New Specification

Rewarding Learning

Centre Number

71	

Candidate Number

General Certificate of Secondary Education
2011

Geography

Unit 1:
Understanding Our Natural World

Higher Tier

[GGG12]

MONDAY 13 JUNE, MORNING

GGG12

TIME

1 hour 30 minutes.

INSTRUCTIONS TO CANDIDATES

Write your Centre Number and Candidate Number in the spaces provided at the top of this page.
Write your answers in the spaces provided in this question paper.
Answer **all three** questions.
You are provided with an O.S. map for use with **Question 1**.
Do **not** write your answers on this map.

INFORMATION FOR CANDIDATES

The total mark for this paper is 100.
Figures in brackets printed down the right-hand side of pages indicate the marks awarded to each question or part question.
Quality of written communication will be assessed in questions **1(a)(v)**, **1(f)(ii)** and **3(d)**.

For Examiner's use only	
Question Number	Marks
1	
2	
3	
Total Marks	

Answer **all three** questions.

Examiner Only	
Marks	Remark

Theme A: The Dynamic Landscape

1 (a) Study the Ordnance Survey extract of Blakeney Point, England and answer the questions which follow.

(i) State the height of the land on the A149, a main road, at GR 083438.

_____ metres [1]

(ii) State the straight line distance from the Parking at GR 049453 to the tip of Pits Point at GR 004456.

_____ km [2]

(iii) State the direction of Blakeney Point (GR 0046) from Weybourne (GR 1142).

_____ [1]

(iv) The area shown on the map is popular with tourists. Using map evidence state **three** activities that tourists could enjoy.

1. _____

_____

2. _____

_____

3. _____

_____ [3]

(v) Blakeney Point GR 0046 is an example of a spit. Explain how a spit is formed.

Examiner Only

Marks	Remark

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____ [6]

(vi) State **three** differences between destructive and constructive waves.

1. _____

_____

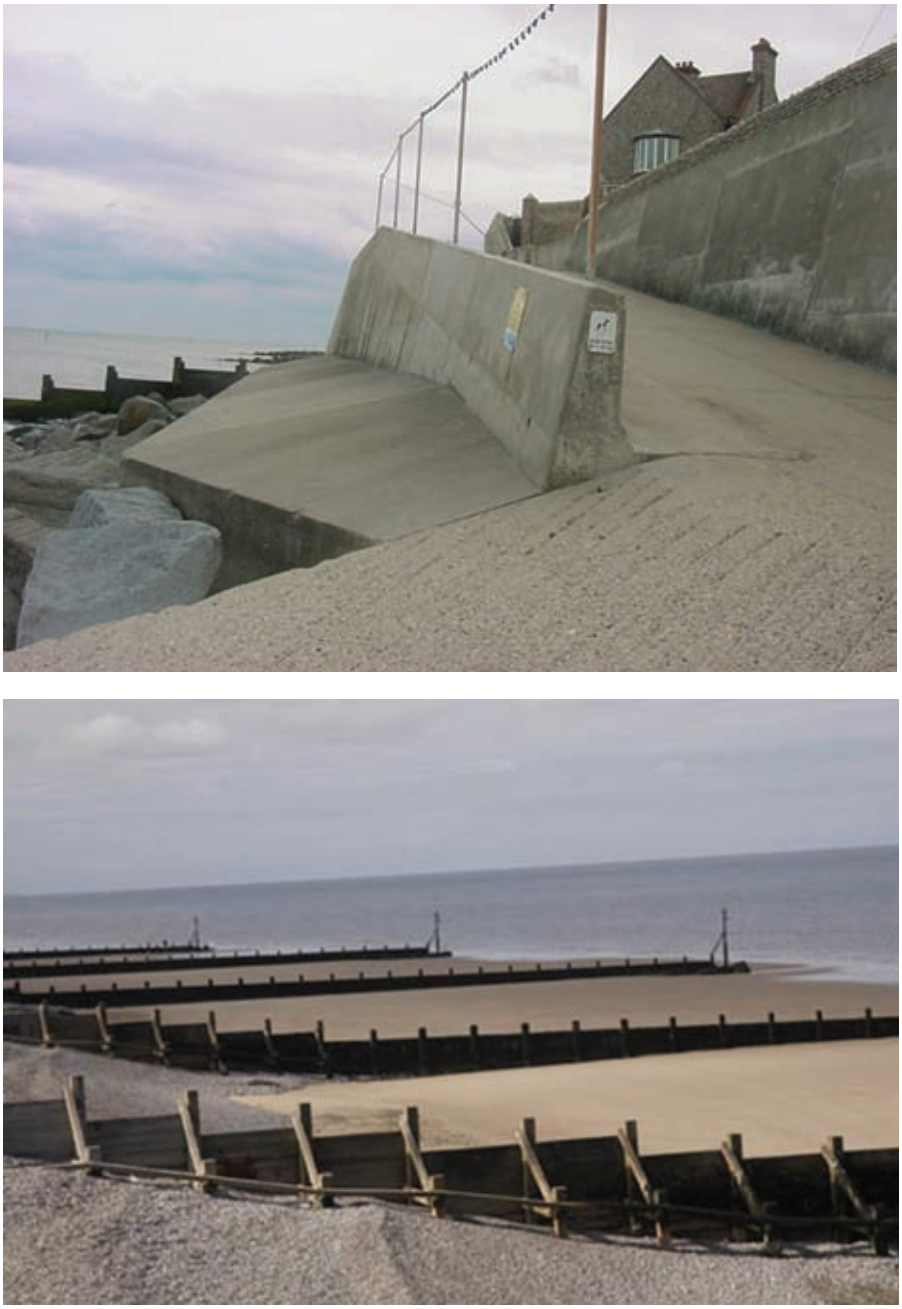
2. _____

_____

3. _____

_____ [3]

(b) Study **Fig. 1** which shows photographs of the sea wall and groynes along the coast at Sheringham between GR 1543 and GR 1643.



Sea Wall - © William Howard School, Cumbria
Groynes - © www.walkingbritain.co.uk

Fig. 1

Explain how each of these coastal management strategies work.

Examiner Only	
Marks	Remark

Sea Wall _____

_____

_____

_____

_____

_____ [3]

Groynes _____

_____

_____

_____

_____

_____ [3]

Examiner Only	
Marks	Remark

(c) Study **Fig. 2** which shows some human activities in coastal areas. Select **two** of these activities and suggest how these activities might be in conflict. You should refer to a place to illustrate your answer.

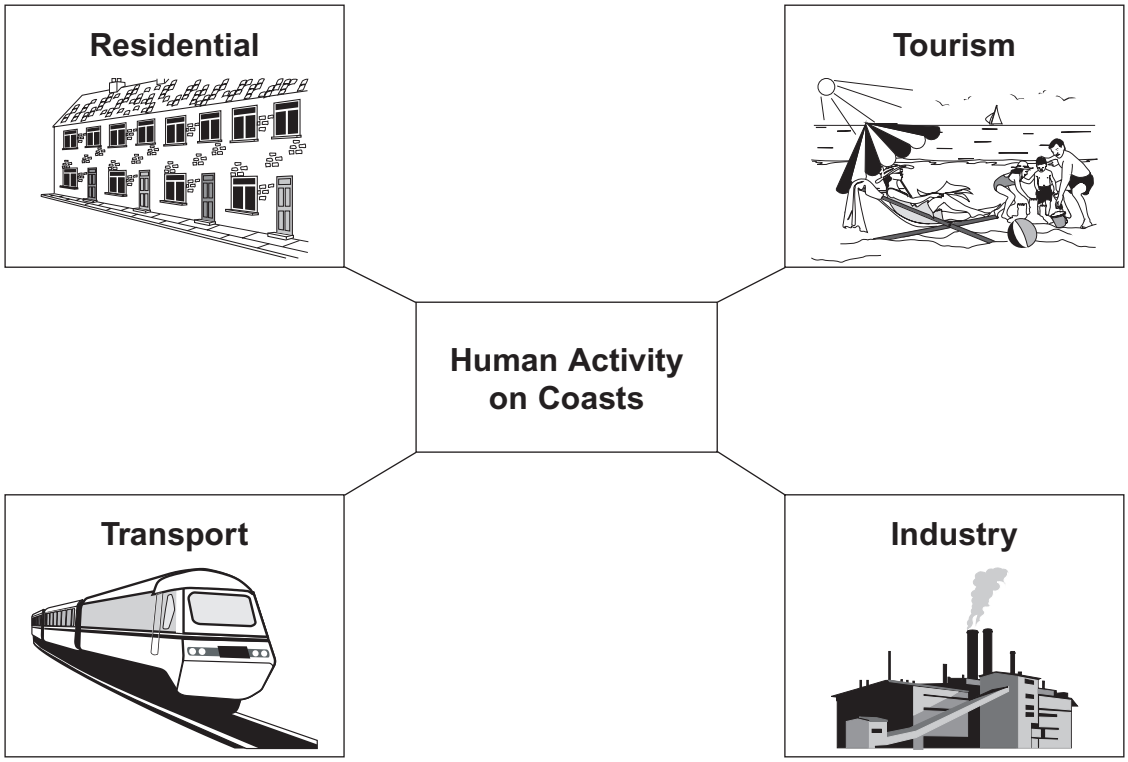


Fig. 2

Activities chosen _____ and _____.

_____

_____

_____

_____

_____

_____ [3]

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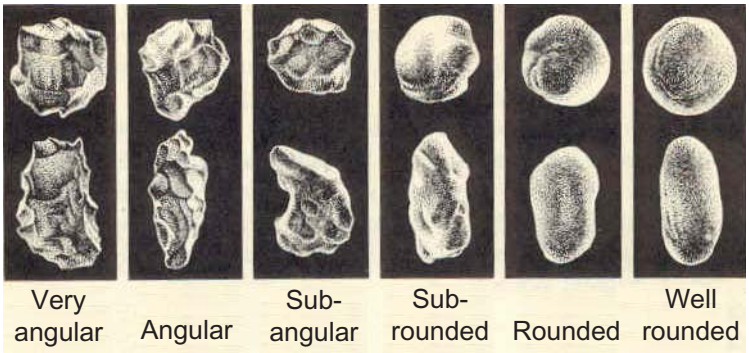
(Questions continue overleaf)

(d) A field study was carried out on a river in Northern Ireland. Study **Fig. 3** which shows information obtained and answer the questions which follow.

	Site 1	Site 2	Site 3	Site 4	Site 5
Distance from Source (km)	0.8	1.35	3.5	6.0	8.9
Average length of rock in cm (long axis)	12.90	11.25	10.88	9.55	7.90
Average roundness	Angular	Sub-angular	Sub-rounded	Rounded	Well-rounded

Measuring the long axis of a rock collected from the river.



Powers' Scale of Roundness

(i) Describe the changes in the load with distance downstream.

[4]

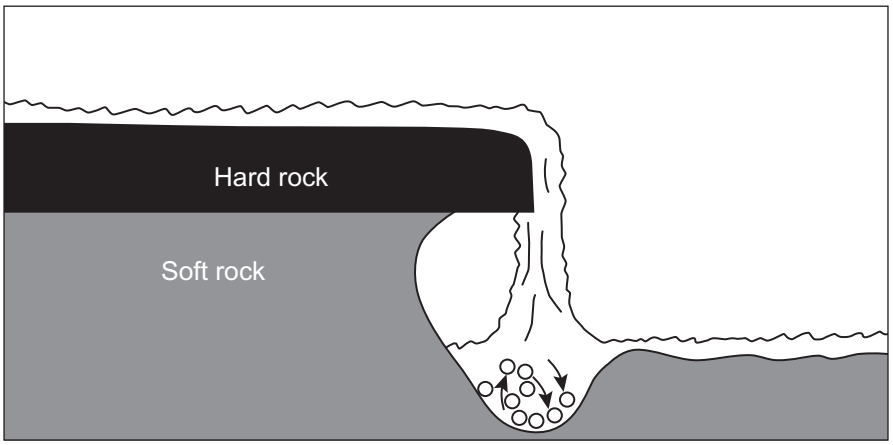
(ii) Explain how these changes in the load occur.

[5]

Examiner Only

Marks	Remark

(e) Study **Fig. 4** which shows a cross-section of a waterfall.



Source: Principal Examiner

Fig. 4

Using the diagram to help you, explain how a waterfall forms.

[5]

Examiner Only	
Marks	Remark

Examiner Only	
Marks	Remark

(f) **(i)** For a named river **within** the British Isles describe **one** physical and **one** human cause of flooding.

[4]

(ii) For a named river **outside** the British Isles, evaluate the extent to which river management strategies used on this river can be considered sustainable.

[7]

Theme B: Our Changing Weather and Climate

Examiner Only	
Marks	Remark

2 **(a)** Study **Fig. 5** which shows different types of clouds. Answer the questions which follow.

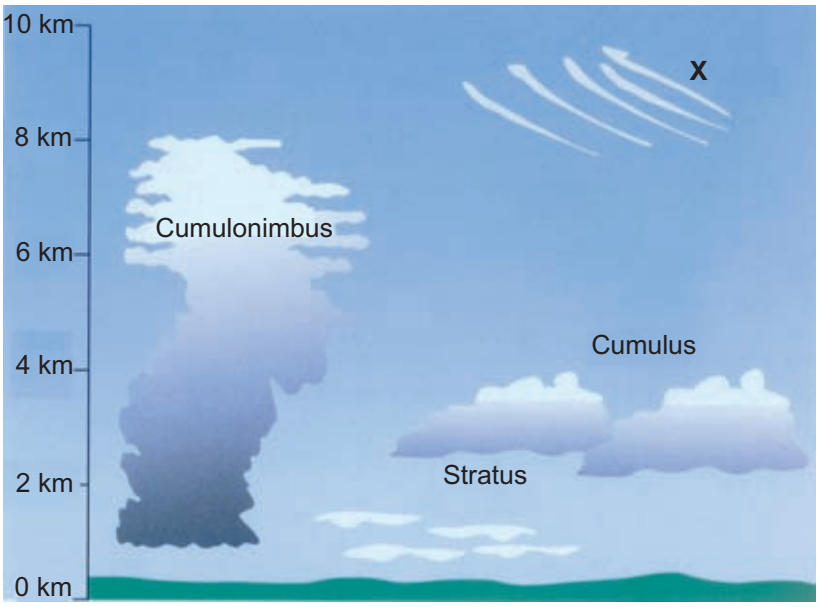


Fig. 5

(i) Name the type of cloud at **X**.

_____ [1]

(ii) State the type of cloud associated with thunderstorms.

_____ [1]

(b) A rain gauge is used to measure precipitation. Describe a rain gauge and explain how the amount of precipitation is measured.

Examiner Only	
Marks	Remark

Description

_____

_____

_____

_____

_____

_____ [3]

Explanation of how precipitation is measured.

_____

_____

_____

_____ [2]

(c) Study **Fig. 6** which shows information about a weather system. Answer the questions which follow.

Examiner Only

Marks	Remark

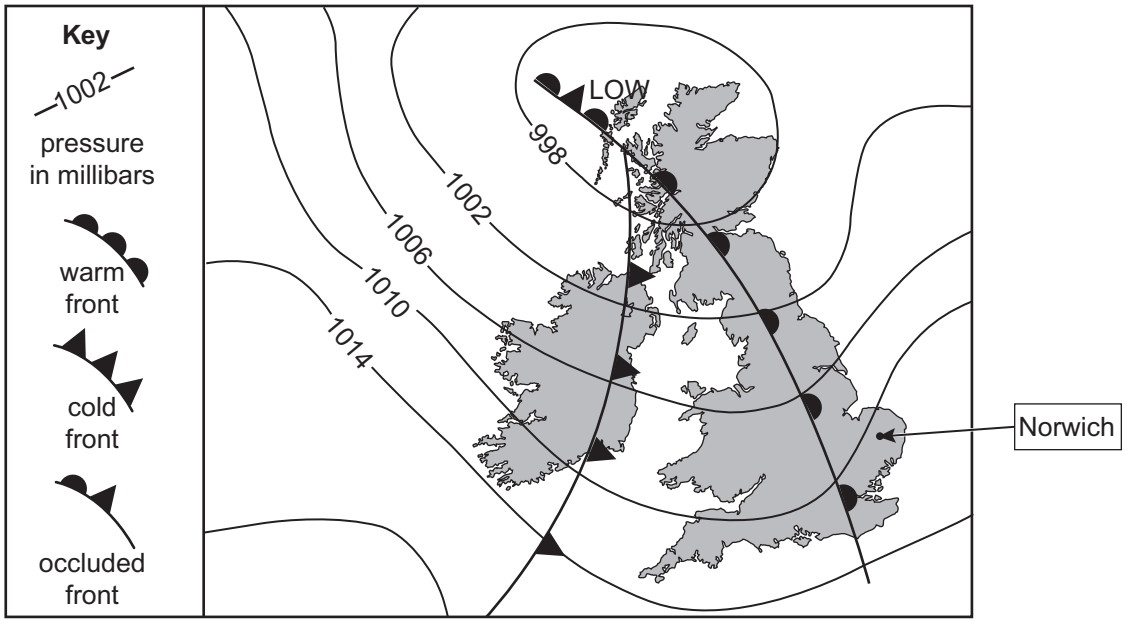


Fig. 6

(i) What is a synoptic chart?

_____

_____

_____

_____ [2]

(ii) State the name of the weather system located over the British Isles.

_____ [1]

(iii) The temperature in Norwich will change as this weather system passes.

Describe and explain how the temperature will change.

Description

_____

_____

_____

_____ [2]

Explanation

_____

_____

_____

_____

_____

_____ [3]

Examiner Only	
Marks	Remark

(d) Volcanic activity is a natural cause of climate change.

Examiner Only	
Marks	Remark

© U S Geological Survey/Jack Lockwood

Fig. 7 A volcano erupting in Indonesia

(i) Explain **one** way in which an erupting volcano may change the climate.

_____

_____

_____

_____

_____

_____ [3]

(ii) State **two** effects of climate change (**one** positive and **one** negative).

Positive _____

_____

Negative _____

_____ [2]

(iii) Explain **one** sustainable strategy which could be used to deal with climate change.

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____ [5]

Examiner Only	
Marks	Remark

Theme C: The Restless Earth

Examiner Only	
Marks	Remark

3 **(a)** Study **Table 1** which gives information about three rocks. Answer the questions which follow.

Table 1

Picture of rock	Simple characteristics of rock	Name of rock
	Rough texture, hard, speckled igneous rock.	
	Quite hard sedimentary rock with a granular structure.	sandstone
	Dark grey metamorphic rock with layers which split easily.	

(i) Complete **Table 1** by writing in the names of the first and last rocks in the table. [2]

(ii) Choose **one** of the rocks from **Table 1** and explain how it was formed.

_____

_____

_____

_____

_____

_____ [3]

(b) Explain the formation of a lava plateau, such as the Antrim Plateau in Northern Ireland.

Examiner Only

Marks	Remark

_____

_____

_____

_____

_____

_____

_____

_____ [4]

(c) Study **Fig. 8** which gives some information about the earthquake which affected Haiti in 2010. Answer the questions which follow.

Examiner Only

Marks	Remark

Haiti Earthquake was not a Surprise to Some Geologists

N

On 12 January 2010, the LEDC country of Haiti was struck by an earthquake measuring 7 on the Richter Scale. Port-au-Prince, the capital of Haiti, is only 16km from the plate boundary where the Caribbean Plate is sliding alongside the North American Plate.
The earthquake, which had a shallow focus, resulted in almost 200 000 deaths and widespread destruction.

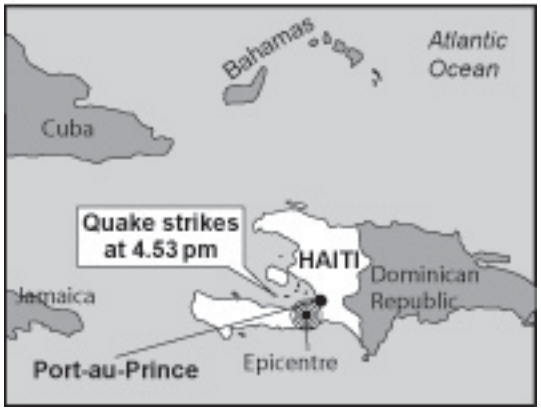


Fig. 8

(i) Name the group of islands to the north of Haiti.

_____ [1]

(ii) Explain why earthquakes in LEDCs tend to cause more deaths than those in MEDCs.

_____

_____

_____

_____

_____

_____

_____

_____ [4]

(iii) Underline the type of plate margin found near Port-au-Prince.

Constructive **Destructive** **Conservative** [1]

(iv) Explain why tectonic plates move.

[4]

(d) Describe the impacts caused by an earthquake in the British Isles which you have studied.

[6]

Examiner Only	
Marks	Remark

THIS IS THE END OF THE QUESTION PAPER

111251

Ordnance Survey

Four colours should appear above; if not then please return to the invigilator.
Four colours should appear above; if not then please return to the invigilator.

Extract No 1894/133
1:50 000 Scale
Landranger Series

597000m 98 99 600 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 618000m

348000m 47 46 45 44 43 42 341000m

Extract produced by Ordnance Survey 2010. Licence: 100032611

Scale 1: 50 000
2 centimetres to 1 kilometre (one grid square)

2 1 0 Kilometres 1 2 3
1 0 Miles 1 2

1 kilometre = 0·6214 mile
1 mile = 1·6093 kilometres

True North, Magnetic North, Grid North
Diagrammatic only

ROADS AND PATHS

Not necessarily rights of way

- Junction number; Service area; Elevated; M1 — Motorway (dual carriageway)
- Unfenced; A 470; Dual carriageway — Primary Route (recommended through route)
- A 493; Footbridge — Main road
- Road under construction
- B 4518 — Secondary road
- A 855; Bridge; B 885 — Narrow road with passing places
- Road generally more than 4m wide
- Road generally less than 4m wide
- Path / Other road, drive or track
- Gradient: steeper than 20% (1 in 5), 14% to 20% (1 in 7 to 1 in 5)
- Gates, Road tunnel
- Ferry P; Ferry V — Ferry (passenger), Ferry (vehicle)

RAILWAYS

- Track multiple or single
- Track under construction
- Siding
- Tunnel, cuttings
- Light rapid transit system, narrow gauge or tramway
- Bridges, footbridge
- Level crossing (LC)
- Viaduct, embankment
- Station, (a) principal (a)
- Light rapid transit system station

LAND FEATURES

- Electricity transmission line (pylons shown at standard spacing)
- Pipe line (arrow indicates direction of flow)
- Buildings (ruin)
- Important building (selected)
- Bus or coach station
- Current or former place of worship: with tower; with spire, minaret or dome
- Place of worship
- Glass structure
- Heliport
- Triangulation pillar
- Mast
- Wind pump, wind turbine
- Windmill with or without sails
- Graticule intersection at 5′ intervals
- Cutting, embankment
- Landfill site or slag/spoil heap
- Coniferous wood
- Non-coniferous wood
- Mixed wood
- Orchard
- Park or ornamental ground
- Forestry Commission land
- National Trust (always open / limited access, observe local signs)

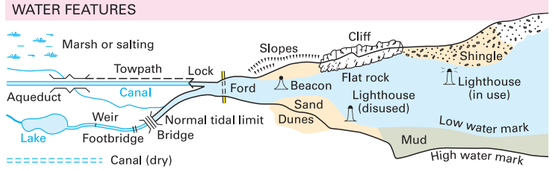
BOUNDARIES

- National
- District
- County, Unitary Authority, London Borough or Metropolitan District
- National Park

ANTIQUITIES

- Site of antiquity
- Battlefield (with date)
- Visible earthwork
- VILLA — Roman
- Castle — Non-Roman

WATER FEATURES



Canal (dry)

HEIGHTS

1 metre = 3·2808 feet

50 — Contours are at 10 metres vertical interval

·144 — Heights are to the nearest metre above mean sea level

Where two heights are shown the first height is to the base of the triangulation pillar and the second (in brackets) to the highest natural point of the hill

ROCK FEATURES

PUBLIC RIGHTS OF WAY

- Footpath
- Bridleway
- Restricted byway
- Byway open to all traffic

The symbols show the defined route so far as the scale of mapping will allow.

The representation on this map of any other road, track or path is no evidence of the existence of a right of way.

Danger Area — Firing and Test Ranges in the area. Danger! Observe warning notices.

OTHER PUBLIC ACCESS

- Other route with public access (not normally shown in urban areas). Alignments are based on the best information available. These routes are not shown on maps of Scotland.
- On-road cycle route
- Traffic-free cycle route
- 4 — National Cycle Network number
- 8 — Regional Cycle Network number
- National Trail, European Long Distance Path, Long Distance Route, selected Recreational Routes

TOURIST INFORMATION

- Camp site / caravan site
- Garden
- Golf course or links
- Information centre (all year / seasonal)
- Nature reserve
- P; P&R — Parking, Park and ride (all year / seasonal)
- Picnic site
- Recreation / leisure / sports centre
- Selected places of tourist interest
- Telephone, public / roadside assistance
- Viewpoint
- V — Visitor centre
- Walks / Trails
- World Heritage site or area
- Youth hostel

ABBREVIATIONS

Br	Bridge	MS	Milestone
Cemy	Cemetery	Mus	Museum
CG	Cattle grid	P	Post office
CH	Clubhouse	PC	Public convenience (in rural areas)
Fm	Farm	PH	Public house
Ho	House	Sch	School
MP	Milepost	TH	Town Hall, Guildhall or equivalent