

Rocks and the UK Physical Landscape

1 Study Figure 1, a map of the UK's upland and lowland areas.

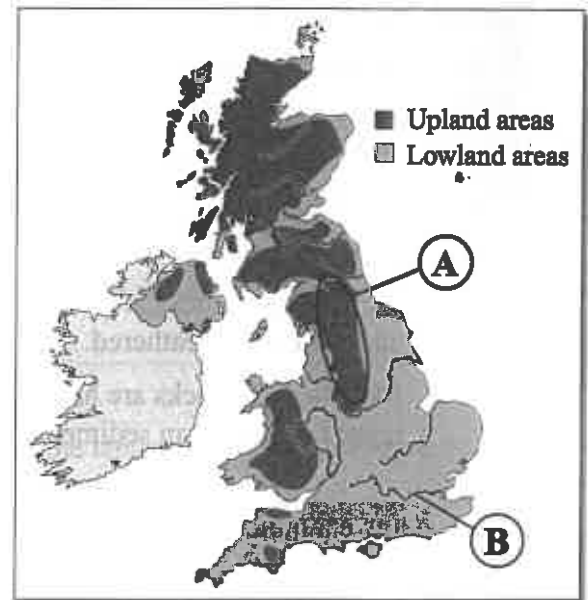
a) Identify area A in Figure 1.

- A The Grampian Mountains in Scotland ☐
 - B The Pennines in England ☐
 - C The Lake District in England ☐
 - D The Cairngorms in Scotland ☐
- [1]

b) Identify the feature marked B in Figure 1.

- A The River Severn ☐
 - B The Firth of Forth ☐
 - C The Bristol Channel ☐
 - D The River Thames ☐
- [1]

Figure 1



c) Describe the physical characteristics of lowland areas in the UK.

.....

.....

.....

[2]

d) State two ways in which past glacial processes have shaped upland areas in the UK.

1:

2:

[2]

e) Explain how past tectonic processes have shaped the UK landscape.

.....

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.....

.....

[4]

[Total 10 marks]

Rocks and the UK Physical Landscape

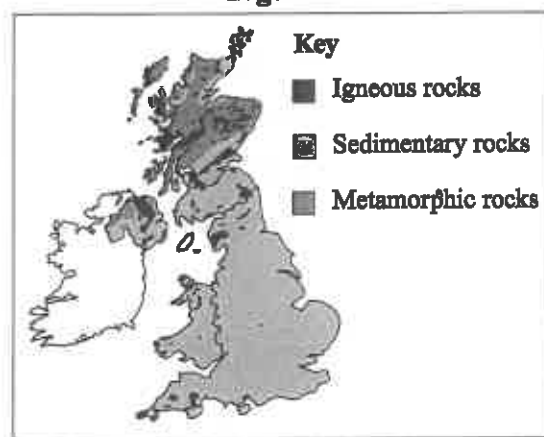
2 Study Figure 2, which shows the distribution of different rock types in the UK.

a) Which two of the following statements are true of metamorphic rocks?

- A All metamorphic rocks are permeable. ☐
- B Carboniferous limestone is an example of a metamorphic rock. ☐
- C Metamorphic rocks are formed when other rocks are changed by heat and pressure. ☐
- D Metamorphic rocks are very soft and are easily weathered. ☐
- E Metamorphic rocks are harder and more compact than sedimentary rocks. ☐

[2]

Figure 2



b) Give one example of a sedimentary rock.

[1]

c) Define the term 'igneous rock'.

[1]

d) State one characteristic of igneous rock.

[1]

e) Using Figure 2, describe the distribution of igneous rocks in the UK.

[2]

f) Explain how geology has influenced the development of the landscape shown in Figure 3.

Figure 3



[2]

[Total 9 marks]



Landscape Processes — Physical

1 Study Figure 1, a photo of an area in the Lake District.

Figure 1

a) Identify the landform shown in Figure 1.

- A Glacial trough
- B Tor
- C V-shaped valley
- D Corrie

☐

☐

☐

☐

[1]



b) Name one type of weathering that may be altering the landscape shown in Figure 1.

..... [1]

c) Suggest two ways that slope processes may be modifying the landscape shown in Figure 1.

1:.....

.....

2:.....

..... [4]

d) Explain one way that climate may be influencing the physical processes in this landscape.

.....

.....

..... [2]

[Total 8 marks]

2 Study Figure 2, a photo of a lowland area in the UK.

Figure 2

Explain how the interaction of physical processes may lead to the formation of lowland landscapes such as the one shown in Figure 2.

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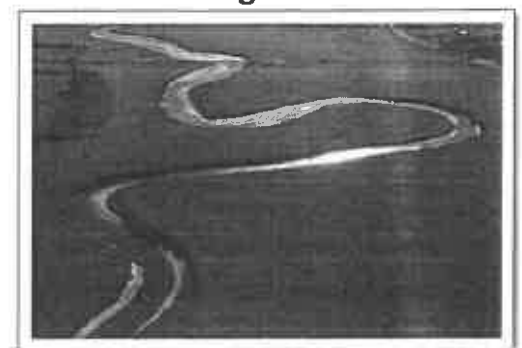
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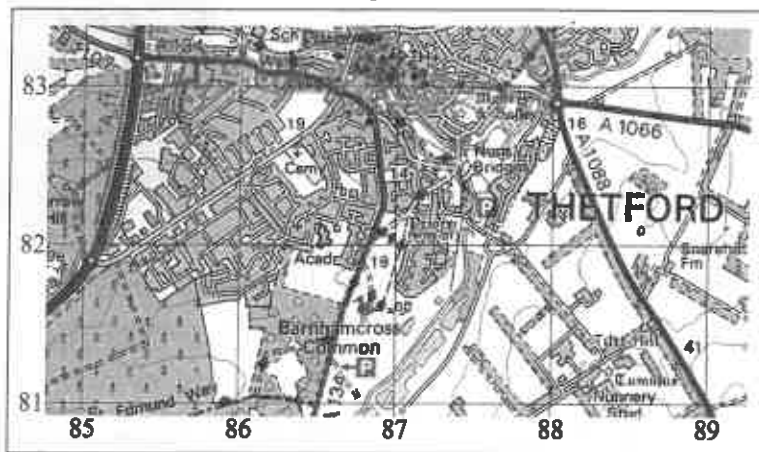
[Total 3 marks]



Landscape Processes — Human

- 1 Study **Figure 1**, an Ordnance Survey® map of Thetford, Norfolk, a lowland area in the east of England.

Figure 1



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- a) Using **Figure 1**, give one piece of evidence that agriculture is taking place in this area.

.....
 [1]

- b) Using **Figure 1**, identify two ways that human settlement has altered the landscape in grid square 8582.

1:
 2: [2]

- c) Using **Figure 1**, describe one way that forestry may be influencing the landscape.

.....

 [2]

- d) Give two possible reasons why the land surrounding Thetford is suitable for arable farming.

1:
 2: [2]

- e) Explain how farming in upland areas is different to farming in lowland areas.

.....

 [2]

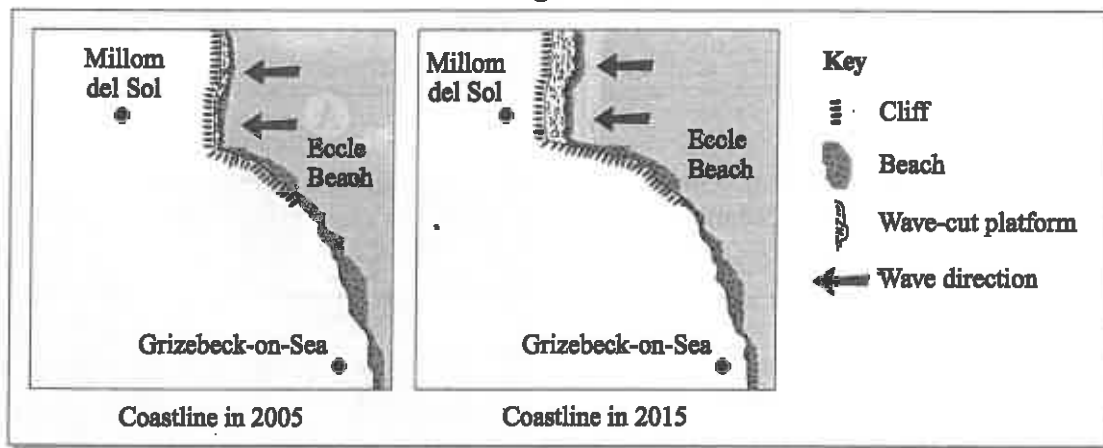
[Total 9 marks]



Coastal Weathering and Erosion

- 1 Study Figure 1, which shows how the coastline of an area has changed over time.

Figure 1



- a) Describe how the coastline shown in Figure 1 changed between 2005 and 2015.

.....
 [2]

- b) Name and describe two processes of erosion that could have caused the coastal change shown in Figure 1.

1:.....

 2:.....

 [4]

- c) Explain how salt weathering can cause cliffs to break up.

.....

 [4]

- d) Name a process of weathering, other than salt weathering, that could affect the cliffs in Figure 1.

..... [1]
 [Total 11 marks]



Coastal Landforms

- 1 Study Figure 1, a photograph showing coastal landforms.

Figure 1

- a) Name the type of landform labelled A in Figure 1.

..... [1]

- b) Identify whether this landform is most likely to be found on a concordant or discordant coastline.

..... [1]

- c) Explain how the landforms shown in Figure 1 are formed.

.....

[3]

[Total 5 marks]

- 2 Study Figure 2, which shows one step in the formation of a wave-cut platform.

Figure 2

- a) Name the feature indicated by label X in Figure 2.

..... [1]

- b) Using Figure 2, explain how wave-cut platforms are formed.

.....

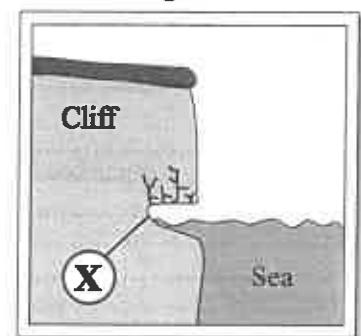
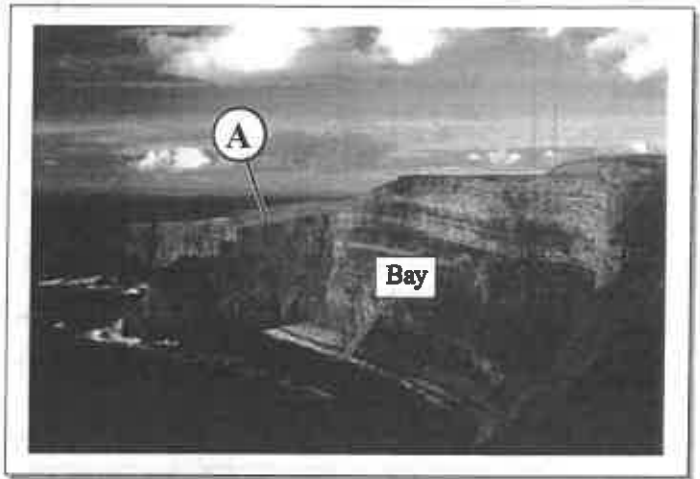
[3]

- c) Explain two ways in which climate can influence the rate of cliff retreat.

.....

[4]

[Total 8 marks]



Coastal Landforms

3 Study Figure 3, a photograph of a coastal area.

- a) Name the type of landform labelled A in Figure 3 and explain how it was formed.

Landform: [1]

.....

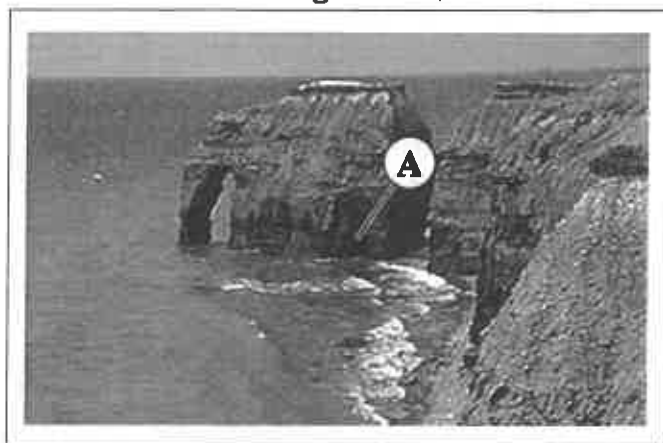
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Figure 3



[2]

- b) Use evidence from Figure 3 to suggest what this coastal area may look like in the future. Explain your answer.

.....

.....

.....

.....

.....

[4]

[Total 7 marks]

4 Study Figure 4, a graph showing how the width of a beach varied along its length in the years 2010 and 2015.

- a) Using Figure 4, describe the width of the beach in 2010 compared with the width in 2015.

.....

.....

.....

.....

.....

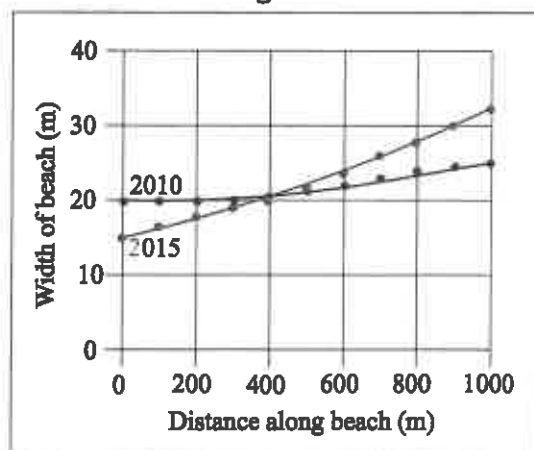
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.....

.....

[3]

Figure 4



- b) Name the type of wave acting on the stretch of coast shown in Figure 4.

..... [1]

Coastal Landforms

- c) Give two characteristics of this type of wave.

1:.....

2:..... [2]

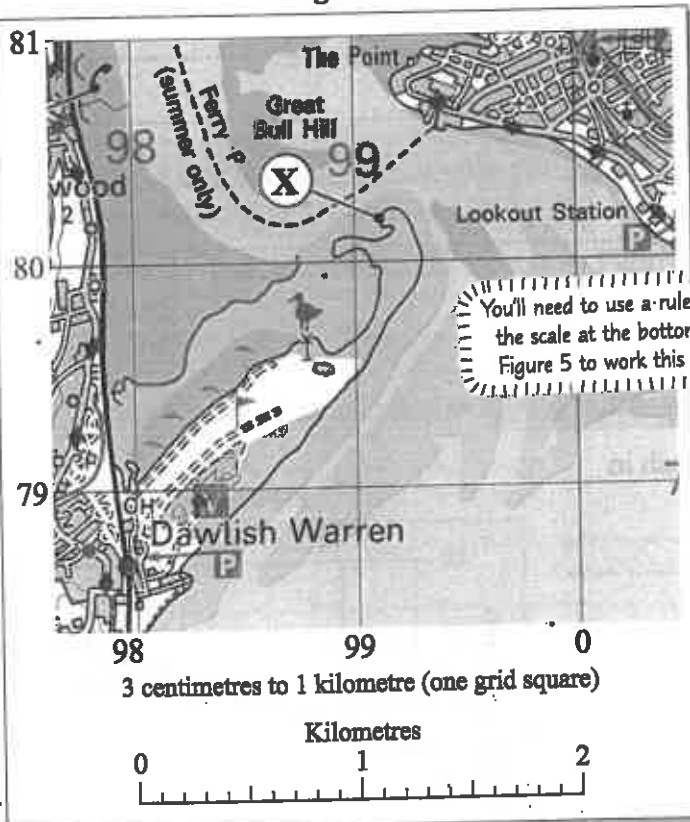
- d) Using a labelled diagram, explain the process of sediment transport that caused these changes in beach width.

[4]

[Total 10 marks]

- 5 Study Figure 5, an Ordnance Survey® map of a coastal area in Devon.

Figure 5



- a) The end of the spit is marked X on Figure 5. Give the six figure grid reference for the end of the spit.

..... [1]

- b) What is the distance between the end of the spit and Dawlish Warren station at 979786?

..... km [1]

- c) Explain how the spit shown in Figure 5 was formed.

.....

 [2]

- d) Suggest what could happen to the spit in Figure 5 if it continued to grow.

.....

 [2]

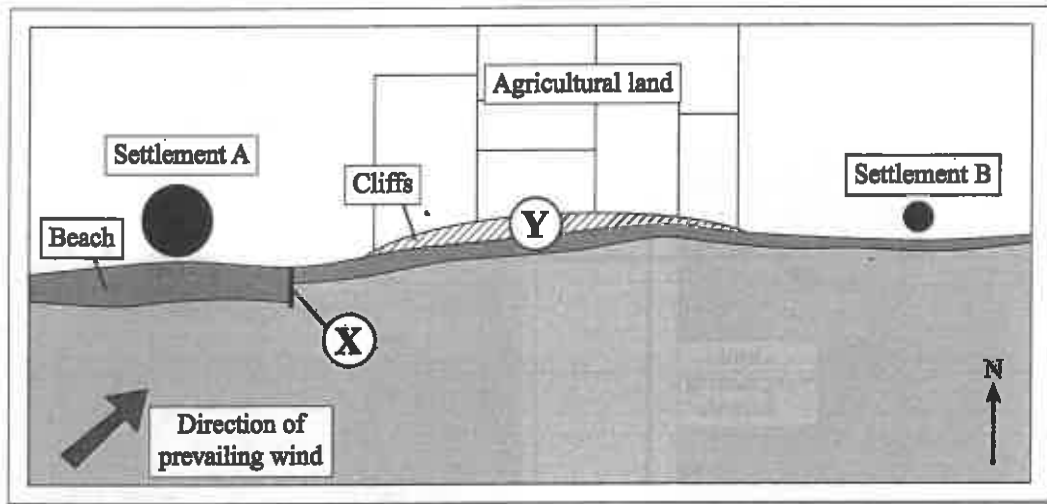
[Total 6 marks]



Human Activity at the Coast

- 1 Study Figure 1, a map of a coastal area.

Figure 1



- a) In which direction is longshore drift occurring along the section of coast shown in Figure 1?

A North ☐
 B South ☐
 C East ☐
 D West ☐

[1]

- b) Which of the following is likely to be an indirect effect of constructing the groyne at the point labelled X on Figure 1?

A The land at Settlement B is better protected. ☐
 B More sediment is transported along the coast. ☐
 C The beach in front of Settlement A will be narrower. ☐
 D Erosion at Settlement B is increased. ☐

[1]

- c) Explain one way that using the land for agriculture, as shown in Figure 1, might affect the erosion of the cliffs at Y.

.....

[2]

- d) Describe how the development of industry can affect coastal landscapes.

.....

[2]

[Total 6 marks]

Human Activity at the Coast

- 2 Study Figures 2 and 3. Figure 2 shows a map of the Holderness coastline in the east of England. Figure 3 shows a photograph of a cliff at Aldbrough.

Figure 2

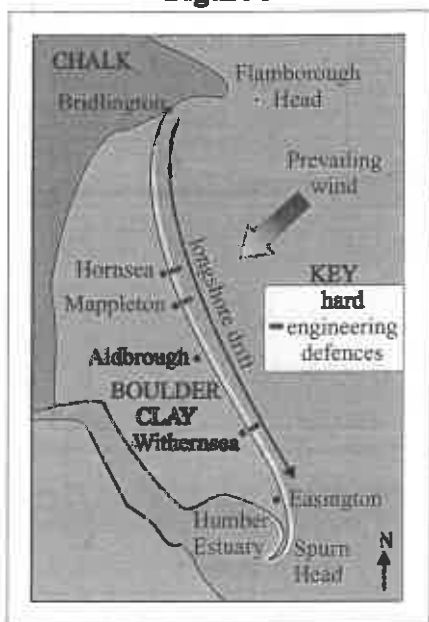


Figure 3



- a) Using Figure 2, identify **two** ways the location of the coastline may be leading to high rates of erosion.

1:

2: [2]

- b) Explain how the location of the hard engineering defences might be changing the shape of the coastline.

.....

.....

..... [2]

- c) Using Figures 2 and 3, suggest how the interaction of physical and human processes is influencing erosion at Aldbrough.

.....

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.....

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..... [4]

[Total 8 marks]



Coastal Flooding

- 1 Study Figure 1, which shows the frequencies of storms and floods between 2006 and 2015 in a coastal area of the UK.

Figure 1

Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Number of storms	0	1	3	3	4	3	5	5	6	7
Number of floods	0	0	1	2	3	2	4	4	5	5

- a) Calculate the mean number of floods per year.

.....

..... [1]

- b) Identify one way that the data could be presented to show the link between the number of storms and the number of floods.

..... [1]

- c) Explain how storms can increase the frequency of coastal flooding.

.....

.....

.....

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..... [4]

- d) Suggest one threat to people from increased frequency of coastal flooding.

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.....

..... [2]

- e) Describe one way that coastal flooding has a negative impact on the environment.

.....

.....

..... [2]

[Total 10 marks]



Coastal Management

- 1 Study Figure 1, a news article about coastal defences in Cliffall, a UK coastal town.

Figure 1

HOPE FOR CLIFFALL'S COASTLINE

Work is due to start next week on new defences for the Cliffall coastline. The town has been suffering from the effects of coastal erosion over the last few years but it's hoped the new defences will prevent further problems. The scheme will use a combination of defences, including groynes, slope stabilisation and beach replenishment. The work will be completed gradually over the next four years, with the groynes the top priority.



- a) Which one of the coastal management strategies below is a hard engineering strategy?

- A Beach replenishment ☐
 B Slope stabilisation ☐
 C Groynes ☐
 D Strategic realignment ☐

[1]

- b) Explain how one soft engineering strategy mentioned in Figure 1 can protect the coastline.

.....

[2]

- c) Give one disadvantage of the soft engineering strategy identified in part b).

.....

[1]

- d) Suggest why the coastal management strategy for Cliffall does not include strategic realignment.

.....

[2]

- e) Explain how Integrated Coastal Zone Management can offer a sustainable approach to protecting the coastline.

.....

[3]

[Total 9 marks]

