

Surname	Centre Number	Candidate Number
First name(s)		0



GCSE

C112U10-1



MONDAY, 22 MAY 2023 – AFTERNOON

GEOGRAPHY B – Component 1

Investigating Geographical Issues

1 hour 45 minutes

For Examiner's use only		
Question	Maximum Mark	Mark Awarded
1	32	
SPaG	4	
2	32	
3	32	
Total	100	

ADDITIONAL MATERIALS

Resource Folder.

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.

Answer **all** questions.

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 additional 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(e).



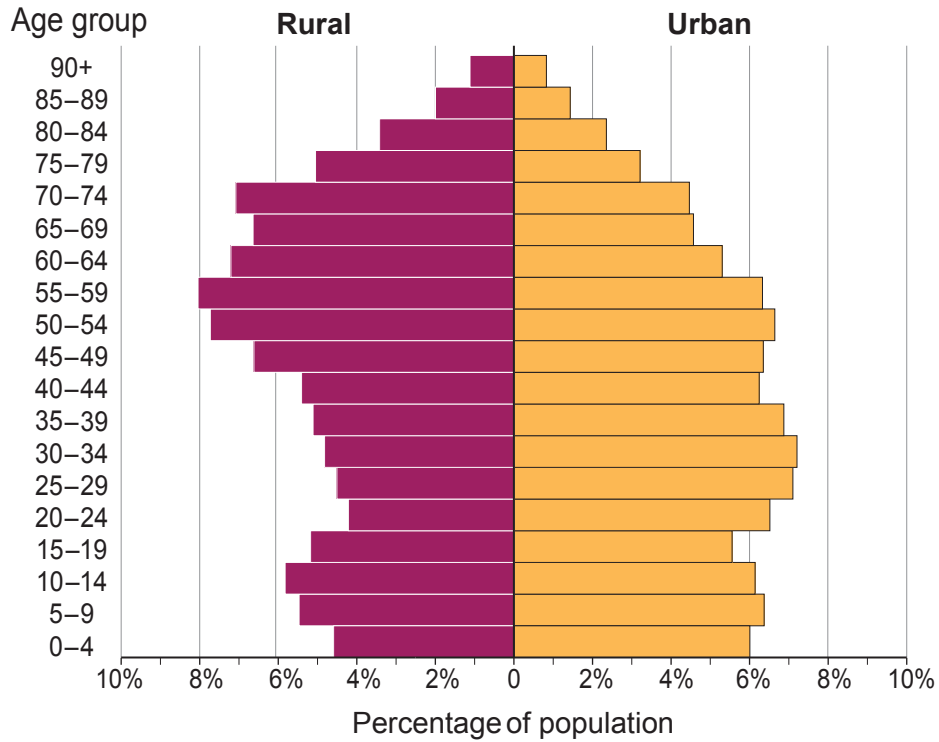
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Theme 1: Changing Places – Changing Economies

Answer **all** questions.

1. (a) Study **Figure 1.1**.

Figure 1.1 – Percentage of rural and urban populations in England in 2020



(i) Tick (✓) the **two** correct statements about rural and urban populations in 2020. [2]

	Tick (✓)
Rural areas have a higher percentage of people aged 0–4 than urban areas	<input type="checkbox"/>
Rural areas have a higher percentage of people aged 80+ than urban areas	<input type="checkbox"/>
Rural areas have a larger percentage of people aged 40–44 than urban areas	<input type="checkbox"/>
In rural areas the largest age group is 55–59 years old whereas in urban areas it is 20–24 years old	<input type="checkbox"/>
The smallest age group is 90+ in both rural and urban areas	<input type="checkbox"/>
The percentage of people aged 30–34 is the same for both urban and rural areas	<input type="checkbox"/>



(ii) Complete the sentences using words from the text box below. [2]

counter-urbanisation	renewal	brownfield
greenfield	depopulation	suburbanisation

In some rural areas, people have left to live in towns and cities. This process is called In some rural areas, open spaces have been used to build new houses. These are called sites.

(b) (i) State **two** ways in which leisure use benefits rural areas. [2]

Way 1:

Way 2:

(ii) Describe how leisure use has been managed in an area in the UK you have studied. [4]

Name of UK area studied:
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- (c) Explain why different groups of people might find it difficult to access services in rural areas. [6]

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Additional space for Question 1(c) only:

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- (d) (i) Study the **OS Map** in the **Resource Folder**. The distance by road from the church with a tower at 245736 to the Scott Monument at 256739 measures 4.4 cm.

What is this distance in kilometres (km)? Tick (✓) the correct distance in the box below. [1]

Distance	Tick (✓)
0.7 km	
1.1 km	
1.5 km	
1.9 km	



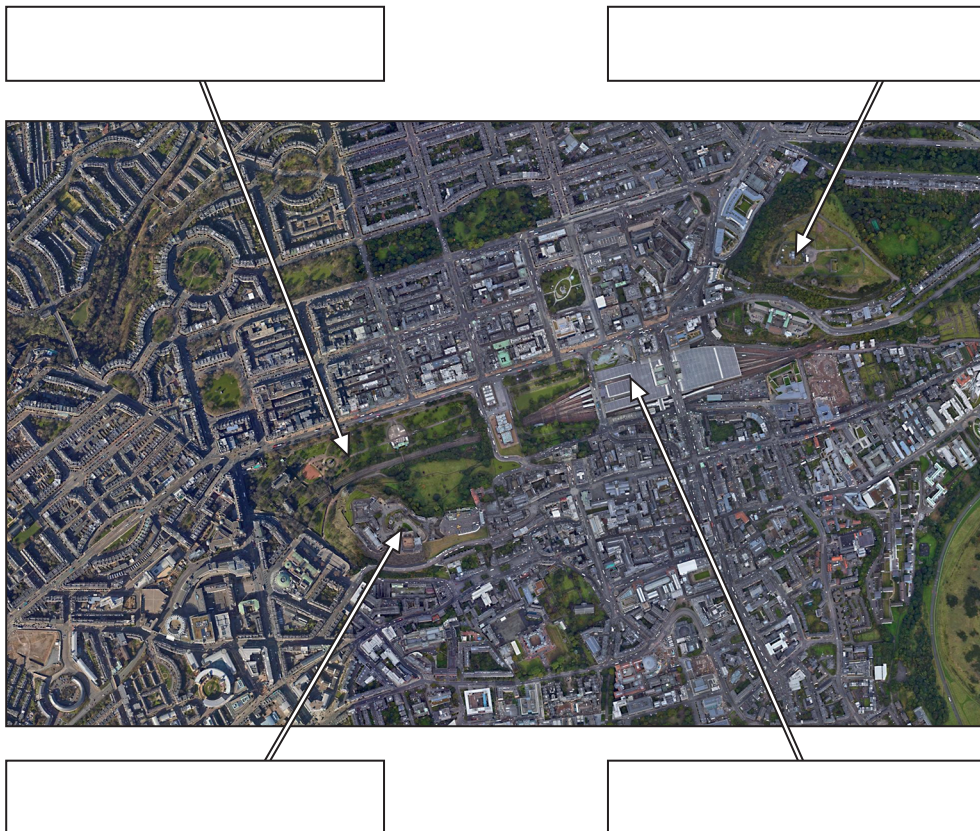
(ii) Study **Figure 1.2** below and the **OS Map** in the **Resource Folder**. Use the **OS Map** to name the features shown on **Figure 1.2**.

[4]

Choose from the following list of features.

- | | | | |
|-------------|-------------|------------------------|----------------------|
| Bus station | Calton Hill | Princes Street Gardens | Queen Street Gardens |
| Law courts | Castle | Waverley Station | Cathedral |

Figure 1.2 – Central Edinburgh



(iii) Area X on the **OS Map** in the **Resource Folder** is the site of the new St James Quarter Development. [1]

Give the 4-figure grid reference for Area X:

(iv) Give **one** reason why technology has changed the way people shop. [2]

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- (e) The St James Quarter Development includes shops, restaurants, cafes and leisure facilities. It opened in June 2021 and replaces a 1960's shopping centre and office block.

Study **Figure 1.3**.

Figure 1.3 – Information about St James Quarter Development, Edinburgh

Fact Box

- Cost £1.6 billion
- Is at the eastern end of Princes Street which is a main shopping area
- Car parking for 1600 cars, 70 disabled bays, bicycle racks and electric vehicle charging points
- 244-bedroom luxury hotel planned
- 152 apartments to be built, some costing over £1 million

Existing shops on Princes Street, Edinburgh



Inside the new shopping centre



St James Quarter Development



Analyse the advantages and disadvantages of the new development at St James Quarter, Edinburgh.

You should use evidence from the **OS Map** and **Figures 1.2** and **1.3** to support your answer. [8]

Your ability to spell, punctuate and use grammar and specialist terminology accurately will be assessed in your answer to this question. [4]

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Additional space for Question 1(e) only:

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End of Question 1

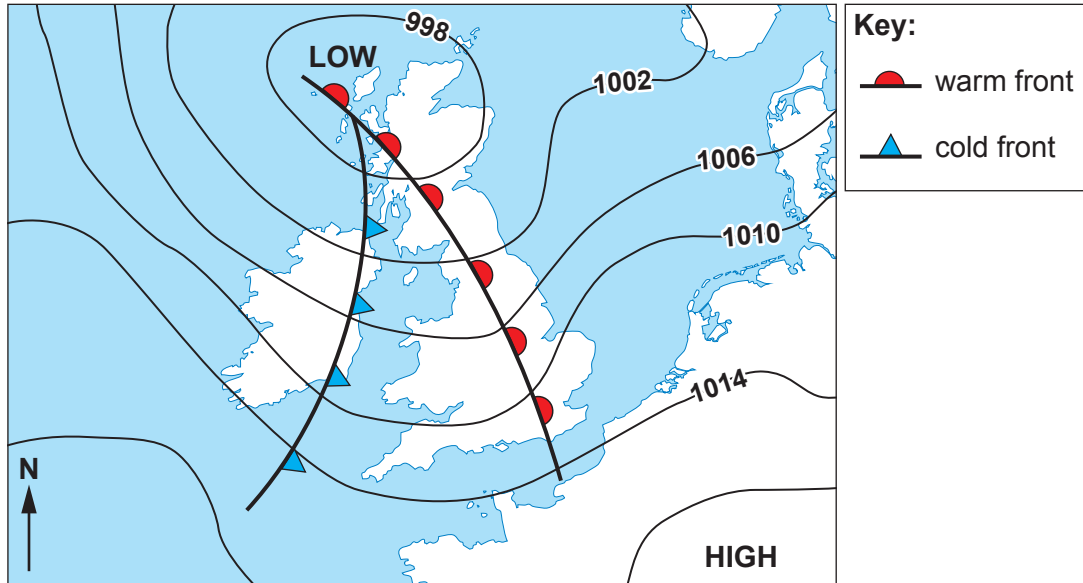


Theme 2: Changing Environments

Answer **all** questions.

2. (a) Study Figure 2.1.

Figure 2.1 – Weather map of an area of low pressure (depression) over the British Isles



- (i) Complete the table below by **circling** the correct term in each box.

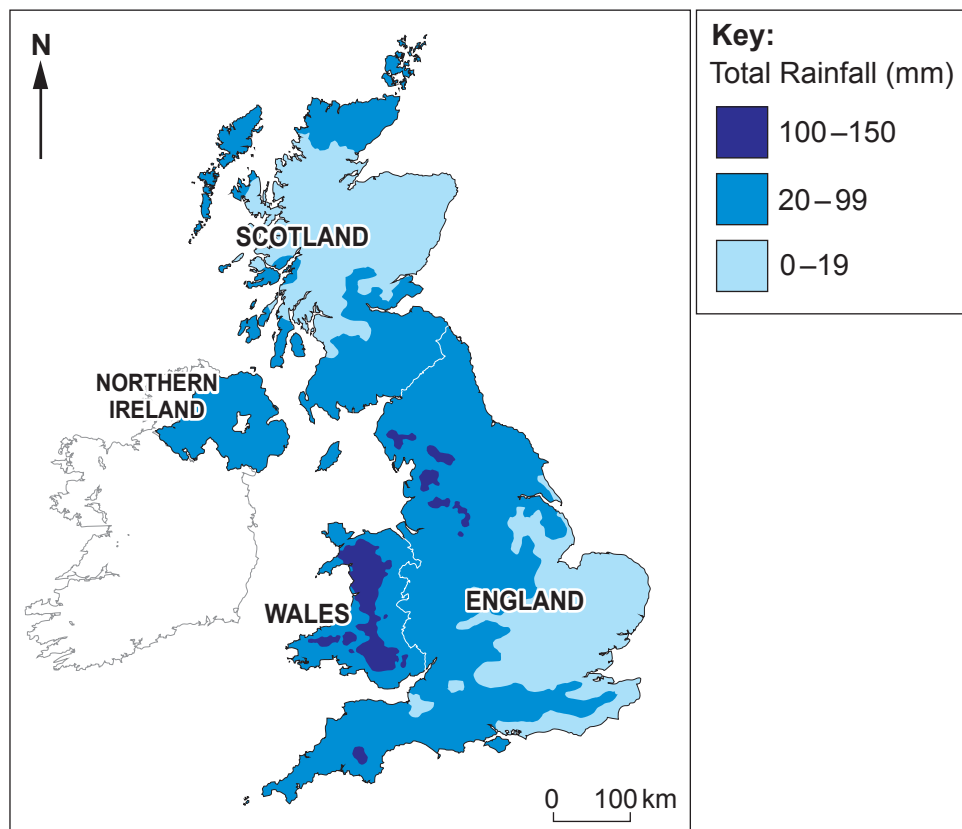
[4]

Features of a typical depression	Circle the correct term
Where are winds strongest?	warm front / warm sector / cold front
Where is air warmest?	warm front / warm sector / cold front
Where does heaviest rain occur?	warm front / warm sector / cold front
Where is rainfall the lowest?	warm front / warm sector / cold front



Storm Christoph affected the UK in January 2021. Study **Figure 2.2**.

Figure 2.2 – Map showing total rainfall (mm), 18–20 January 2021



(ii) Describe the pattern of rainfall shown. Use figures in your answer. [3]

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Study Figure 2.3.

Figure 2.3 – Rainfall totals from Storm Christoph for some UK places

Place	Rainfall total, 18–20 January 2021(mm)	Typical January rainfall (mm)	% typical January rainfall from Storm Christoph
Derwent Bridge, County Durham	86.6	75.3	115
Sale, Greater Manchester	76.6	77.2	
Nantwich, Cheshire	59.2	61.9	96
Denton, Greater Manchester	78.2	82.8	94
Myerscough, Lancashire	87.0	96.8	90
Rochdale, Greater Manchester	98.6	112.2	88
Ruthin, Clwyd (Wales)	65.6	75.1	87
Westerdale, North Yorkshire	66.4	77.1	86

- (iii) Calculate the percentage (%) of typical January rainfall recorded at **Sale, Greater Manchester** during Storm Christoph. Show your working in the box below. [2]

Answer: %

- (iv) Select an appropriate technique from the table below to show the rainfall total **and** typical January rainfall in **Figure 2.3**. [1]

Technique	Tick (✓)
Two line graphs – one for rainfall and one for typical January rainfall	
Pie charts for each location	
A scatter graph with a line of best fit	
A bar chart with two bars for each location	

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(v) Explain why your chosen technique is the most appropriate. [2]

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(vi) Storm Christoph caused widespread flooding in the UK. Give **one** reason why heavy rainfall causes flash flooding. [2]

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(b) (i) Areas of high pressure (anticyclones) bring different weather conditions to the UK. Complete the sentences below by adding the correct words from the box. [4]

heats quickly	heavy rain	unstable	clockwise	dry
cools quickly	frost	anti-clockwise	wet	quickly

Air moves during an anticyclone in the UK. In summer, the weather during an anticyclone is usually

At night in winter, the ground and there may be



(ii) Choose an extreme high pressure weather event **outside the UK** you have studied. Explain the impacts on different groups of people. [6]

Location of event studied:

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(c) Physical processes create distinctive river landscapes in the UK. Study **Figure 2.4**.

Figure 2.4 – Some distinctive river landscapes

Meander



Estuary



V-shaped valley



Waterfall



Erosion is the most important **physical** process in the formation of distinctive river landscapes in the UK, such as those shown in **Figure 2.4**. How far do you agree? [8]

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Additional space for Question 2(c) only:

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End of Question 2



Theme 3: Environmental Challenges

Answer **all** questions.

3. (a) (i) Many hot semi-arid areas suffer from desertification. Choose the correct terms from the box below to complete some definitions linked to desertification. [4]

microclimate	transpiration	interception	evaporation
evapotranspiration	precipitation	macroclimate	desiccation

..... is the process where water changes from liquid to vapour.

..... is the process where water is trapped by plants.

..... is the process where water is lost to the atmosphere from the surface and from plants.

..... is the pattern of temperature and rainfall affecting a small area.

- (ii) Describe **two** ways human activity damages hot semi-arid areas. [4]

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(iii) Work to reduce desertification is often done through Non-Government Organisations (NGOs). Explain **one advantage** and **one disadvantage** of this for the local community. [4]

Advantage:

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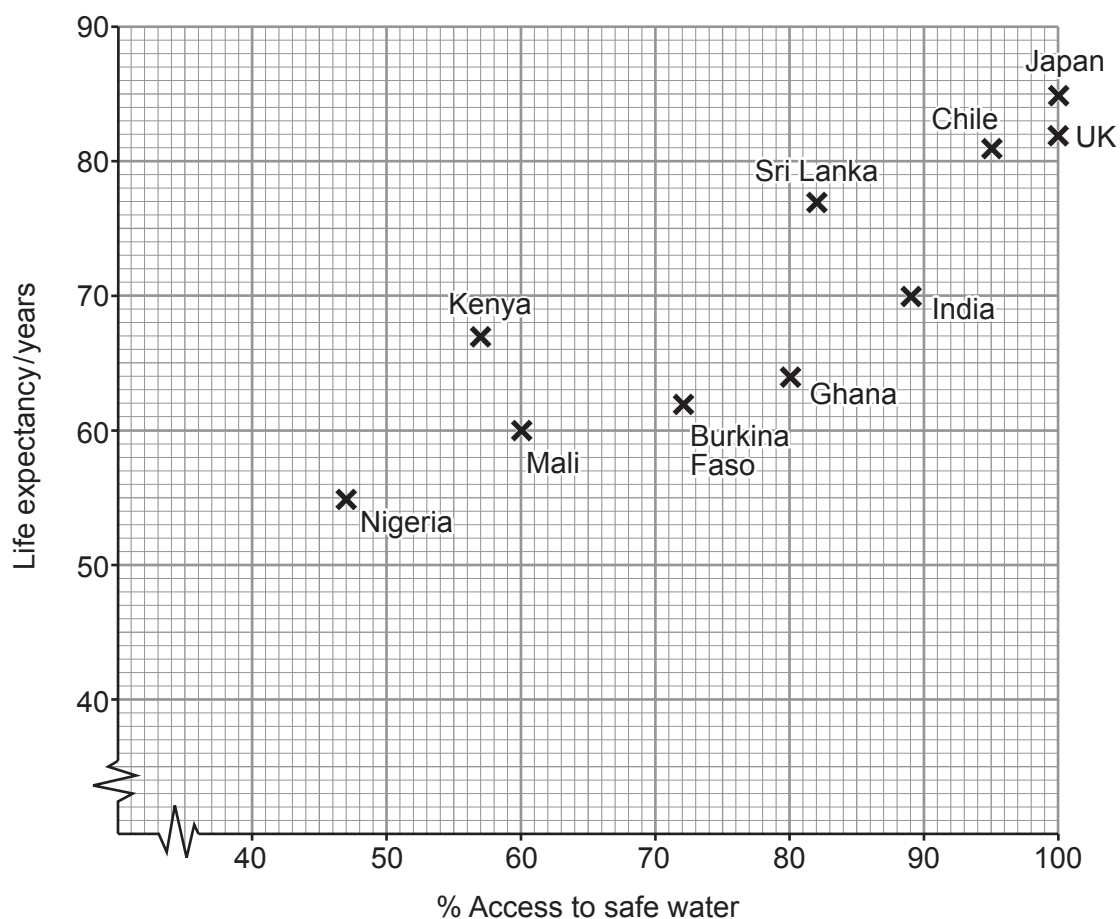
Disadvantage:

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(b) Study **Figure 3.1**.

Figure 3.1 – Scatter graph showing life expectancy and people’s access to safe water for some countries



- (i) Draw the line of best fit onto **Figure 3.1** to show the relationship between the two variables. [2]
- (ii) Give **one conclusion** about the relationship between life expectancy and access to safe water shown in **Figure 3.1**. [1]

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(iii) Explain why a lack of water security has a negative **economic** impact. [4]

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(c) Study **Figure 3.2**.

Figure 3.2 – Location of Lake Mead in the USA



(i) Describe the location of Lake Mead in the USA. [2]

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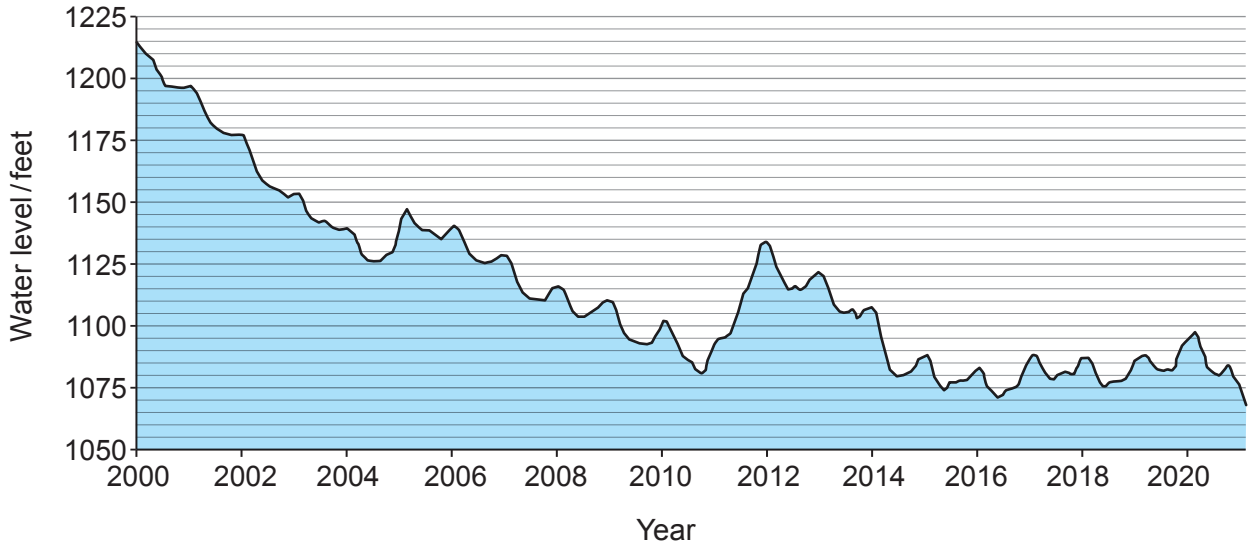
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Study Figure 3.3

Figure 3.3 – Changes in the water level of Lake Mead at the Hoover Dam from 2000 to 2021



(ii) Describe the changes in water level at the Hoover Dam from 2000 to 2021.

You should use figures in your answer.

[3]

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- (d) The USA Government decided to reduce water supplies from the Colorado River to parts of the USA and Mexico from 2022. Study **Figure 3.4**.

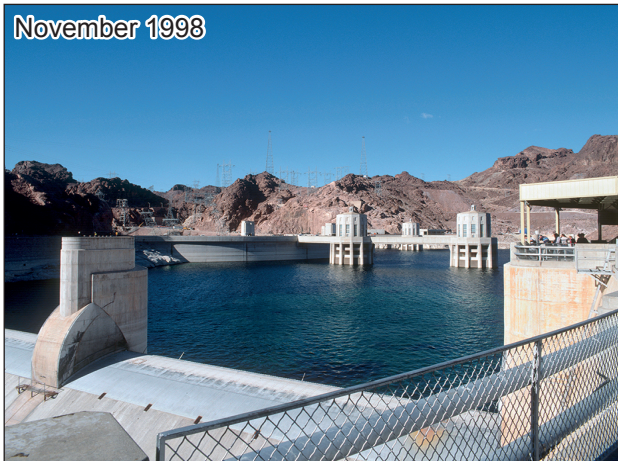
Figure 3.4.



Fact Box

- The Colorado River flows through Lake Mead and provides water to nearly 40 million people.
- There has been a drought since 2000.
- From 2022 the states of Arizona will lose 18%, and Nevada 7%, of their water supply from the Colorado River.
- The country of Mexico, a NIC, will lose 5% of its supply of water from the Colorado River.
- Farmers will be severely affected.

Water levels at the Hoover Dam



Additional space for Question 3(d) only:

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End of Question 3

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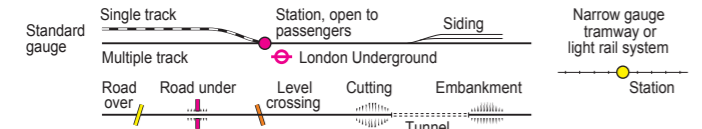
Explorer series (1:25 000 scale)
EXPLORER MAP SYMBOLS



ROADS AND PATHS Not necessarily rights of way

- M1 or A6(M) Motorway
- A 35 Dual carriageway
- A 30 Main road
- B 3074 Secondary road
- Narrow road with passing places
- Road under construction
- Road generally more than 4m wide
- Road generally less than 4m wide
- Other road, drive or track, fenced and unfenced
- Gradient: steeper than 20% (1 in 5); 14% (1 in 7) to 20% (1 in 5)
- Ferry; Ferry P (passenger only)
- Path
- Service area
- Junction number
- Toll road junction
- London River Services

RAILWAYS



PUBLIC RIGHTS OF WAY Not shown on maps of Scotland

- Footpath
 - Bridleway
 - Byway open to all traffic
 - Road used as a public path
- The representation on this map of any other road, track or path is no evidence of the existence of a right of way.

OTHER PUBLIC ACCESS

- Other routes with public access (not normally shown in urban areas). The exact nature of the rights on these routes and the existence of any restrictions may be checked with the local highway authority. Alignments are based on the best information available.
- Recreational route (< alternative route)
- National Trail
- Traffic-free cycle route
- National cycle network route number – traffic free; on road
- Permissive footpath
- Permissive bridleway
- Firing and test ranges in the area. Danger! Observe warning notices.
- Access permitted within managed controls, for example, local byelaws.

BOUNDARIES

- National
- County; England
- Unitary Authority (UA), London Borough (LB), Metropolitan District (Met Dist) or District (Scotland & Wales are solely Unitary Authorities)
- Civil Parish (CP); England or Community (C); Wales
- National Park boundary

ARCHAEOLOGICAL AND HISTORICAL INFORMATION

- Site of antiquity
- VILLA Roman
- Visible earthwork
- Site of battle (with date)
- Non-Roman

HEIGHTS AND NATURAL FEATURES

The contour interval on Explorer maps are shown at 5m and/or 10m vertical interval, to provide the most detailed heighting available.

- Water
- Mud
- Sand
- Shingle

Surface heights are to the nearest metre above mean sea level. Where two heights are shown, the first is the height of the natural ground in the location of the triangulation pillar, and the second (in brackets) to a separate point which is the highest natural summit.

Survey height:
 52 Ground
 284 Air

VEGETATION Limits of vegetation are defined by positioning of symbols

- Coniferous trees
- Non-coniferous trees
- Coppice
- Orchard
- Scrub
- Bracken, heath or rough grassland
- Marsh, reeds or saltings

ACCESS LAND (England and Wales)

- Access information point
 - Access land
 - Access land in wooded area
 - within sand
 - Coastal margin
- Access land portrayed on this map is intended as a guide to land normally available for access on foot, for example access land created under the Countryside and Rights of Way Act 2000, and land managed by National Trust, Forestry Commission, Woodland Trust and Natural Resources Wales. Some restrictions will apply; some land shown as access land may not have open access rights; always refer to local signage.
- The depiction of rights of access does not imply or express any warranty as to its accuracy or completeness. Observe local signs and follow the Countryside Code. Visit: gov.uk/government/publications/the-countryside-code

GENERAL FEATURES

- Gravel pit
- Sand pit
- Other pit or quarry
- Landfill site or slag/spoil heap
- Electricity transmission line
- Solar farm
- Slopes
- Place of worship
- Current or former place of worship; with tower
- with spire, minaret or dome
- Triangulation pillar
- Mast
- Windmill with or without sails
- Wind pump
- Wind turbine
- Building; important building
- Glasshouse
- Youth hostel
- Bunkhouse, camping barn or other hostel
- Bus or coach station
- Lighthouse; disused lighthouse
- Beacon

ABBREVIATIONS See website for full list

BP	Boundary post	Liby	Library	Pol Sta	Police station
BS	Boundary stone	Mkt	Market	Resr	Reservoir
CH	Clubhouse	Meml	Memorial	Sch	School
F Sta	Fire Station	MP; MS	Milepost; Milestone	TH	Town hall
FB	Footbridge	Mon	Monument	NTL	Normal tidal limit
Ind Est	Industrial Estate	PO	Post office	W; Spr	Well; spring

TOURIST AND LEISURE INFORMATION

- Art gallery (notable / important)
- Museum
- Boat hire
- National Trust
- Boat trips
- Nature reserve
- Building of historic interest
- Other tourist feature
- Cadw
- Parking
- Camp site
- P&R Park and ride, all year
- Camping and caravan site
- P&R Park and ride, seasonal
- Caravan site
- Phone; public, emergency, roadside assistance
- Castle or fort
- Picnic site
- Cathedral or Abbey
- Preserved railway
- Country park
- Public house(s)
- Craft centre
- PC Public toilets
- Cycle hire
- Recreation, leisure or sports centre
- Cycle trail
- Slipway
- English Heritage
- Theme or pleasure park
- Fishing
- Viewpoint
- Forestry Commission visitor centre
- Visitor centre
- Garden or arboretum
- Walks or trails
- Golf course or links
- Water activities
- Heritage centre
- Water activities (board)
- Historic Scotland
- Water activities (paddle)
- Horse riding
- Water activities (powered)
- Information centre
- Water activities (sailing)
- Information centre, seasonal
- Watersports centre (multi-activity)
- Mountain bike trail
- World Heritage site / area



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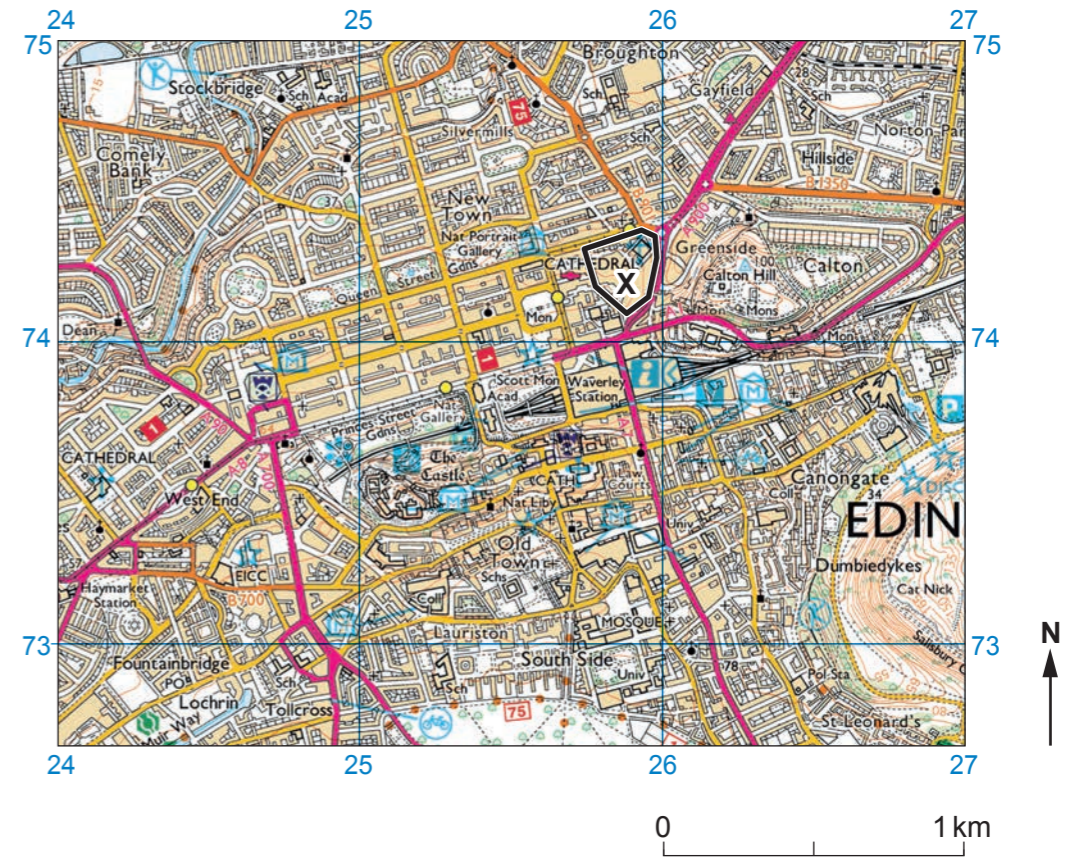
MONDAY, 22 MAY 2023 – AFTERNOON

GEOGRAPHY B – Component 1

RESOURCE FOLDER

This folder is for use with questions in **Component 1**.
 This folder need not be handed in with your answer booklet.

An OS Map of part of the city of Edinburgh



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