

**Friday 16 June 2023 – Afternoon****GCSE (9–1) Geography A  
(Geographical Themes)****J383/03 Geographical Skills****Time allowed: 1 hour 30 minutes****You must have:**

- the Resource Booklet (inside this document)

**You can use:**

- a ruler (cm/mm)
- a scientific or graphical calculator

**Please write clearly in black ink. Do not write in the barcodes.**

Centre number

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Candidate number

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First name(s)

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Last name

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**INSTRUCTIONS**

- Use black ink. You can use an HB pencil, but only for graphs and diagrams.
- Write your answer to each question in the space provided. If you need extra space use the lined pages at the end of this booklet. The question numbers must be clearly shown.
- Answer **all** the questions.

**INFORMATION**

- The total mark for this paper is **80**.
- The marks for each question are shown in brackets [ ].
- Quality of extended response will be assessed in questions marked with an asterisk (\*).
- Spelling, punctuation and grammar (SPaG) and the use of specialist terminology will be assessed in questions marked with a pencil (✏).
- This document has **16** pages.

**ADVICE**

- Read each question carefully before you start your answer.

**Section A****Geographical Skills**

1 (a) Look at **Fig. 1a** in the Resource Booklet, which shows a map of the city of Nottingham.

(i) In which **direction** would you be travelling if you were driving from the University of Nottingham to the city centre?

..... [1]

(ii) What type of map is shown in **Fig. 1a**?

- A Base Map
- B Choropleth Map
- C Desire-line Map
- D Isoline Map

Write the correct letter in the box.

[1]

(b) Look at **Fig. 1b** in the Resource Booklet, which shows a Geographical Information System (GIS) map of household income levels in Nottingham.

(i) Which area of Nottingham shown in **Fig. 1b** has the **highest** household income?

- A Radford
- B Sneinton
- C The Meadows
- D The Park

Write the correct letter in the box.

[1]

(ii) Suggest **two** reasons for the difference in household income in the different areas of Nottingham, as shown in **Fig. 1b**.

1 .....

.....

2 .....

.....

[2]

(c) Look at **Fig. 2** in the Resource Booklet, a newspaper article about sustainability in Nottingham.

(i) Which **source** of renewable energy is mentioned in **Fig. 2**?

..... [1]

(ii) Using evidence from **Fig. 2**, suggest **one** way that transport in the city is being made more **sustainable** and **explain** why.

.....  
.....  
.....  
..... [2]

(d) Look at **Fig. 3** in the Resource Booklet, which shows UK electricity generation in 2019.

(i) Calculate the percentage of total electricity which was supplied to **domestic** consumers in 2019.

Show your working and give your answer to **one** decimal place.

..... % [2]

(ii) Calculate the **total** electricity generated in the UK in 2018.

Show your working and give your answer to **one** decimal place.

..... TWh [2]

(iii) Carbon emissions are carbon compounds (such as carbon dioxide) released into the atmosphere, often through human activity.

Using **Fig. 3**, explain **two** reasons why carbon emissions across the UK may have **decreased**.

1 .....

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2 .....

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.....

.....

[4]

**(e)\*** Nottingham is trying to become a low-carbon city.

They have:

- Europe's largest electric bus fleet with 45 fully electric buses in operation
- Expansion of the tram system to three lines 34 km long
- Electric vehicles operating in a growing car-share club
- Electric vehicle charging points already in place at Park and Ride sites, workplaces and tourist destinations
- Two local taxi companies operating six fully electric and 150 hybrid vehicles

Assess how far transport developments have been the **main reason** for more sustainable energy use in cities across the UK.

2 (a) Look at **Fig. 4** in the Resource Booklet, which shows the results of a questionnaire on people's opinions about Fracking in the US.

(i) Which age group in **Fig. 4** has the most people who are **opposed** to fracking?

..... [1]

(ii) Name the presentation technique being used to display information in **Fig. 4**.

..... [1]

(iii) Suggest **one** alternative way that the data in **Fig. 4** might be displayed effectively.

**Justify** your choice.

.....  
.....  
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..... [2]

(iv) Describe the **pattern** shown in **Fig. 4** of people's opinions on the use of fracking in the US.

Use **data** in your answer.

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.....  
..... [4]

(b) Look at **Fig. 5** in the Resource Booklet, a photograph of a Hydraulic Fracturing (Fracking) Well in Alaska.

Identify **one** environmental impact of fracking on the ecosystem shown in **Fig. 5**.

Give **reasons** for your answer.

.....  
.....  
.....  
.....

[3]

(c) Fossil fuels are finite resources which are extracted from the ground. Examples include coal, natural gas and oil.

To what extent do you agree with the statement that:

'Extracting fossil fuels is most damaging to polar ecosystems'.

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[6]

3 Look at **Fig. 6** in the Resource Booklet, which shows the global coal exports in 2019.

(a) (i) Which country exported the **most** coal in 2019?

..... [1]

(ii) Which region in **Fig. 6** received the most coal exports **from** Russia?

- A Africa
- B Central and South America
- C Eurasia
- D Europe

Write the correct letter in the box.

[1]

(b) (i) Identify **two** features of the pattern of US **exports**.

1 .....

.....

2 .....

.....

[2]

(ii) Suggest **one** way the presentation of this information might be **improved**.

**Explain** your answer.

.....

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.....

.....

[2]

## Section B

## Geographical Fieldwork

4 Some Geography students have been conducting **physical geography** fieldwork in Hornsea, on the east coast of England.

(a) Look at **Fig. 7** in the Resource Booklet, which shows the coastal fieldwork data collection.

Suggest **two** ways the students might improve the **map** of site locations.

1 .....

2 .....

[2]

**(b)** Students collected information about beach sediment at three different sites.

Describe a **sampling method** that might be used to collect the beach sediment.

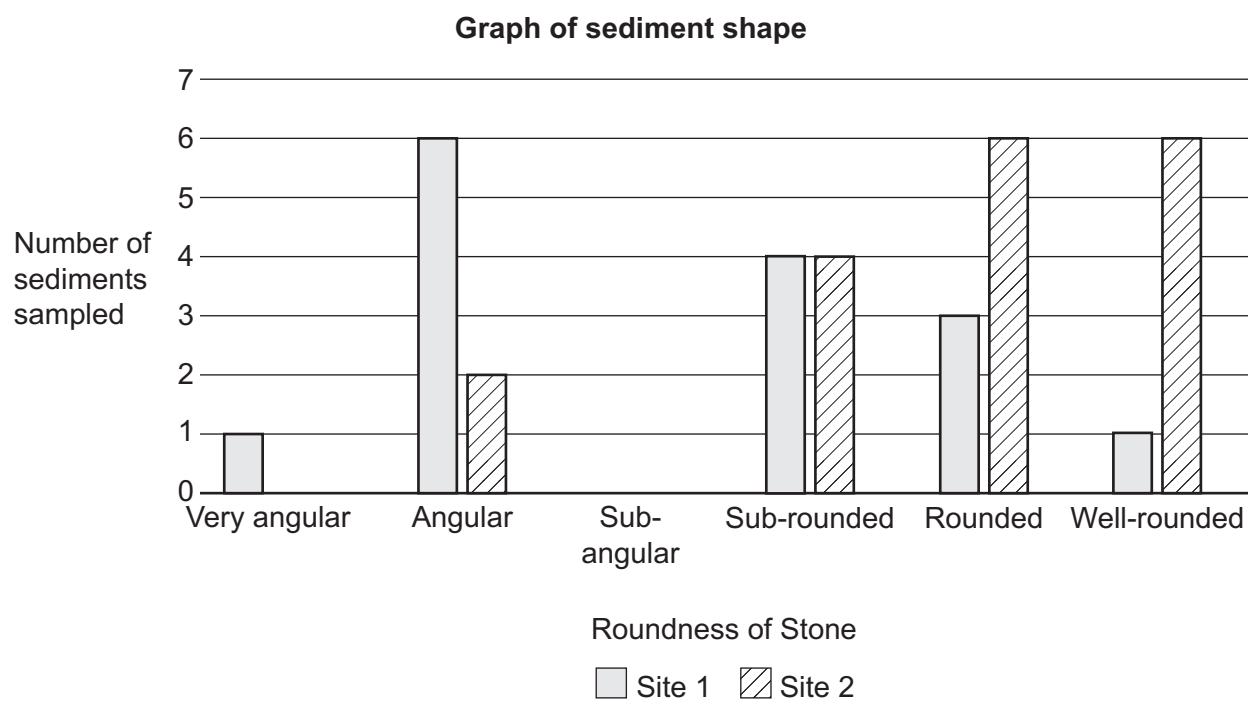
Give reasons **why** this would be an appropriate choice.

• [6]

The data in the table below shows the shape of stones at Site 1 and Site 2.

	Very angular	Angular	Sub-angular	Sub-rounded	Rounded	Well-rounded
Site 1	1	6	5	4	3	1
Site 2	0	2	3	4	6	6

(c) (i) Complete the graph of sediment shape using the data in the table for **Sub-angular** sediment at Site 1 and Site 2.



(ii) Describe **one** difference in the results between Site 1 and Site 2 shown on the graph.

.....

.....

[1]

(d)\* Look at **Fig. 7** in the Resource Booklet, which shows the sites used for data collection.

Look at the **graph of sediment shape** on page 10.

Assess the possible **conclusions** that might be drawn from this coastal investigation.

〔8〕

Spelling, punctuation and grammar and the use of specialist terminology [3]

5 You will have taken part in fieldwork in a **human geography** environment, such as a town or city.

State your fieldwork question for investigation: .....

.....

Fieldwork location: .....

(a) Justify your **choice** of fieldwork location.

[2]

[2]

(b) Explain how **one** method of data presentation used in your human geography fieldwork helped you to **interpret** the data collected.

[4]

(c) To what extent could the accuracy of results for your human geography fieldwork be improved?

END OF QUESTION PAPER

**ADDITIONAL ANSWER SPACE**

If additional space is required, you should use the following lined page(s). The question number(s) must be clearly shown in the margin(s).







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