

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.



AT SCHOOL

1. Read the following introduction.
2. Complete the activities on the following pages.



Student Introduction

You will be travelling to the Isle of Wight on a Red Funnel ferry. You will board the ferry at Town Quay, Southampton and the ferry will take you down Southampton Water, across the Solent (the area of water between the mainland and the Isle of Wight) and you will arrive at East Cowes on the Isle of Wight.

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!

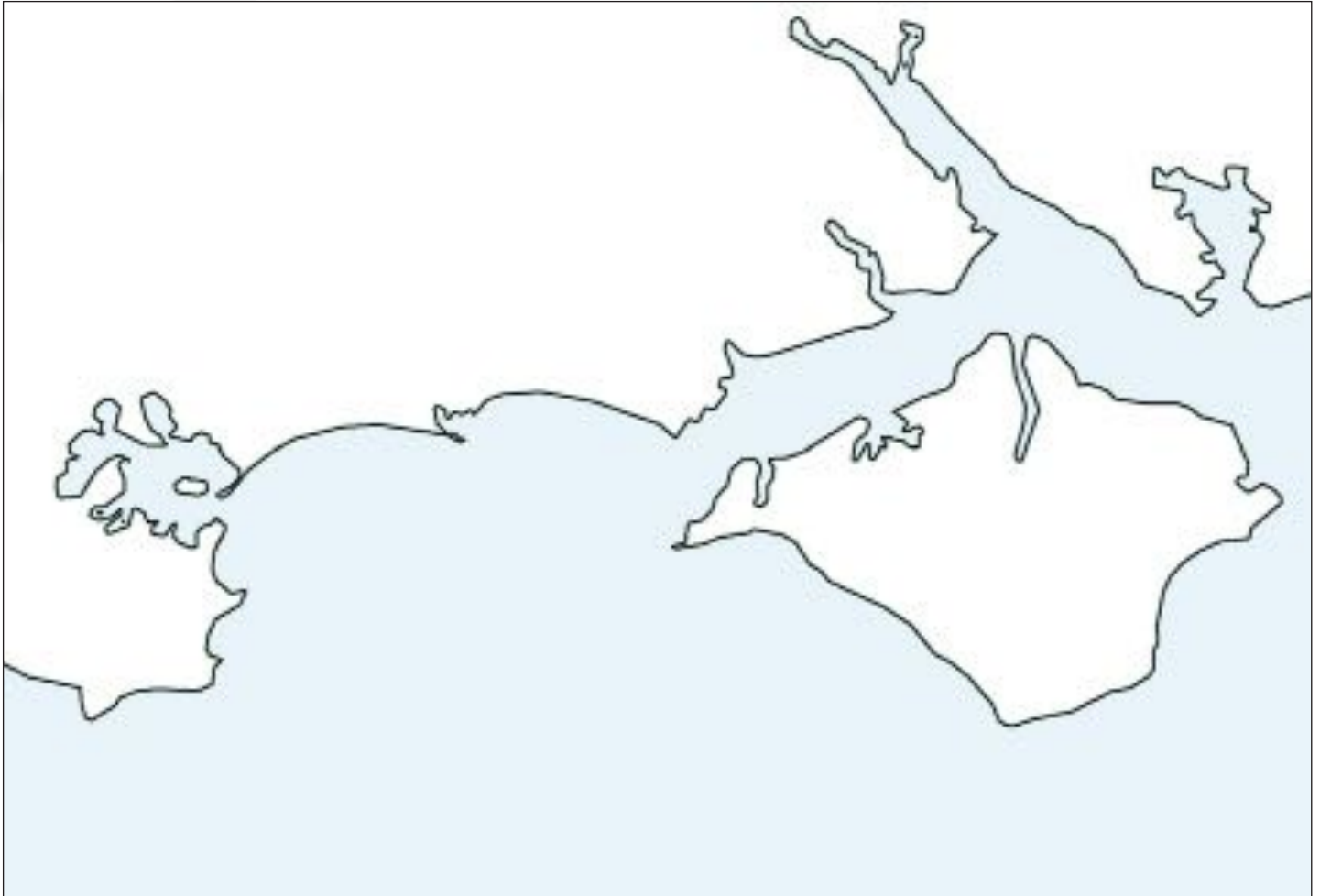
This valley flooded with water around 9,000 years ago at the end of the last ice age, and your ferry will now take you across it.



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 features shown in the list below.



Add the following:

AREAS

Isle of Wight
New Forest National Park
Isle of Purbeck

TOWNS & CITIES

Southampton
Portsmouth
Gosport
Fareham
Newport (Isle of Wight)
Poole
Bournemouth
Swanage

WATERWAYS

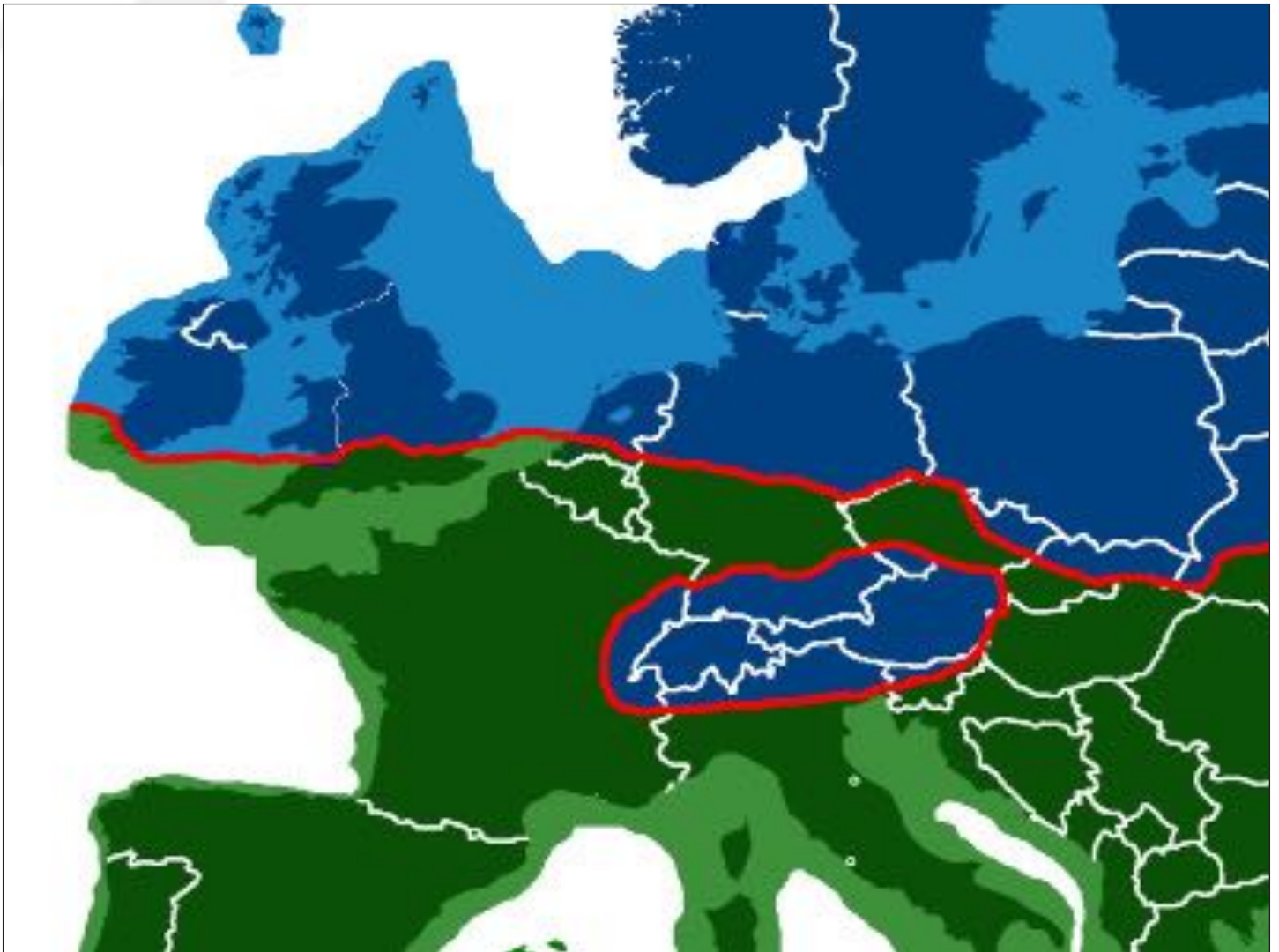
River Test
River Itchen
River Hamble
River Medina
River Yar
Newtown Creek
The Solent
Southampton Water
Beaulieu River
Lymington River
Poole Harbour
Christchurch Bay
Portsmouth Harbour

Hint: *Tick them off as you add them!*

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.



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!

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 flooded the estuary of the rivers Test, Itchen and Hamble. Flooding occurs far inland, up the rivers, and it has created a very wide and deep estuary now known simply as Southampton Water.

Use the internet to watch the following short video animation.

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 activity on the following page!

Interpreting the Video

107193

Pause the video at the appropriate positions as shown below. On the map outlines given, use colour to interpret the video, showing land, rivers and sea, and significant obstacles such as cliffs.



Video position: **40,000 years ago**

Write your own caption:



Video position: **20,000 years ago**

Write your own caption:



Video position: **10,000 years ago**

Write your own caption:



Video position: **7,500 years ago**

Write your own caption:



ON THE FERRY

As you travel down Southampton Water and cross the Solent, what does it look like today?

Work with a partner to write down as many adjectives and nouns you can think of to describe what you can see. Categorise your ideas using the headings in the table below.

In particular, keep an eye out for human activities taking place along the route. When you return to school, you will be asked to explore how the physical geography of Southampton Water and the Solent have provided the ideal conditions for human activities to develop.

ADJECTIVES (describing words)	NOUNS (objects / things)

Now you have your list, try to categorise them and give each category an appropriate heading - for example, 'Industry' could be one...



BACK AT SCHOOL

Let's now review everything you observed on your trip.

Complete the questions which follow.

Q1
How does the physical geography of Southampton Water provide opportunities for human activities?

Category of Human Activity	Examples I Saw
e.g. Industry	Oil tanker

Q2
Southampton Water is a **Ria**. Can you remember what a Ria is, and how they are formed?

Q3
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?

Q4

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	
Industry - Fawley Oil Refinery and Power Station	
Recreation - Sailing and Yachting - e.g. Calshot Activities Centre	

Extension Questions

- Southampton is also an important urban area; it is one of the main cities along the south coast of England. In what ways do you think Southampton Water, and the proximity of the Solent and the English Channel has promoted the development of this urban area?
- Southampton benefits from a unique 'double-high water' which is due to the shape of the coastline and variations in water depth. This results in unusually long periods of high water (up to 17 hours each day). How do you think this phenomenon has promoted the development of the docks, ports and industry in this location?

