

Name: \_\_\_\_\_



# GCSE Geography

## Homework Booklet



**Year 10**

**Term 1: Coasts and Coastal Processes**

**Task 1: Write an answer to each of the following exam questions**

1) Describe the differences between constructive and destructive waves (4 marks)

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2) Describe the difference between headlands and bays (2 marks)

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3) Explain the formation of a cave, arch and stack. You may use a diagram to help you (4 marks)

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**Task 2:**

- Complete the guided reading activity on the next page
- Plan an answer to this question: "Explain the importance of using coastal management to protect the coast. Refer to an example in your answer" (6 marks)

Sentence starters:

- One social reason is... this means that...
- An economic reason why it's important to protect the coast is... as a result...

**Task 3: Revise for your end of unit assessment on coasts. Use the revision material in the Sharepoint folder to help you.**

**5** What defences are being used in Hornsea?  
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**6** What kind of engineering is being used at Withernsea?  
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**9** Explain the importance of the B1242 (a main road leading to Mappleton)  
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**1** Where is the Holderness coast located?  
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**2** What tells you the Holderness coastline is disappearing quickly?  
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**3** Why are the towns economically important?  
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**4** Why is it important that Hornsea's coast is protected?  
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## THE HOLDERNESS COAST

What is happening at Holderness?

The Holderness coastline of the East Riding of Yorkshire is widely regarded as one of the fastest eroding coastlines in Europe and has been so since the last ice age. Despite this, it is the home to several towns and many villages and a thriving tourism and fishing industry. The area has long suffered from the social and economic costs of the erosion and many villages have disappeared into the North Sea in recorded history.

**Hornsea** is a small coastal town located between Bridlington and Withernsea. A 2.9km stretch of shoreline fronts the town of Hornsea. Hornsea consists of a high-density urban development containing residential and various tourist related properties. Hornsea's local economy is dependent on tourism and recreation as well as incorporating a small fishing industry.

The position of the coastline at Hornsea has been artificially fixed since existing coastal defences were erected in the early 1900s. The current coastal management plan is to hold the line at Hornsea. This means coastal defences will be maintained and replaced in order to protect the town.

Hard defences in the form of a concrete seawall and timber groynes afford protection and an ongoing refurbishment programme ensure this has continued.

**Withernsea** is a seaside resort town situated approximately 10 miles (16 km) north of Spurn Point and 17 miles south of Hornsea where the B1242 meets

the A1033. The town is surrounded by rich agricultural land and yet sits close to the cliffs and the North Sea. The seafront at Withernsea is protected by hard engineering solutions such as groynes, concrete seawalls and rock armour. The groynes are essential to help retain the sand adjacent to the hard coastal defences. Without the sand, the coastal structures could become unstable, which could result in their collapse, putting Withernsea at risk from the sea. It is estimated that the groynes will have a lifespan of around 50 years. Running along the Withernsea promenade is a recurved seawall. The present seawall cost a total of £6.3million, £5000 per metre, to construct. Sections of the sea wall were upgraded during 2017. Protecting the seawall is rock armour (rip-rap), which is a group of different-sized rocks that are designed to absorb the energy from the waves, reducing the impact on the seawall and the town behind. These rocks lie in front of the seawall along the Withernsea coastline, adding further protection from erosion.

Rates of coastal erosion have increased to the south of the defences at Withernsea. This is because the material is trapped by the groynes along the seafront. This means beach material that is transported away by longshore drift is not replaced leaving little sediment on the beaches. Waves can then reach the base of the cliff at high tide causing erosion of the soft boulder clay cliffs.

Located 3 miles south of Hornsea. Mappleton is situated on the B1242, the road connecting towns along the Holderness Coast. This road is of huge economic importance to the area as it provides access to a range of towns and villages for locals. It provides access from smaller villages such as Mappleton and Aldbrough to larger settlements with a wider range of services such as Hornsea and Withernsea. In addition to this the Holderness Coast is a popular destination for holidaymakers and during the summer months, the road is used heavily by tourists. It also widely used by local farmers for access to the rich agricultural land in the area.

To reduce coastal erosion, boulders have been placed like a wall in a 450m line of defence along the shoreline. It works by absorbing – not reflecting – wave energy using large air spaces between the boulders and a broad surface area. This method is very expensive but long-lasting.

Vegetation was planted on the cliffs to further stabilise them from mass movement. This is known as cliff stabilisation.

**10** How would the tourism industry be affected by coastal erosion?  
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**11** What do the boulders in Mappleton do to wave energy?  
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**12** What have they done to the cliff and why?  
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**7** Name one disadvantage of the sea wall. Give a statistic to support your answer  
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**8** What is one problem of using groynes for beaches further down the coast?  
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