

Welcome to GCSE Geography



Where will it take us today?



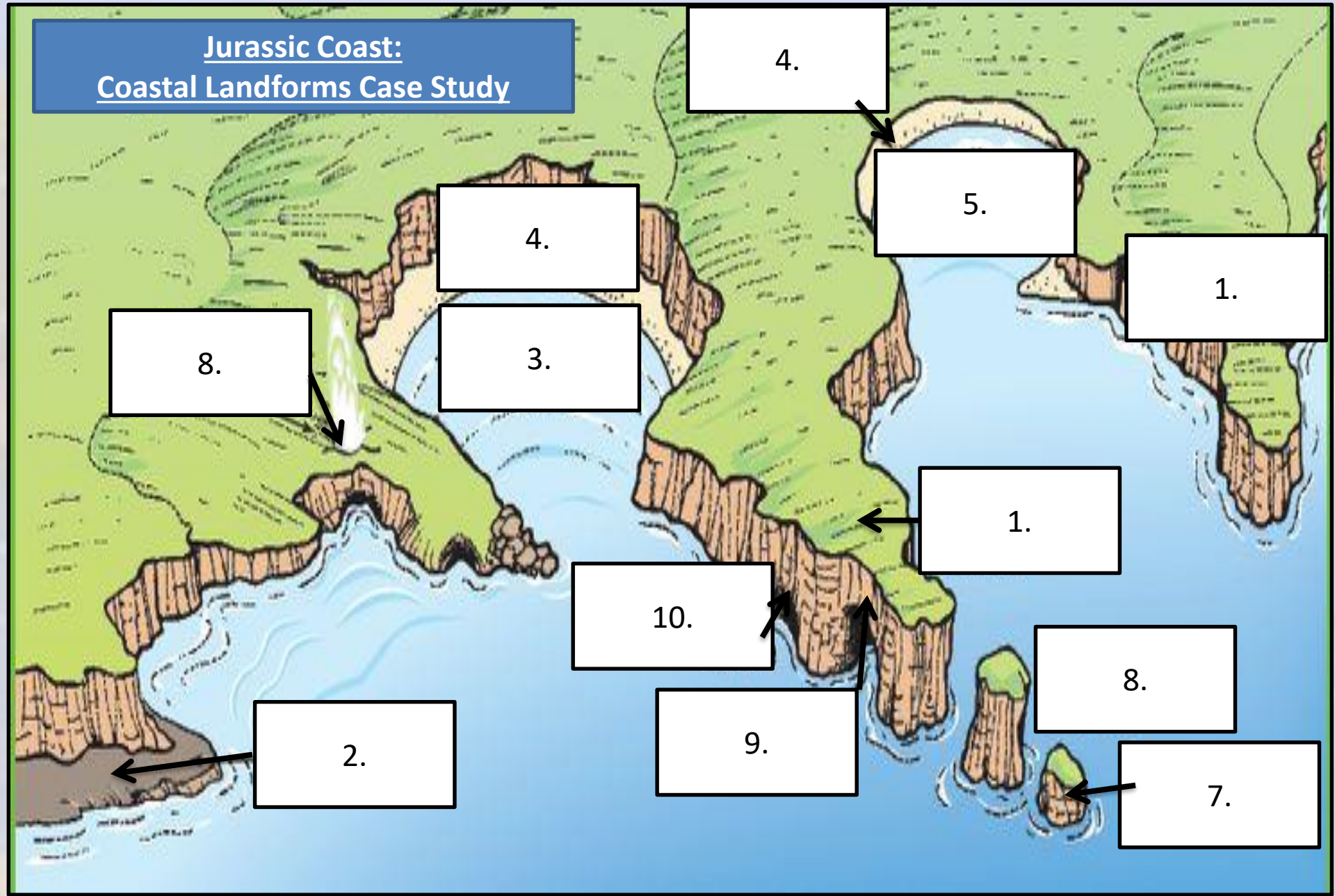
TOPIC 3:

DISTINCTIVE LANDSCAPES

3.2b: Case Study of a chosen coastal landscape

aii) how are geomorphic processes and landforms influenced by climate and humans?

**Jurassic Coast:
Coastal Landforms Case Study**




Must: Name the landforms

Should: Label if they are erosional or depositional

Jurassic Coast: Coastal Landforms Case Study

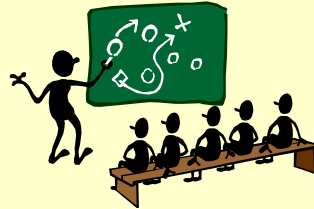
Learning is successful when I can:

- Identify landforms on the Jurassic Coast (2)
- Describe what the landforms look like (3)
- Explain how they were formed using geographical terminology (4-5-6)
- Evaluate the role of climate, geology and human activity in shaping the landscape (7-9) 



PRESENT NEW INFORMATION

LOOK, LISTEN, LEARN



Act 1 Sc1: Jurassic Coast gets battered



This image shows the south-west main-line railway at Dawlish, Devon, suspended in mid-air after the foundations were washed away by the storm of 5 February. Photograph courtesy Matt Clark, Met Office

Causes?

SEE

consequences?

What might the future hold? [p93]

Act 1 Sc2: Jurassic Coast – give in to the sea or fight back?

GIVE IN –
we can't
win

FIGHT IT –
too much
to lose

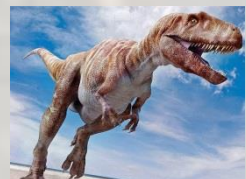
Page
94

10
mins

Every council with a coastline has to produce an SMP –
what's an SMP?

What are the FOUR coastal management options?

How do councils decide which one to go for?



Management option	Description
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HOLD THE LINE

Allow natural processes to happen. This is the likely choice when land or property is of a lower value than the cost of sea defences

RETREAT THE LINE

Build new coastal defences further out at sea, which creates new land. This is the most expensive of the 4 options and req's hard engineering. This is the necessary choice if protecting important infrastructure like airports.

ADVANCE THE LINE

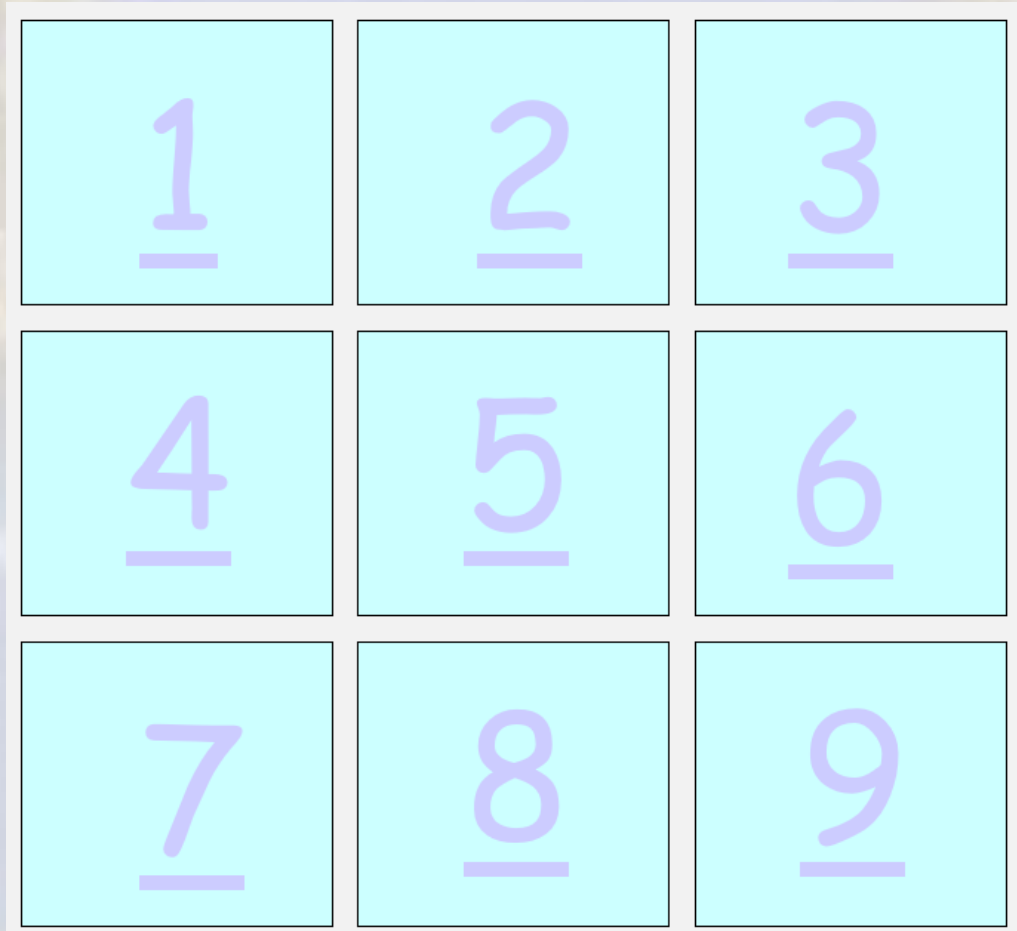
Create a gap in the existing sea defences to allow land to flood naturally. This is a cheaper option. Sand-dunes &/or salt marshes will develop over time to give a natural barrier to slow down/prevent future erosion.

DO NOTHING

Maintain existing sea defences using hard or soft engineering. This is an expensive option but makes sense if the cost of what needs protecting eg infrastructure or a large town exceeds the cost of installing & maintaining the defences.

Task: Match up and summarise in 10 words

Act 2 Sc1: Coastal Management



<u>1</u>	<u>2</u>	<u>3</u>
<u>4</u>	<u>5</u>	<u>6</u>
<u>7</u>	<u>8</u>	<u>9</u>

There are TWO strategies – H and S

Act 2 Sc2: Coastal Management

Investigate the 😊 and the ☹️

Management name	Hard or Soft	😊	☹️	Used in
SW				Lyme Regis
G				
RA/RR				Lyme Regis
OSR				
BN				
MR				

Sidmouth and East Beach Management Plan was adopted by EDDC Cabinet in April 2017, the main recommendation of which is to implement a beach management scheme to maintain the protection from coastal flooding and reduce the rate of erosion of the cliffs on East Beach.

The preferred option for doing so recommended by the BMP is to;

- Construct one (or possibly two) rock groynes on East Beach
- Shorten the training wall (adjacent to the Fishermen's area at Port Royal) to allow for maintenance access to East Beach
- Periodically import new shingle onto the beach
- Periodically recycle shingle (move it from where it accumulates to areas where it is being lost)



The solution: beach recharge

The Environment Agency and its partner Teignbridge District Council propose the following range of works that are needed at Dawlish Warren to allow the sand spit to continue to act as a barrier to storm waves, whilst improving the site for people and wildlife.

This includes work to:

- add extra sand to the beach at Dawlish Warren, a process known as beach re-charge
- maintain the seawall and revetment at the base of Dawlish Warren sand spit, near to the tourist facilities and village
- repair, replace and possibly extend the wooden groynes along the beach
- build a new flood defence near the visitor centre to reduce the risk of tidal flooding to Dawlish Warren village
- remove the gabions (rock filled wire baskets)

This work will help to protect the communities, main rail line and other infrastructure inside the estuary whilst also improving the quality of the beach and allowing the sand dunes to recover.



WHAT WOULD AN EXAM QUESTION LOOK LIKE?



Discuss the factors that would need considering when deciding how to manage a coastal landscape

[8]

10
mins

Steps to Success

1. Size of risk - Human and physical factors need considering
2. Human: size of population at risk? Any economic activities
3. Physical: how bad has it been? Might it be? Climate change?
4. Available funds?

WHAT WOULD AN EXAM ANSWER LOOK LIKE?

Page
n/a

Discuss the factors that would need considering when deciding how to manage a coastal landscape [8]

8
mins
peer
assess



Population size – the bigger the population, the more people there are at risk

The value of property and economic activity – the higher it is, the greater the potential loss

The cost of installing the defences vs the cost of paying out for the losses if we don't

The probability of the risk becoming reality – once in a lifetime – take a chance vs frequent risk – worth spending

The magnitude of the event – high vs low



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Plenary – making coastal protection future proof

What will we need to
take into account?

Population
changes

Climate change

Changing
economic
activity

Sea level