

Flood Alert! Island Cut Off! Southampton Water - a reclaimed history

Student Introduction

- ▶ In these exercises you will understand how the Solent and Southampton Water were formed.
- ▶ You will travel on board a ferry to get a first-hand view of how the area looks today, and the human activities that take place there.



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1. Read the following introduction

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2. Complete the activities on the following pages.

Student Introduction

You will be travelling to the Isle of Wight on a Red Funnel ferry across the water.

However once upon a time, instead of the sea, you would have had to walk across a shallow valley, passing elk and mammoths on the way to get to what is now the Isle of Wight!

This valley flooded with water around 9,000 years ago at the end of the last ice age, and your ferry will now take you across it.

During this activity you will be finding out how and why this happened, and you will also be thinking about how the physical geography of Southampton Water has enabled certain economic activities to locate there.



Area Familiarisation

Study the outline map below, which shows the south coast around Southampton and the Isle of Wight.

Using the internet, an atlas or Ordnance Survey map (eg. Landranger 195 and 196), find and label the following: **The Rivers Itchen, Test and Hamble, Southampton Water, The Solent.**

The River _____

The River _____

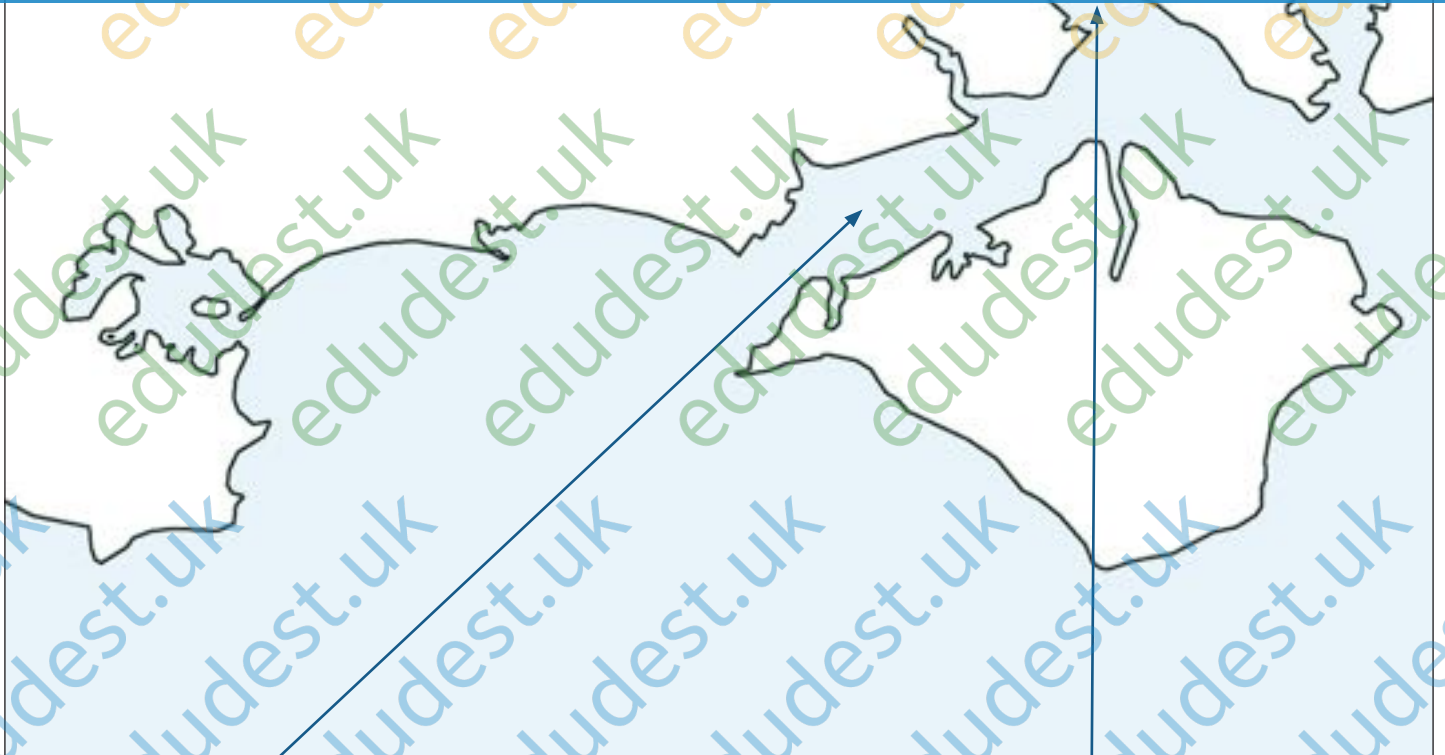
The River _____

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The _____

A Little Background...

During the Earth's history, the climate has naturally fluctuated between warmer and colder periods.

About 20,000 years ago, the climate was very different to today. This was the peak of the last glacial period (or sometimes called "Ice Age"). Global temperatures were much colder than today and vast ice sheets covered up much of North America, Northern Europe and Asia. Much of the water was 'locked up' as snow and ice, and therefore sea levels were over 100m lower than they are at present in some places.



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The map above shows the ice sheets extending down through Wales and the north of England (blue) and it shows that southern England was joined to the European continent (green).

At this time the Solent was merely a river which ran between what is now Hampshire and the Isle of Wight. The Solent was just one of many tributaries which fed the Channel River which eventually flooded to become the English Channel!

Flood Alert!

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Southampton Water was once a relatively small tributary of the large Solent River, flowing through a wide, dry valley. A chalk ridge extended between Purbeck on the south coast, and the Isle of Wight.

So where did all this extra water come from?

Southampton Water is pretty wide and deep - how did it get to be like this? How was the Isle of Wight separated from the mainland?

Warming of the global climate caused sea levels to rise as the ice sheets melted and huge rivers carried the meltwater away. These swollen rivers cut through the landscape and their power eroded through the soft chalk ridge. Meltwater literally 'drowned' the once dry valley, submerging vast areas under water.

Southampton Water, the Solent and the English Channel were all submerged under the rising seas and the Isle of Wight was born.

Southampton Water is an example of a Ria. A Ria is a drowned river valley and was formed when sea levels rose and the river was cut off from the sea. Southampton Water is a Ria and it has created a very wide and deep estuary now known simply as Southampton Water.

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Use the internet to watch the following short video animation.

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Visit www.edudest.uk/followup and type in the number of this document, **10719**.



The video clip explains the formation of the Solent and Southampton Water, which you will travel across on your journey to and from the Isle of Wight.

Watch the video carefully, and then rewind it to the beginning as you will need it to complete the next activity.

Interpreting the Video

Pause the video at the appropriate positions as shown below and on page 5. On the map outlines given, use colour to present what you see in the video, showing land, rivers and sea, and significant obstacles such as cliffs.



Video position: 40,000 years ago

During the last _____ age, sea levels were much lower than they are today. A chalk _____ extended between Purbeck and the _____ of _____. Rivers cut through this ridge in places.

Interpreting the Video

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On the map outlines given, use colour to present what you see in the video, showing land, rivers and sea, and significant obstacles such as cliffs.



Video position: 20,000 years ago

At the end of the last ice age, global _____ increased and the vast ice _____ melted, and huge _____ carried this meltwater away.

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Video position: 7,500 years ago

The valley was _____ and The _____ was formed, cutting the _____ of _____ off from the mainland.



Southampton Water is an example of a _____.

This is a drowned _____ valley and was formed when sea levels rose and caused _____ far inland up the estuary.

ON THE FERRY



Look out of the windows of the Ferry at Southampton Water / The Solent – what does it look like today?

Working with a partner, write down as many adjectives and nouns as you can think of to describe what you can see – categorise your ideas using the headings in the table.

ADJECTIVES (describing words)	NOUNS (objects / things)
Think size (width and depth), shape, conditions	What features can you see on and off the water?

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To help you...

Adjectives... Is it **wide** or **narrow**? Does it look **shallow** or **deep**? Is it **straight** or **bendy**?

Do you think that it is **sheltered** or **exposed**?

Can you see any of the following...(add them to the '**nouns**' column if you can!)

Cruise ships, sailing boats, ferry, cargo vessels, docks, moorings, port, chimneys, warehouses, containers, factories, power stations...



BACK AT SCHOOL

Let's now review everything you observed on your trip.
Make notes below, and then answer the questions.

Human activities I
saw from the

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Q1

Southampton Water is a **Ria**. Can you remember what a Ria is, and how they are formed?

Q2

When you were on the ferry, you came up with some **adjectives to describe** what Southampton Water / The Solent is like. What did you write?

Q3

For each of the activities in the table below, can you explain how the physical geography of Southampton Water enables these to take place there?

One has been completed as an example for you.

Human Activity	How the physical geography of Southampton Water allows the ideal conditions for this activity to take place
Cargo Shipping	Southampton Water is a Ria: a drowned river valley that is wide and deep. This allows large cargo ships to travel up to the docks in Southampton...
Cruise Ships	Clue: cruise ships are large, like cargo ships...
Industry - Fawley Oil Refinery and Power Station	Clue: tankers are large! Power stations use water for cooling. Oil needs shipping to Europe.
Recreation - Sailing and Yachting - e.g. Calshot Activities Centre	Clue - lots of space and relatively sheltered waters needed.

