Cambridge International Examinations
Cambridge International General Certificate of Secondary Education

GEOGRAPHY **0460/42**

Paper 4 Alternative to Coursework **October/November 2017**

INSERT

1 hour 30 minutes

READ THESE INSTRUCTIONS FIRST

The Insert contains Figs. 1, 2, and 6 and Tables 1, 2 and 3 for Question 1, and Figs. 8 and 9 and Tables 4 and 5 for Question 2.

The Insert is **not** required by the Examiner.

The syllabus is approved for use in England, Wales and Northern Ireland as a Cambridge International Level 1/Level 2 Certificate.

This document consists of **11** printed pages and **1** blank page.

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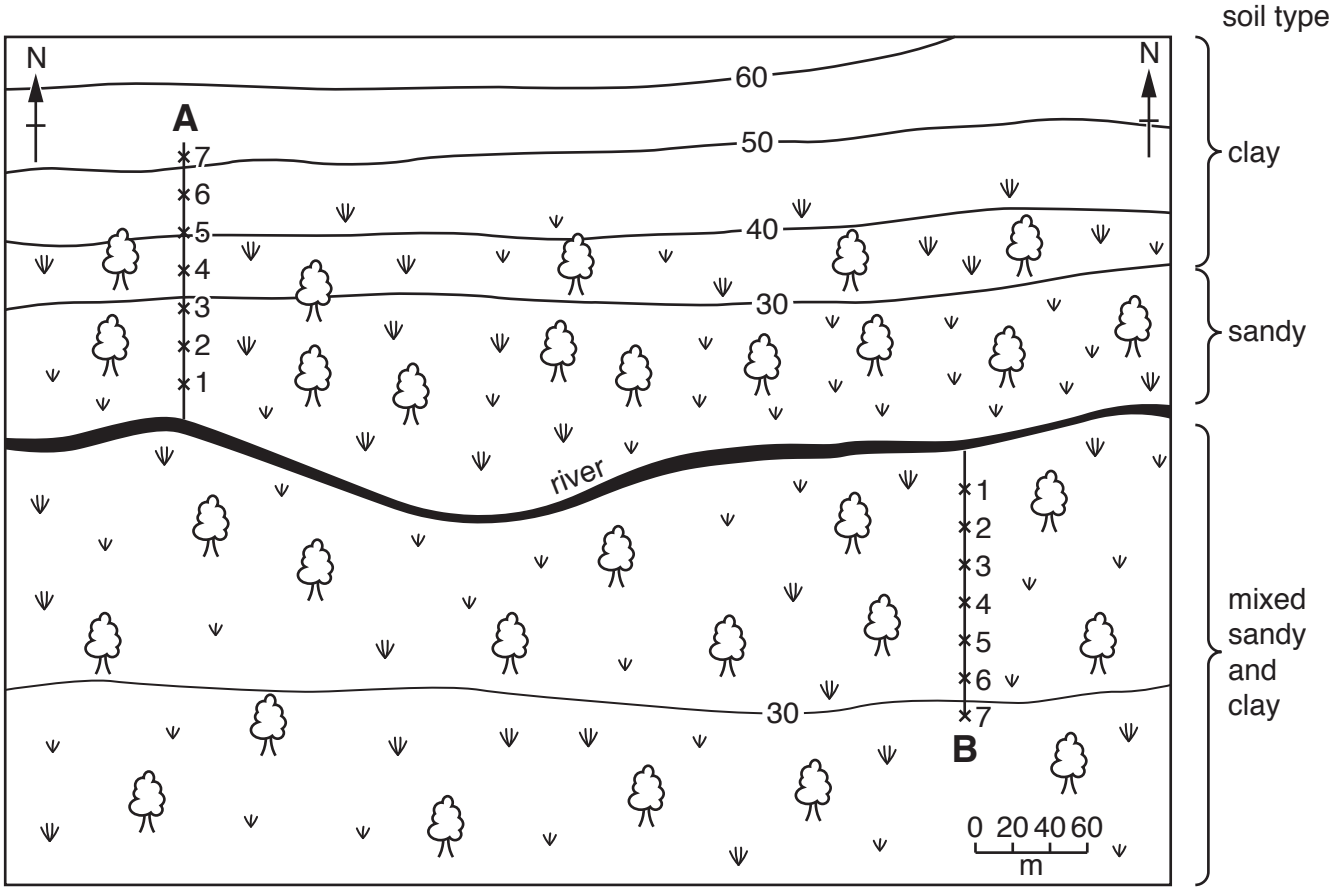
Fig. 1 for Question 1

Area where fieldwork was done



Key

1
2 fieldwork sites
3 along transect
4
5
6
7

30 contour line showing height in metres

mixed grassland and trees

bare or cleared ground

Fig. 2 for Question 1

Method to measure infiltration rate

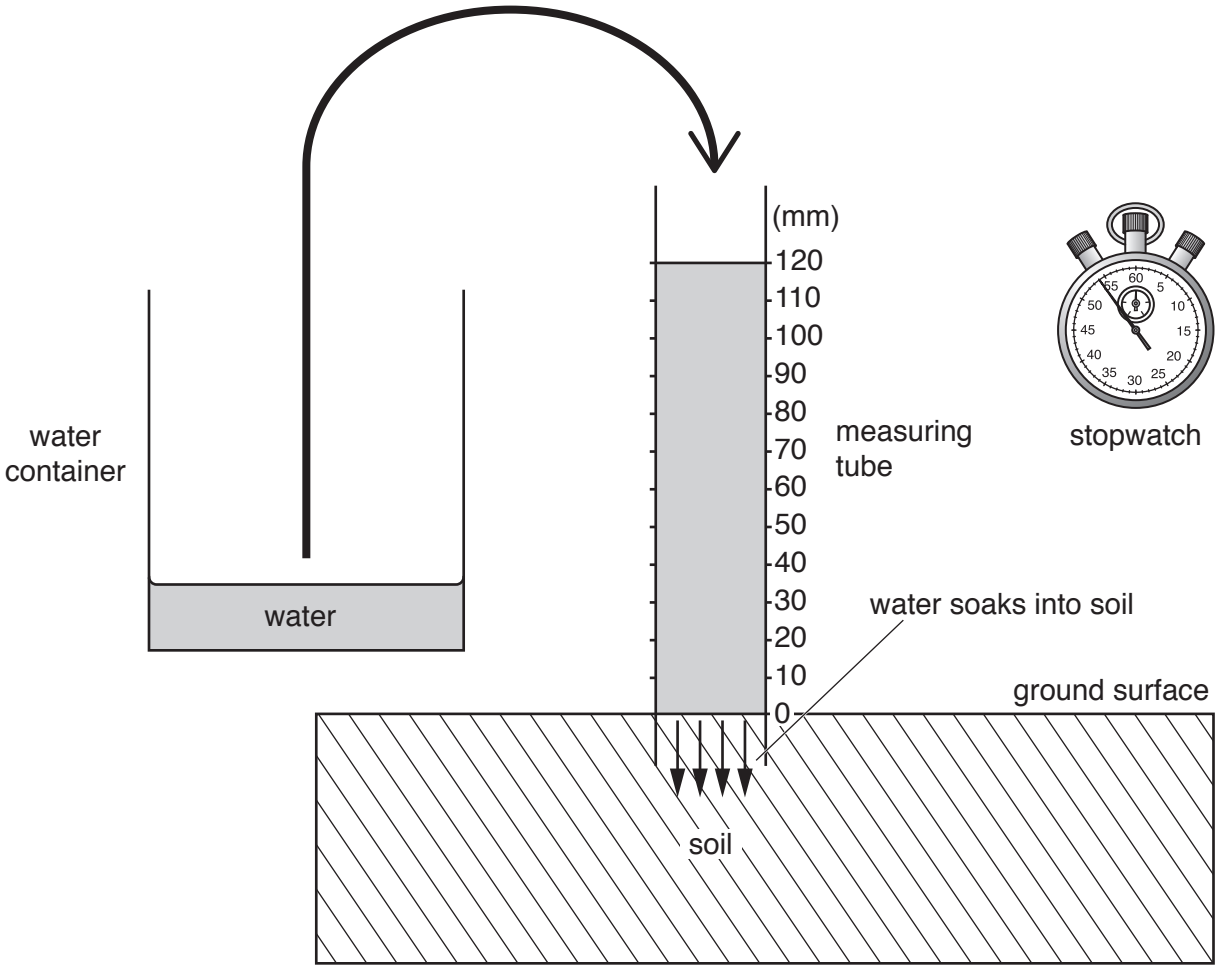


Table 1 for Question 1

Results of measurements of water level at two sites

Site 4 on transect A

Time measurement (min)	Water level in tube (mm)	Fall in water level during the minute (mm)
0	120	0
1	115	5
2	109	6
3	100	9
4	95	5
5	84	11
6	76	8
7	63	13
8	**55**	8
9	**53**	2
10	**50**	3

Site 7 on transect A

Time measurement (min)	Water level in tube (mm)	Fall in water level during the minute (mm)
0	120	0
1	120	0
2	119	1
3	118	1
4	114	4
5	109	5
6	105	4
7	104	1
8	100	4
9	98	2
10	96	2

Table 2 for Question 1

Results of measurements on transect A

Site number	Distance from the river (m)	Infiltration rate (mm per min)
1	20	15.0
2	40	13.3
3	60	11.8
4	80	7.0
5	100	6.1
6	120	5.1
7	**140**	**2.4**

Fig. 6 for Question 1

How to measure soil moisture content

Method 1 used by students in group A on transect A

1. Take a sample of soil from each site along the transect.
2. Put the soil samples into separate plastic bags and label each bag with the site number.
3. Take the soil samples back to the fieldwork centre.
4. Put each soil sample into a small dish and weigh it to find out the weight of each sample.
5. Put the soil samples into an oven and heat at 250 °C for 30 minutes.
6. Take the soil samples from the oven and weigh them again.
7. Calculate the soil moisture percentage by using the following formula:

$$\frac{\text{Original weight when wet} - \text{Weight after being heated and dried}}{\text{Original weight when wet}} \times 100$$

Method 2 used by students in group B on transect B

1. Switch on the digital soil moisture meter.
2. Put the sensor probe into the soil to a depth of about 10 cm.
3. Read the percentage display on the meter.

Table 3 for Question 1

Results of measurements of infiltration rate and soil moisture content

Results along transect A

Site number	Infiltration rate (mm per min)	Soil moisture content (%)
1	15.0	1.6
2	13.3	2.4
3	11.8	2.9
4	7.0	3.6
5	6.1	4.2
6	5.1	7.0
7	2.4	8.8

Results along transect B

Site number	Infiltration rate (mm per min)	Soil moisture content (%)
1	11.8	2.4
2	9.6	2.7
3	**13.2**	**4.3**
4	5.1	4.1
5	12.6	3.6
6	15.0	6.6
7	7.6	2.6

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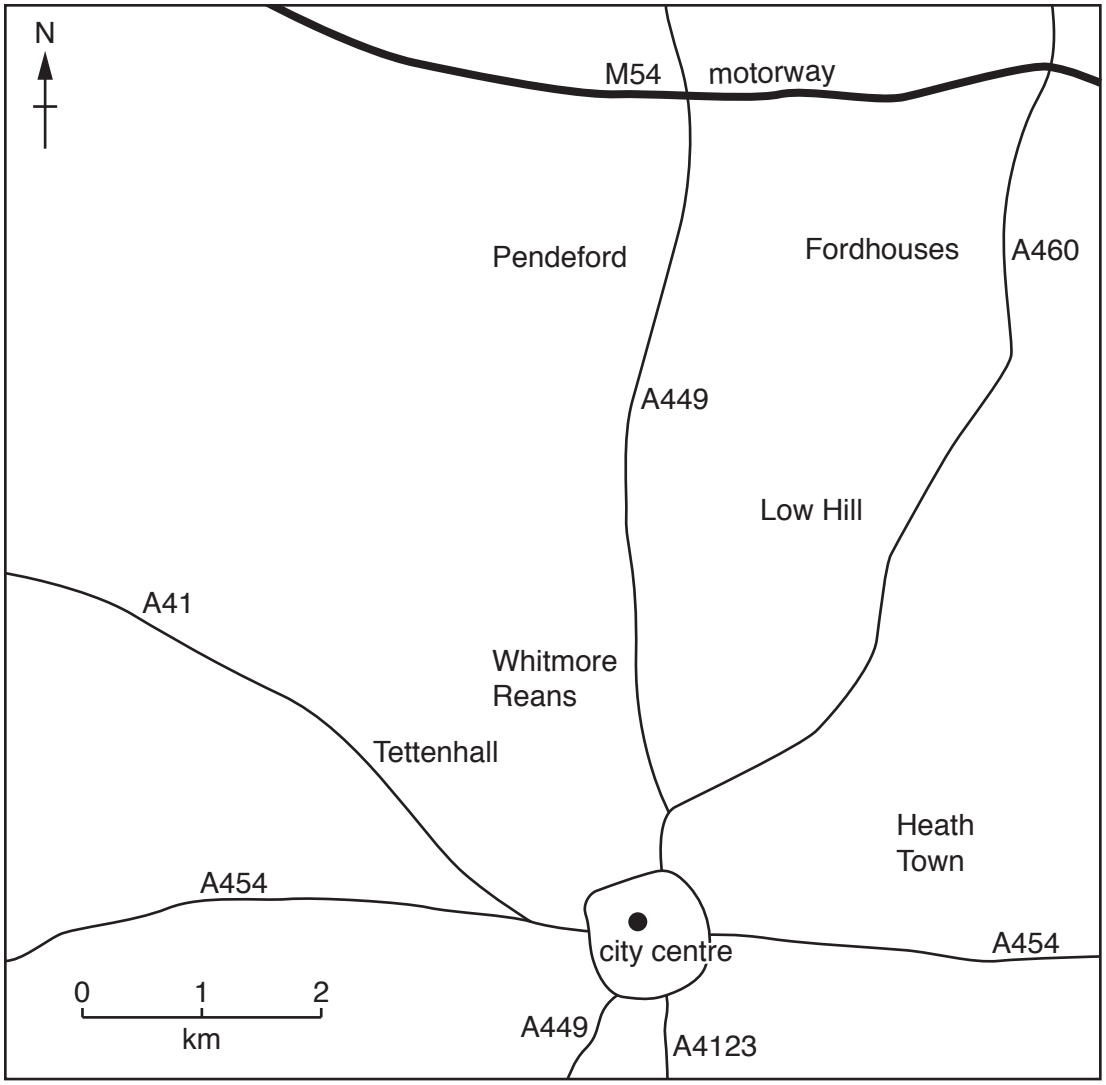
Fig. 8 for Question 2

Areas of the city where students did fieldwork



Key

A454 main road

Fig. 9 for Question 2

Environmental quality recording sheet

Name of area surveyed:							
Feature	Negative description	–2	–1	0	+1	+2	Positive description
Condition of buildings	Poorly maintained						Well maintained
Public open land	No open land, unattractive						Plenty of open land, attractive
Litter	Much litter						No litter
Vandalism and damage	Widespread						None
Noise and air pollution	Noisy, high level of air pollution						Quiet, low level of air pollution
Roads and pavements	Poorly maintained						Well maintained

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Table 4 for Question 2

Results of environmental quality survey

Feature	Heath Town	Tettenhall	Whitmore Reans	Low Hill	Fordhouses	Pendeford
Condition of buildings	1	2	0	1	2	2
Public open land	–1	2	–2	1	2	1
Litter	–1	2	0	0	1	2
Vandalism and damage	–1	2	–1	1	2	1
Noise and air pollution	0	2	–2	**–1**	0	2
Roads and pavements	0	2	0	**1**	0	2
Total score	–2	12	**–5**	3	7	10

Table 5 for Question 2

Results of percentage household convenience score calculation

Area of city	Percentage household convenience score
Pendeford	51
Fordhouses	**45**
Low Hill	75
Whitmore Reans	56
Tettenhall	31
Heath Town	91

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