3.1 UK Physical Landscapes: Relief and Geology Overview: 30-minute Pack

AQA 8035 · Calculators not allowed · about 30 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Name two major upland areas in the UK and give the country or region where each is located.

(Total for Question 1 is 2 marks)

2 State two reasons why areas underlain by clay tend to form lowland, flatter landscapes in parts of the UK such as the Vale of York.

(Total for Question 2 is 2 marks)

3 'The spatial distribution of upland and lowland areas in the UK is mainly controlled by the type of bedrock.' To what extent do you agree with this statement? You should give a balanced answer and a clear judgement.

(Total for Question 3 is 8 marks)

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4 Define the terms 'permeable' and 'impermeable' as applied to rock types found in the UK, giving one named example rock of each.

(Total for Question 4 is 2 marks)

5 State where in the UK each of the following is located. Give the country or part of the country for each (for example, north-west England): Scottish Highlands, Lake District, Pennines, East Anglia, The Fens, and the Thames Basin.

(Total for Question 5 is 6 marks)

6 Explain two ways in which the relief of an area influences the types of agriculture practised there in the UK, using upland and lowland examples.

(Total for Question 6 is 4 marks)

7 A fieldwork group recorded the elevation, in metres, of five upland summits in a study area: 610, 720, 850, 940 and 1010. Calculate the range of these five elevations.

(Total for Question 7 is 2 marks)

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Mark scheme · 3.1 UK Physical Landscapes: Relief and Geology Overview: 30-minute Pack

Question 1

one correct upland name with its location, e.g. Scottish Highlands, Scotland, oe **B1**

a second correct upland name with its location, e.g. Pennines, northern England, oe **B1**

Answer: Examples: Scottish Highlands, Scotland; Pennines, northern England; Lake District, Cumbria.

Question 2

reason 1, e.g. clay is less resistant and weathers and erodes easily, oe **B1**

reason 2, e.g. clay becomes plastic and waterlogged so drainage is poor and soils are flattened, contributing to gentle, low-lying land, oe **B1**

Answer: Because clay is less resistant and weathers and erodes more easily, and because clay soils become waterlogged and poorly drained leading to flat, low-lying land.

Question 3

Level 3 A detailed, balanced assessment that evaluates the control of bedrock type on UK upland and lowland distribution, considers other important factors such as structural geology and past geological history, uses accurate examples of UK areas and rock types, and reaches a clear, justified judgement. **7-8**

Level 2 A clear assessment that discusses bedrock type with some supporting examples, acknowledges other factors but with limited development, and gives a conclusion that is supported though not fully developed. **4-6**

Level 1 One or two relevant points about bedrock and relief are made with little development or example, and any conclusion is simple or unsupported. **1-3**

Level 0 No relevant content. **0**

Indicative content:

- Support: Different rock types have different resistance to weathering and erosion, for example granite and other hard igneous rocks often form uplands such as parts of the Scottish Highlands, while softer sedimentary rocks like clay and some sandstones form lowlands.
- Support: Where sedimentary rocks such as chalk form, the landscape tends to be gently rolling downs rather than steep mountains, linking rock type to relief.
- Qualification: Structural geology and tectonic history also control relief, for example areas of uplift or folding and faulting create high ground independently of rock type in some places.
- Qualification: Past geological processes and the distribution of rocks laid down in different periods, and later uplift or subsidence, affect where rock types are found and therefore influence relief patterns.
- Other factors: Human activity and surface processes can modify relief locally, and superficial deposits such as glacial deposits may mask bedrock influence in some lowland areas.
- A balanced conclusion should weigh the strong influence of bedrock type against the important modifying roles of structure, tectonic and geological history, and superficial deposits, and then reach a judgement about the extent to which bedrock is the main control.

Question 4

permeable: a rock that allows water to pass through or drain through it, e.g. chalk or limestone, oe **B1**

impermeable: a rock that does not allow water to pass through or drain through it, e.g. clay, oe **B1**

Answer: Permeable: a rock that allows water to pass or drain through it, for example chalk or limestone. Impermeable: a rock that does not allow water to pass or drain through it, for example clay.

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Question 5

correct location for Scottish Highlands, e.g. northern Scotland, oe	**B1**
correct location for Lake District, e.g. Cumbria in north-west England, oe	**B1**
correct location for Pennines, e.g. the upland spine of northern England, oe	**B1**
correct location for East Anglia, e.g. eastern England, oe	**B1**
correct location for The Fens, e.g. low-lying land in eastern England around Lincolnshire and Cambridgeshire, oe	**B1**
correct location for the Thames Basin, e.g. south-east England around the River Thames, oe	**B1**

Answer: Scottish Highlands in northern Scotland; Lake District in Cumbria, north-west England; Pennines running down the spine of northern England; East Anglia in eastern England; The Fens in eastern England around Lincolnshire and Cambridgeshire; Thames Basin in south-east England around the River Thames.

Question 6

point 1, e.g. upland areas with steep slopes and poorer soils tend to support pastoral farming such as sheep grazing, oe	**B1**
linked detail to point 1, e.g. steep slopes restrict machinery use and limit arable crops, so livestock farming is more practical, oe	**B1**
point 2, e.g. lowland areas with gentler relief and deeper soils support arable farming and more intensive mixed agriculture, oe	**B1**
linked detail to point 2, e.g. flat land allows use of large machinery and easier field division, encouraging cereal and vegetable production, oe	**B1**

Answer: Upland steep areas with poorer soils tend to support pastoral farming such as sheep grazing because steep slopes limit machinery and arable crops. Lowland gentle areas with deeper soils support arable and mixed farming since flat land allows large machinery and easier field division for cereals and vegetables.

Question 7

highest value 1,010 and lowest value 610 identified, oe	**M1**
400 m cao	**A1**

Answer: 400 m.

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