



National
Qualifications
2018

X733/77/11

Geography

TUESDAY, 1 MAY
9:00 AM – 11:30 AM

Total marks — 50

Attempt ALL questions

Credit will be given for appropriately labelled sketch maps and diagrams.

You must use the Supplementary Items and tracing overlays provided for annotation or as a base for diagrams. These resources should be placed inside the front cover of your answer booklet.

You should use the atlas provided.

Write your answers clearly in the answer booklet provided. In the answer booklet you must clearly identify the question number you are attempting.

Use **blue** or **black** ink. You may use pencil for the completion of Supplementary Item B — tracing overlay.

Before leaving the examination room you must give your answer booklet to the Invigilator; if you do not, you may lose all the marks for this paper.



Total marks — 50
Attempt ALL questions

Question 1 — Map interpretation

To answer this question you will need to use:

- Supplementary Item A — Ordnance Survey (OS) Map Extract Penrith, Patterdale and Caldbeck.
- Supplementary Item B — tracing overlay
- Supplementary Item C — photographs
- The atlas provided.

You should make detailed use of the whole map extract as well as using your atlas appropriately. You should also carefully read the information in the text boxes.

Fell running is a popular sport in the Lake District. It involves running in mountains and high moorland on either designated footpaths and/or in remote areas without footpaths. Map and navigational skills are essential. In September 2019 the Lake District is hosting the National Fell Running competition. The competition will take place over four days. It will attract visitors from across the UK. It is anticipated that there will be up to 2000 competitors.

- | | | |
|-----|--|----------|
| (a) | (i) On the tracing overlay (Supplementary Item B) draw accurately a proposed route for this event. Your route should be between 12 and 15 km long. The start and finish points should be clearly marked. | 3 |
| | (ii) Annotate your chosen route on the tracing overlay to highlight the reasons for your choice. | 4 |
| | (iii) Evaluate the impact(s) that the event may have on the local area. | 4 |

In the Lake District water has been used historically to power traditional industries using water wheels.

More recently, and related to increasing energy costs, climate change concerns and awareness of sustainability, there has been interest from several communities in the Lake District and local landowners in the development of small hydropower schemes to generate electricity using fast moving water.

Supplementary Item C shows photographs of a proposed development at Hayeswater Gill (GR 423130)

- | | | |
|-----|--|----------|
| (b) | Explain the suitability of a small hydropower scheme at this location. | 5 |
| (c) | Analyse the factors that have influenced the different land uses around Ullswater. | 4 |

Question 2 — Gathering and processing techniques

To answer this question you will need to use:

- Supplementary Item A — Ordnance Survey (OS) Map Extract Penrith, Patterdale and Caldbeck.

Outdoor People Counters are increasingly common along footpaths that are popular with tourists. Targeted locations for the counters could include:

- hiking and nature trails
- mountain bike trails
- forestry and coastal tracks
- historical and geological sites
- outdoor visitor centres.

The electronic counters are laid underground and use radio-beam technology to continuously count the number of pedestrians who pass a designated point.

Public footpaths can be adversely affected by high usage.

The Lake District National Park Authority (LDNPA) wishes to investigate varying footpath usage and its impact on the environment, over a year.

- | | |
|--|---|
| (a) Using a 6 figure grid reference, identify a suitable location for the siting of an Outdoor People Counter. Justify your choice of location. | 2 |
| (b) Discuss the advantages and disadvantages of using electronic Outdoor People Counters compared to traditional fieldwork gathering techniques. | 4 |
| (c) Explain other data gathering techniques that could be used to provide additional data for the investigation. | 4 |

[Turn over

Question 3 — Geographical data handling

To answer this question you will need to use:

- Supplementary Item D — Map 1, Tables 1 and 2, Diagram 1
- The atlas provided

(a) Study Map 1

A choropleth map has been used to show forest cover across Europe (as a % of the land area) in 2015.

- Evaluate the effectiveness of using a choropleth map to show this information. 4
- Explain possible reasons for the variation in forest cover across Europe. 4

(b) The Forestry Commission wants to investigate trends in the coverage of woodland in the UK from 2007 to 2017.

- Using the data in Table 1, discuss a graphical technique that could be used to show woodland cover across the UK (2007-17).
- Using the data in Table 2, suggest a statistical technique that could be used to analyse possible relationships between data sets. Discuss the suitability of your chosen technique. 7

(c) With reference to the information shown in Supplementary Item D, discuss possible reasons for the change(s) in the % of woodland cover in the UK since 2007. 5

[END OF QUESTION PAPER]



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Geography Supplementary Items

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	Supplementary Item A — OS map
X733/77/31	Supplementary Item B — tracing overlay
X733/77/41	Supplementary Item C
X733/77/51	Supplementary Item D
	Spare tracing paper



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ROADS AND PATHS

- Motorway **A35** Dual carriageway
Main road **B3074** Secondary road
Narrow road with passing places
Road under construction
Road generally more than 4 m wide
Road generally less than 4 m 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

RAILWAYS

- Multiple track Standard gauge
Single track
Narrow gauge or Light Rail Transit System (LRTS) and station
Road over; road under; level crossing
Cutting; tunnel; embankment
Station, open to passengers; siding

PUBLIC RIGHTS OF WAY

- Footpath
Bridleway
Byway open to all traffic
Restricted byway not for use by mechanically propelled vehicles
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

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
National Trail
Long Distance Route
Permissive footpath
Permissive bridleway
See note below
Footpaths and bridleways along which landowners have permitted public use but which are not rights of way. The agreement may be withdrawn.
Traffic-free cycle route
National cycle network route number – traffic-free; on road

BOUNDARIES

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

HISTORICAL FEATURES

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

Information provided by English Heritage for England and the Royal Commissions on the Ancient and Historical Monuments for Scotland and Wales

GENERAL FEATURES

- Gravel pit
Sand pit
Other pit or quarry
Landfill site or slag/spoil heap
Slopes
Place of worship
Current or former place of worship
Other road, drive or track, fenced and unfenced
Building; important building
Glasshouse
Youth hostel
Burkhouse / camping barn / other hostel
Bus or coach station
Lighthouse; disused lighthouse;
Beacon
Triangulation pillar
Mast
Windmill; with or without sails
Wind pump; wind turbine
Electricity transmission line
Boundary post
Boundary stone
Cattle grid
Clubhouse
Footbridge
Milepost; milestone
Monument
Post office
Police station
School
Town hall
Normal tidal limit
Well; spring

HEIGHTS AND NATURAL FEATURES

- Ground survey height
Air survey height
Surface 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
Vertical face/cliff
Boulders
Loose rock
Outcrop
Scree
Water; mud
Sand; sand and shingle
Vegetation limits are defined by positioning of symbols
Coniferous trees
Non-coniferous trees
Copse
Orchard
Scrub
Bracken, heath or rough grassland
Marsh, reeds or saltings

ACCESS LAND

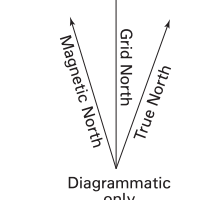
- Access land boundary and tint
Access land in wooded area
Access information point

England and Wales

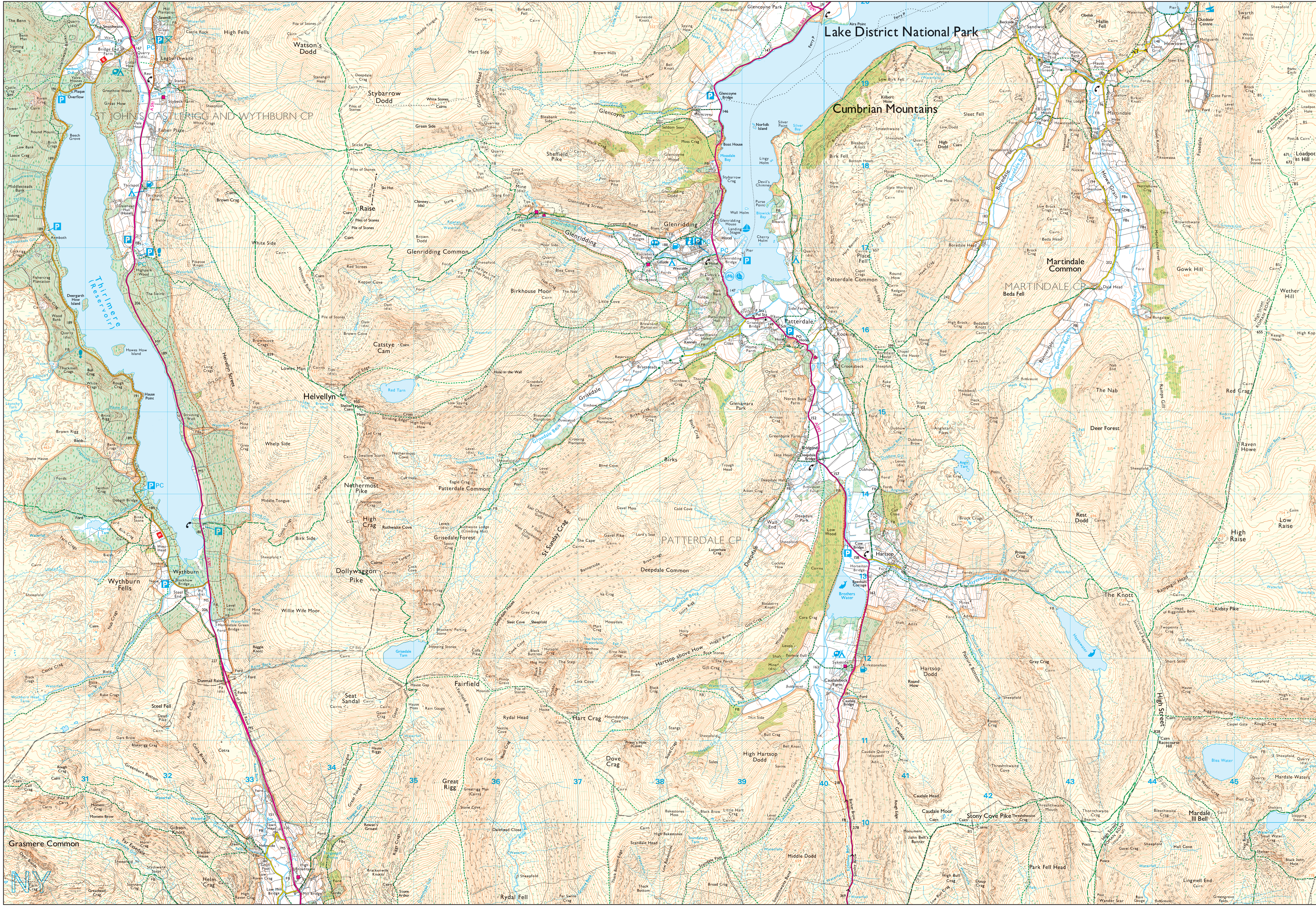
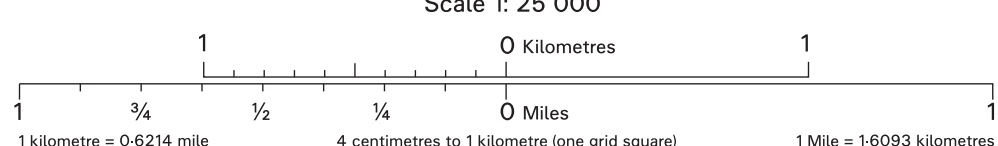
- Access land boundary and tint
Access land in wooded area
Access information point
Portrayal of access land on this map is intended as a guide to land which is normally available for access on foot, for example access land created under the Countryside and Rights of Way Act 2000, and land managed by the National Trust, Forestry Commission and Woodland Trust. Access for other activities may also exist. Some restrictions will apply: some land will be excluded from open access rights. 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.

TOURIST AND LEISURE INFORMATION

- Building of historic interest
Boat trips
Boat hire
Cadw (Welsh heritage)
Camp site/Caravan site
Castle / fort
Cathedral / Abbey
Craft Centre
Country park
Cycle hire
Cycle trail
English Heritage property
Fishing
Forestry Commission visitor centre
Garden / arboretum
Historic Scotland
Information centre, seasonal
Horse riding
Museum
Mountain bike trail
Nature reserve
National Trust property
Other tourist feature
Parking / Park and ride, all year / seasonal
Picnic site
Preserved railway
Public Convenience
Public house/s
Recreation / leisure / sports centre
Slipway
Telephone public / roadside assistance / emergency
Theme / pleasure park
Visitor centre
Walks / trails
Water activities
World Heritage site or area



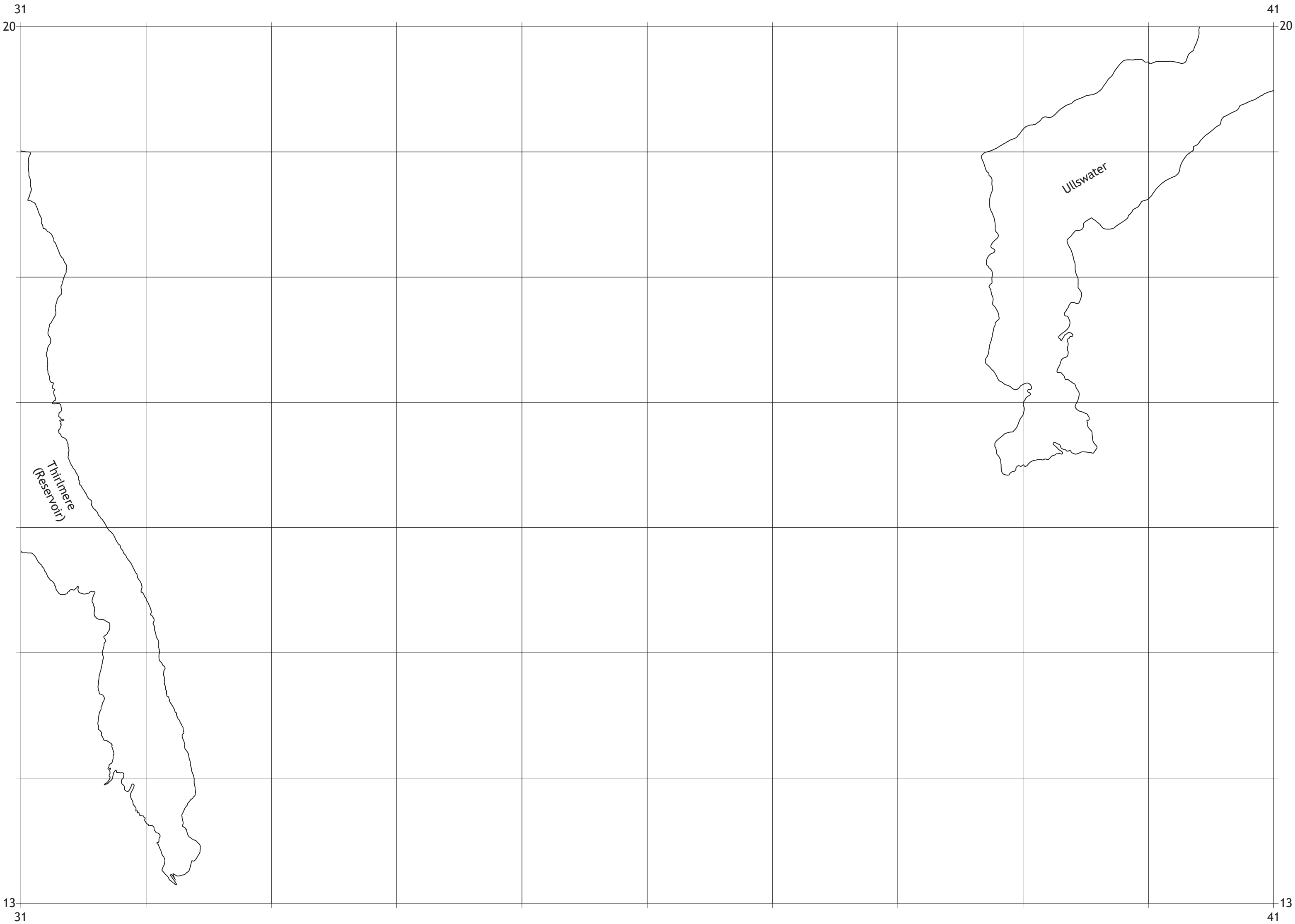
Scale 1: 25 000



Full name of centre

Name of candidate

Date of birth





National
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**Geography
Supplementary Item C
for Q1**

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SUPPLEMENTARY ITEM C

Photograph 1: View of Hayeswater Gill from GR425129 looking north-west



SUPPLEMENTARY ITEM C (continued)

Photograph 2: A small hydropower scheme suitable for Hayeswater Gill



[END OF SUPPLEMENTARY ITEM C]

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**Geography
Supplementary Item D
for Q3**

TUESDAY, 1 MAY

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SUPPLEMENTARY ITEM D

Map 1: European countries by forest cover (as a % of land area): 2015

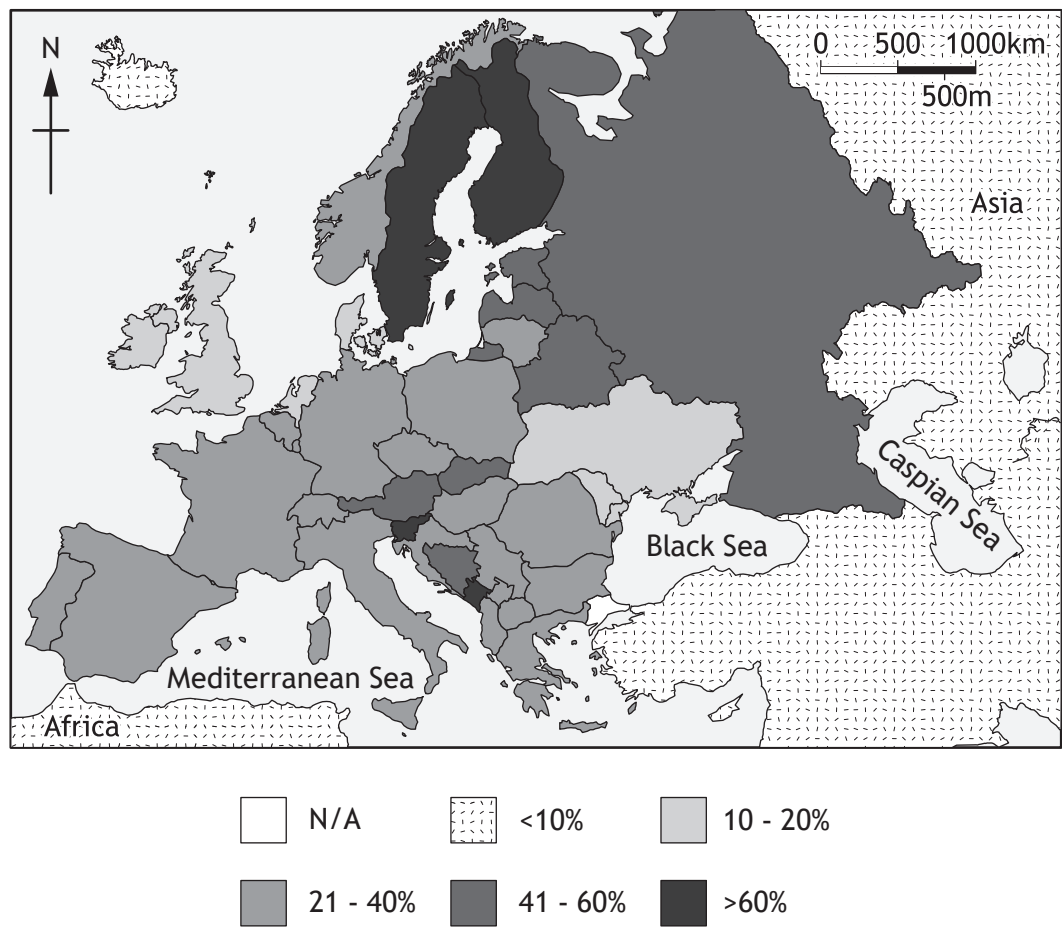


Table 1: Area of woodland cover in UK 2007-2017 (thousands of hectares)

Year	England	Wales	Scotland	Northern Ireland	Total woodland
2007	1127	285	1341	87	2840
2008	1127	285	1342	87	2841
2009	1128	284	1341	88	2841
2010	1130	284	1343	88	2845
2011	1294	304	1385	88	3071
2012	1295	304	1392	88	3079
2013	1300	305	1410	111	3126
2014	1302	306	1419	111	3138
2015	1304	306	1432	112	3154
2016	1306	306	1436	112	3160
2017	1306	307	1440	112	3166

Table 2: Woodland cover, total agricultural area & visits to woodland areas: UK (2007-17)

Year	UK woodland cover (000's hectares)	UK total agricultural area (000's hectares)	No. of visits to woodland areas*
2007	2840	178.97	580
2008	2841	177.03	640
2009	2841	173.25	500
2010	2845	172.34	570
2011	3071	171.72	740
2012	3079	171.90	750
2013	3126	172.59	750
2014	3138	172.40	760
2015	3154	171.47	790
2016	3160	173.60	800
2017	3166	172.35	840

* (survey based on 1000 respondents)

[Turn over for Diagram 1

Diagram 1: Extract from a newspaper article

Forest levels booming as UK woodland returns to highest level in more than 250 years.

British woodland has returned to the levels of the 1750s, with tree cover having more than doubled since the end of the First World War, a United Nations report has shown.

The growth is attributed in part, to individuals branching out into forestry eg for investment purposes, which now accounts for almost half of all our tree cover.

But experts warned that Britain still had a long way to go before hitting the European average of 44 per cent. Finland boasts the highest level of tree cover in the EU with 72 per cent of land area covered in forest.

An increase in tree planting is hoped to help the fight against climate change, as well as create economic growth and protect jobs in rural areas.

The Woodland Trust has launched a campaign to plant 20 million trees in Britain over the next five decades in a bid to bring tree cover closer in line with the European average but the Trust warns that development at the rural-urban fringe is leading to large amounts of woodland being felled at a faster rate than it is being planted. Currently only 700 hectares a year are being planted, well below the target of around 5000 hectares.

[END OF SUPPLEMENTARY ITEM D]