



Tick (✓) the **two** correct statements in the table below which describe the rainfall patterns shown in **Figure 2.3**. [2]

	Tick (✓)
Victoria had some areas with above average rainfall	
South Australia had the largest area of above average rainfall	
Western Australia had the largest area of lowest average rainfall	
It becomes drier as you get further north	
The north coast of Australia had more rain above average than the south coast	
Most of the Northern Territory had below average rainfall	



(ii) Droughts are becoming more frequent in many parts of the world.

Explain why **two** groups of people may be negatively affected by droughts. [4]

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OPTIONAL QUESTIONS

Answer **one** question.

Choose **either** Question 2(d) (Coasts and coastal management) **or** Question 2(e) (Rivers and river management).

Coasts and coastal management

2. (d) Some coastal areas of the UK are under increasing risk of damage through erosion.

Study **Figure 2.4**.

Figure 2.4 – Examples of soft and hard engineering methods of coastal protection

HARD ENGINEERING	SOFT ENGINEERING
	
Rock armour	Planting vegetation to stabilise the sand
	
Sea walls and groynes	Beach nourishment



Is hard **or** soft engineering a more sustainable way of managing UK coastlines?
Justify your views.

[8]

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If you have answered Question 2(d), **do not** answer Question 2(e).

Rivers and river management

2. (e) Some rivers in the UK are under increasing risk of flooding.

Study **Figure 2.5** below.

Figure 2.5 – Examples of soft and hard engineering methods of river flood management

HARD ENGINEERING	SOFT ENGINEERING
	
Building dams	Managed flooding
	
Man made channel to take away flood water	Clearing vegetation



Is hard **or** soft engineering a more sustainable way of managing UK rivers?
Justify your views.

[8]



Additional space for **2(e)** only:

End of Question 2



Theme 3: Environmental Challenges**OPTIONAL QUESTIONS**

Answer **one** question.

Choose **either** Question **3** (How ecosystems function, Ecosystems under threat) **or** Question **4** (Water resources and management, Desertification).

Ecosystems

3. (a) Ecosystems contain many different components.

Study **Figure 3.1** below.

Figure 3.1 – Table showing some definitions of terms.

Letter	Definition
A	The parts of an ecosystem which are non-living things.
B	The parts of an ecosystem which break down leaf litter.
C	The community of plants, animals and the environment they live in.
D	The parts of an ecosystem where plants convert starch from the sun's energy.
E	The parts of an ecosystem which are living things.

- (i) Complete the table below by adding the correct letter from **Figure 3.1**. [2]

Term	Letter from Figure 3.1
Biotic	
Abiotic	

- (ii) Describe the role of producers in an ecosystem. [2]

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- (iii) Explain why a reduction in the number of secondary consumers would have an impact on a food web. [4]

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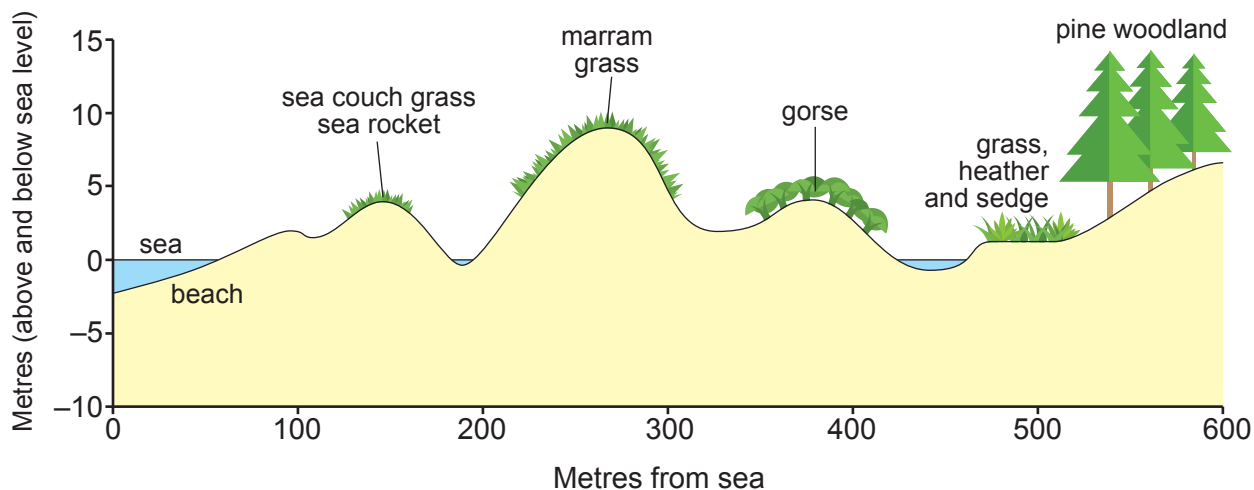
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- (b) (i) Sand dunes are an example of a small-scale ecosystem. They are mounds of sand formed by wind.

Study **Figure 3.2**.

Figure 3.2 – Transect across a sand dune ecosystem



Describe changes in vegetation with distance from the sea. You should use figures in your answer.

[4]

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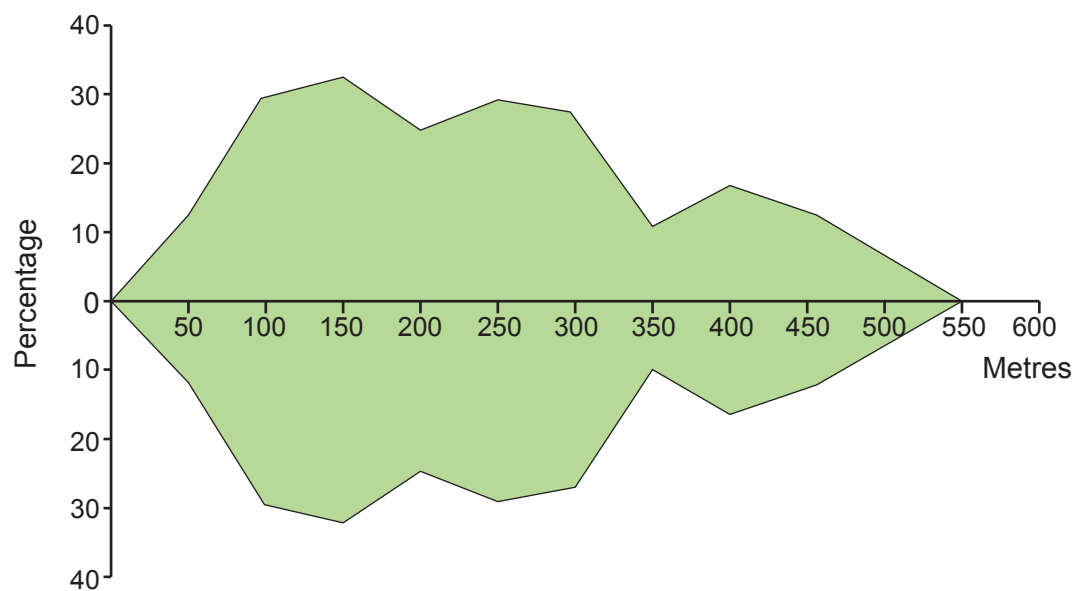
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(ii) Study **Figure 3.3**.

Figure 3.3 – Changes in the amount of marram grass along a sand dune transect



What technique has been used to show the data in **Figure 3.3**?

Tick (✓) the correct answer in the box below.

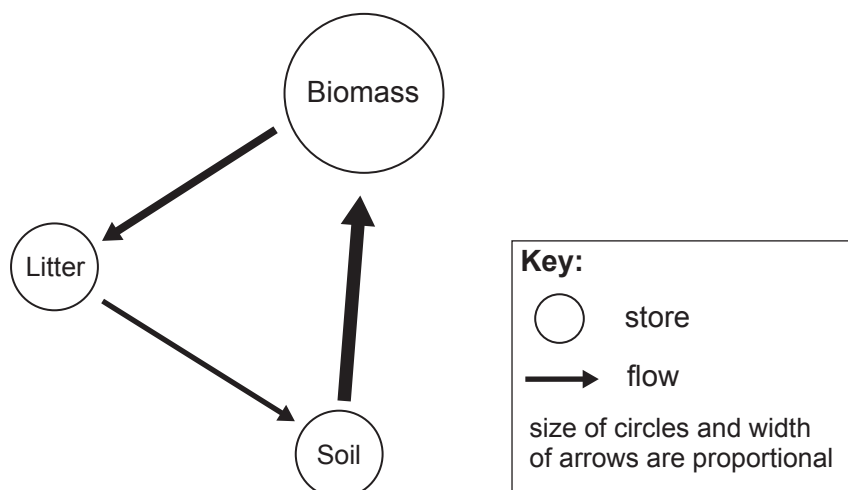
[1]

Technique	Tick (✓)
Dispersion graph	
Star graph	
Pictogram	
Kite diagram	



Study **Figure 3.4**.

Figure 3.4 – The nutrient cycle in a sand dune ecosystem



- (iii) Complete the sentences below using the information in **Figure 3.4**. [3]

The largest store of nutrients is the

The greatest flow of nutrients is from to

.....

- (iv) Explain why groups of people have different views about managing a small-scale UK ecosystem you have studied. [4]

Name of ecosystem

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(c) Give **four** human activities that have damaged hot semi-arid grasslands.

[4]

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Activity 1

Activity 2

Activity 3

Activity 4



Figure 3.5 – Camargue Wetland Ecosystem in Southern France

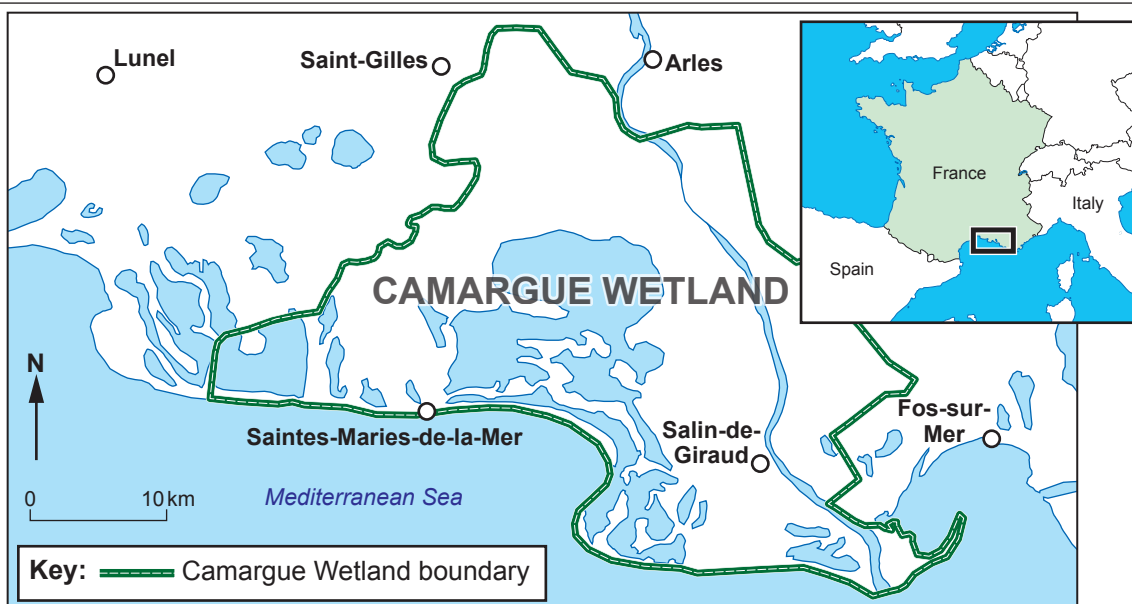
A wetland ecosystem is where the land is either seasonally or permanently flooded. The Camargue is a Biosphere Reserve with habitats of lakes, marshes, woodland, ponds and sand dunes.



There are 400 bird species including the only colony of flamingos in France. Also, rare species of fish, dragonfly and flowers.



Crops grown include rice, grapes and fruit. Farmers want to pump water from the river as rising sea levels mean salt water is ruining the rice crop.



Salt from here is sold worldwide.



Tourists enjoy the beaches.



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If you have answered Question 3, **do not** answer Question 4.

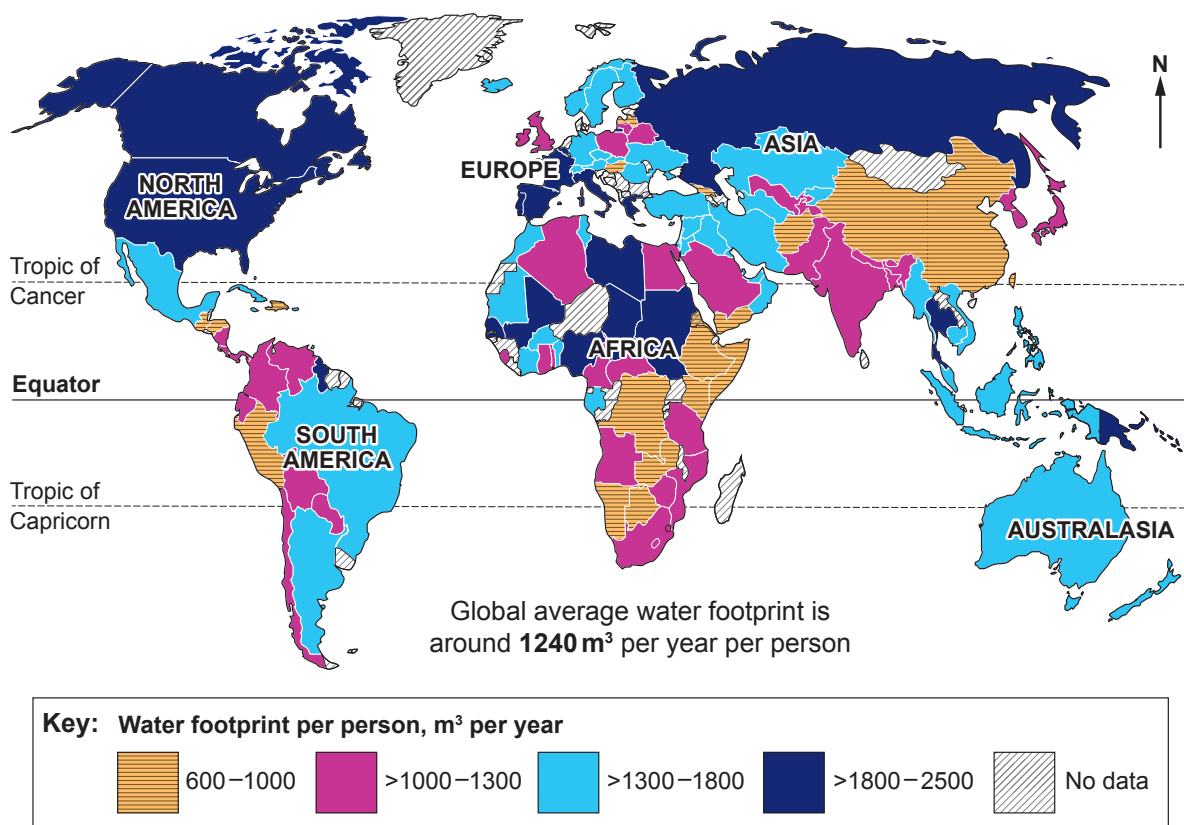
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Water resources and desertification

4. (a) Water is a vital human resource.

Study **Figure 4.1** below.

Figure 4.1 – Global water footprint



- (i) Use the information in **Figure 4.1**. Tick (✓) the **four** correct statements about the global water footprint in the table below. [4]

Per person ...	Tick (✓)
South America has a higher water footprint than North America.	
there are no countries in Australasia which are below the global average water footprint.	
countries in Southern Africa have a lower water footprint than those in Northern Africa.	
North America has a higher water footprint than South America.	
there are no countries in Europe with a below global average water footprint.	
countries with the lowest water footprint are only found south of the Equator.	
there are no countries with the highest water footprint south of the Tropic of Capricorn.	



- (ii) Explain why there is an increasing demand for water in some places. [4]

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Study **Figure 4.2**.

Figure 4.2 – Table showing how much water it takes to produce some items

Item	Amount of water needed to produce it
1 litre orange juice	1020 litres
1 litre milk	1000 litres
1 kg rice	2500 litres
1 kg sugar	1800 litres
1 kg butter	940 litres
1 dozen eggs	2400 litres

- (iii) Suggest **two** appropriate techniques from the table below which could be used to show the information in **Figure 4.2**. [2]

Technique	Tick (✓)
Pie chart	
Triangular graph	
Bar graph	
Pictogram	
Radial graph	



- (iv) Give **two** reasons why a line graph would **not** be an appropriate technique to show this information. [2]

Reason 1

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Reason 2

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- (b) Describe **one** advantage and **one** disadvantage of transferring water between two countries. [4]

Advantage

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Disadvantage

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- (c) Desertification is a growing problem for many countries.

- (i) Explain why cutting down trees can lead to desertification. [4]

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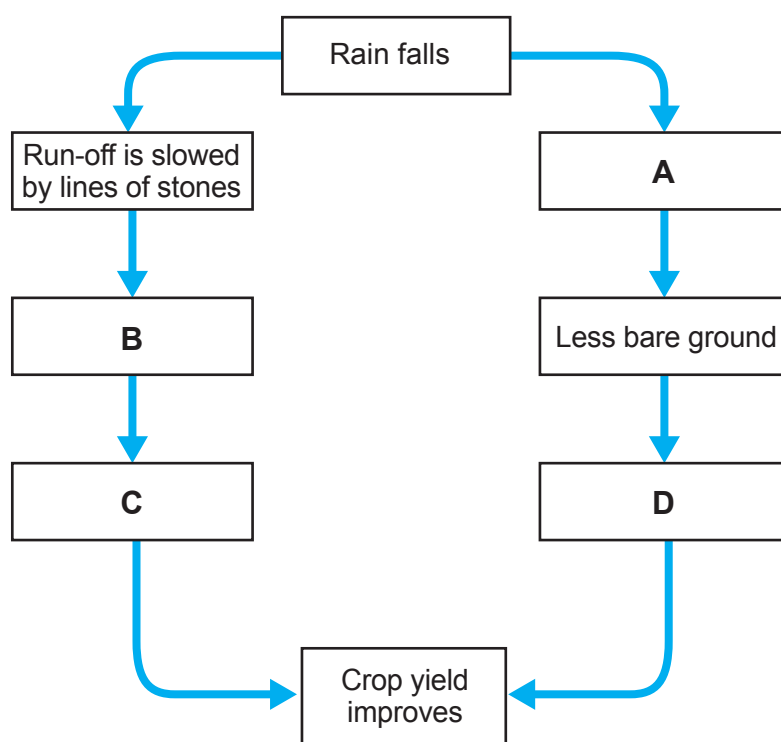
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There are many ways to reduce the impact of desertification.

Study **Figure 4.3** below.

Figure 4.3 – How lines of stones (magic stones or bunds) work



- (ii) Complete the table below, adding the correct letter from **Figure 4.3** next to the statement. [4]

Statement	Letter from Figure 4.3
Plants have more water	
Stones trap soil	
Plants have more nutrients	
More rain infiltrates to recharge the soil	



(d) Study **Figure 4.4** below.

Figure 4.4 – Managing desertification



Drip irrigation



Planting trees and drought tolerant crops



Selling firewood



Making charcoal for cooking fuel
by burning wood



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