

Cambridge International Examinations Cambridge International General Certificate of Secondary Education

#### GEOGRAPHY

Paper 4 Alternative to Coursework INSERT

0460/42 October/November 2017

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.





#### Area where fieldwork was done



## Key

\*1

- \*2 fieldwork sites
  \*3 along transect
  \*4
  \*5
  \*6
  \*7

contour line showing 30height in metres



mixed grassland and trees

bare or cleared ground





Method to measure infiltration rate



[Turn over

## Table 1 for Question 1

## Results of measurements of water level at two sites

Time	Water level in tube	Fall in water level
measurement	(mm)	during the minute
(min)		(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 4 on transect A

## 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:

Original weight when wet – Weight after being heated and dried Original weight when wet × 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

Site number	Infiltration rate	Soil moisture
	(mm per min)	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 A**

#### **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







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

# 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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