Portsmouth Harbour: The Geography of Defence!

STUDENT INTRODUCTION

Portsmouth is a city on the south coast of England. With a population of 205,400 (2011 census), it is one of the south coast's major urban areas. In fact, together with the wider built up area along this stretch of coast, which includes the city of Southampton, it forms a single population centre that is larger than other large urban 'giants' in England like Liverpool or Newcastle; it is a pretty important place!

There has been a settlement here since Roman times, where a settlement called 'Portus Adurni' was built in the 3rd Century in what is now a suburb of the northwest of the city.

PRE-VISIT TASKS

Before your trip on Wightlink Ferries, you are going to find out a little bit more about both the physical and human geography of Portsmouth and the wider Solent area.

Firstly, let's make sure that you understand these terms. Using the words in the word box (each is only used once – cross them off as you use them!), complete each sentence to define each term:

1. Physical Geography is…

2. Human Geography is…

Include	is	nature	and	systems	industry	it	natural
cause	landscapes	to	and	how	over	change	topics
rivers	and	weather	time	migration	at	is	
people	processes	it	topics	population	like	/climate	
and	settlements	coasts	develop	concerned	covers	with	
tourism	about	natural	looks	and			

Well done – you should now be happy with these key terms. You are now going to do a little bit of map-detective work, and thinking, to find out more about the specific physical and human geography of the area. Use the map provided for the activities.

The Physical Geography of Portsmouth and the Solent area

Portsmouth is an island city, in fact, the only city like this in the UK.

▶ Look at the map on page 3 and see if you can find Portsea Island – it is surrounded by water on all sides, which makes it officially an island.

A narrow tidal creek, called Portsbridge Creek, separates it from the mainland to the north.

▶ See if you can name the areas of water that separate it on the other 3 sides:

    1. To the East is _____

    2. To the West is _____

    3. To the South is _____

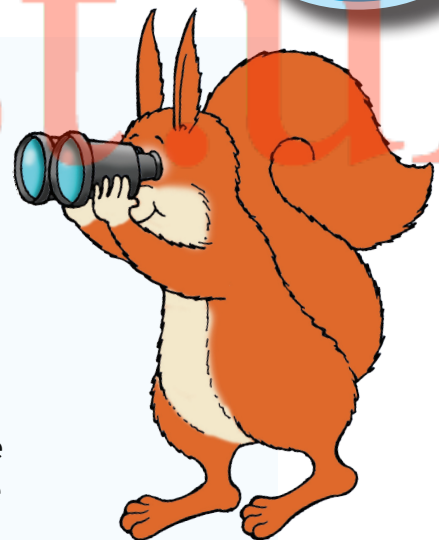How would you describe the other characteristics of the physical geography of the area?

▶ Write some ideas down in the space below, and then share with a partner. Your teacher may well ask you to share with the class too!

PRE-VISIT TASKS

Once a dry valley, now the Solent…

Yep, that's right… the area now under the sea and known as the Solent was once a dry valley with trees, animals and rivers. The Solent River ran through this valley, with many tributaries running into it along its course.
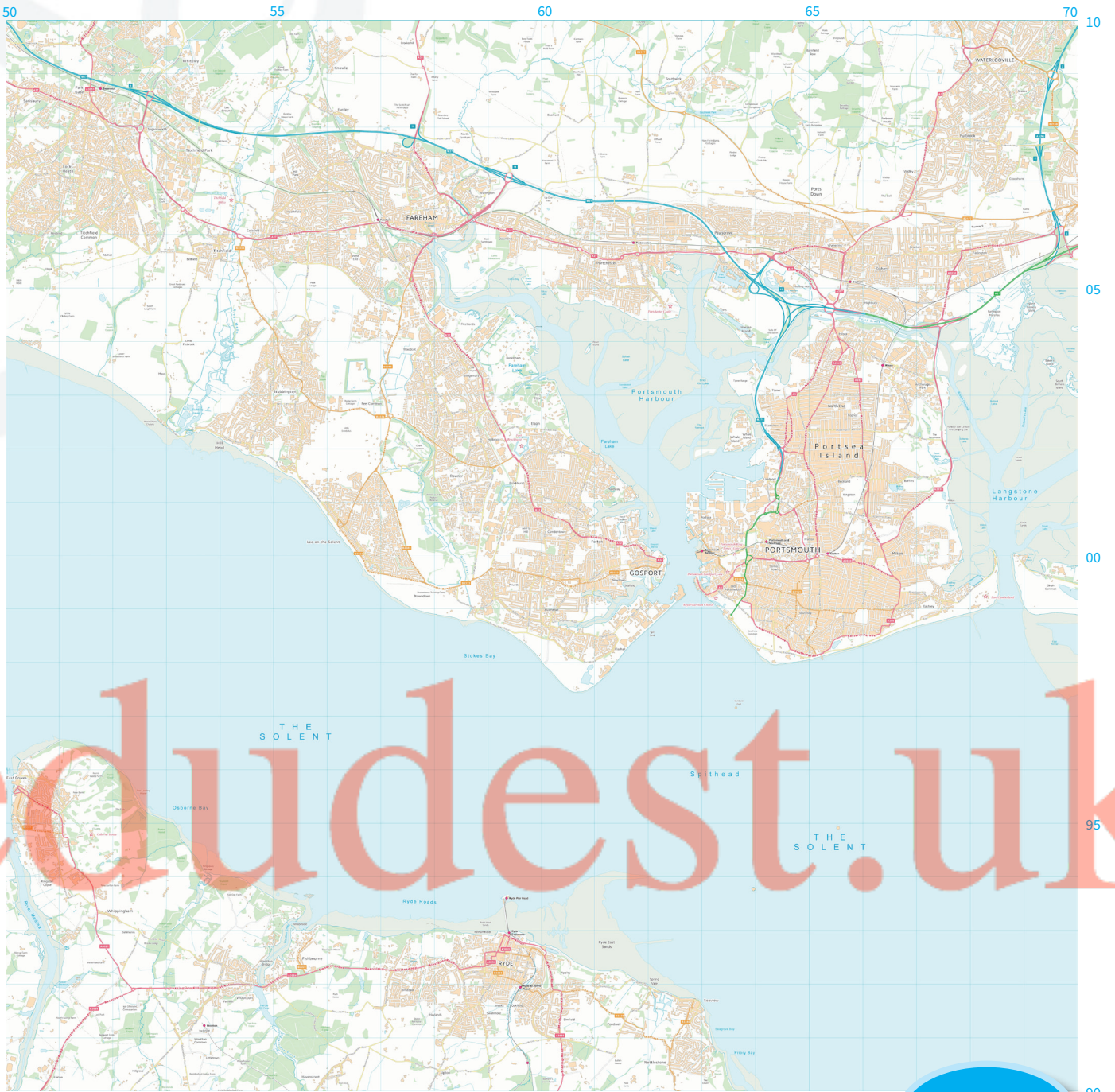
Our early ancestors even lived here; evidence of stone age settlements, and the lives of their dwellers, have been found under the sea here! Sea level rise at the end of the last Ice Age, about 9000 years ago, when all of the glaciers and ice sheets on land were melting, basically 'drowned' this valley, cut through the chalk ridge that once joined the Isle of Wight to the mainland, and flooded the whole area to form what we now know today as the Solent!

The Human Geography of Portsmouth and the Solent area

Well, you know something about this already, e.g. the population of the city of Portsmouth! But, what else could you say about the human Geography of the area.

See if you can fill some information into the table overleaf, using the map to add some specific detail e.g. place names, or the names of features. If you are being super clever, and want to show off your geographical skills, you could even add some grid references for these too!

PRE-VISIT TASKS

Human geography 'topic'	Specific detail from map
Settlements	
Transport links/ communications	
Evidence of industry	
Evidence of any other human activity, e.g. recreation	

PRE-VISIT TASKS — Site and situation

Site and situation are terms that are used in Geography to describe the location of a settlement. Your teacher will show you a web-link. Listen to the information, and look at what you are shown carefully, and then **write a definition of each term in the space below**.

Site = _____
_____
_____

Situation = _____
_____
_____

▶ Now, **how would you describe the site and situation of Portsmouth**? Try to use some good key geographical terms, and also make some reference to specific features from the map (you could even include some grid references!)

Site = _____
_____
_____

Situation = _____
_____
_____

Extension question

▶ **How has the physical and human geography of the area combined/interacted to make Portsmouth what it is today?**

Portsmouth has the world's oldest dry dock used to float vessels into, drain, and then service, repair and maintain them on dry land, before re-floating again. The naval base here has been an important part of the city since 1194, and by the early 19th century Portsmouth was considered to be the 'World's greatest naval port'.

Today, it is home to almost two-thirds of the Royal Navy's surface ships, including the new formidable Type 45 destroyers, and HMS Queen Elizabeth which was docked here at the time of writing and can be seen in the background of the picture. It is the first of a new class of aircraft carriers which are the largest and most powerful ever built. At a cost of £3.1 billion to build, it can carry up to 40 aircraft. Currently undergoing sea trials, it will be commissioned at the end of 2017.

The wider Naval base here includes officer accommodation and messes, as well as support for them such as education, medical and welfare facilities. Also, several training bases and facilities have been established in other parts of the city, including in Fareham and Gosport. In all, there are about 17,300 people working in the bases here, which forms a significant part of the total population.

The entrance to Portsmouth Harbour, and the bases within it, has been protected from both the land and sea with defence lines constructed from 1665 and fortified over centuries since.

In addition to the Naval Base at Portsmouth, the area of sea known as the Solent has other forms of protection in and along it…

During King Henry VIII's reign 8 Forts were built, the first of which was Calshot Castle (1539) and then Hurst Castle was finished in 1544 - just in time for the French invasion the following year!

Later, but still with the threat of French invasion in mind, four Solent Forts were built. Constructed between 1865 and 1880, these are called Spitbank Fort, St Helen's Fort, No Man's Land Fort and Horse Sand Fort.

They were originally built here to protect Portsmouth from attack from the sea, although none were ever used for this intended purpose and were sold after the second World War. They have now become part of a chain of luxury hotels and a museum.

The Palmerston Forts were built around the coast of the Isle of Wight around the same time, again to protect the approaches to the Solent and Portsmouth and Southampton from attack. In the 19th century, Palmerston Forts were added to the line of defences around the entrance to Portsmouth Harbour.

You will see many of these defences from the ferry!

PRE-VISIT TASKS

Using what you have learnt above about the physical and human geography of the Solent, see if you can answer the following questions…

1. Why does the site and situation of Portsmouth make it vulnerable to attack? _____

_____

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2. Why was this a good location to build forts and castles, and the Naval Port? _____

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ON-SITE TASKS

You are now going to carry out some activities on board the Wightlink Ferry as you make the crossing across the Solent to/from the Isle of Wight. Read and follow all instructions carefully!

Task 1: Then and now…

Below are some historical images of Portsmouth Harbour, along with some images of the Harbour today. Label each image to pick out some of the key characteristics, and then complete the table of similarities and differences on page 10.

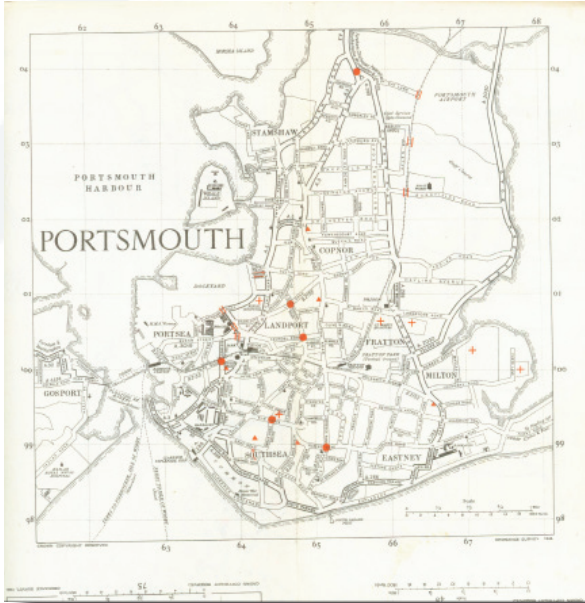*Foudroyant and Pégase entering Portsmouth Harbour, 1782*
Dominic Serres

An English frigate running into Portsmouth harbour, with Fort Blockhouse off her port quarter, unknown date
Dominic Serres

Label each image to pick out some of the key characteristics, and then complete the table of similarities and differences.

A Historic Roadmap of Portsmouth, 1948, Ordnance Survey

Portsmouth Harbour, 1865

Label each image to pick out some of the key characteristics, and then complete the table of similarities and differences.

ON-SITE TASKS

Similarities	Differences

Extension

▶ **Think about, and discuss, how the situation of Portsmouth has changed over time.**

Hint – use the OS map on page 3 to describe changes to things like settlement development and growth, the growth of communication networks etc…

ON-SITE TASKS

Task 2: Sketch-perts

Are you an expert sketcher (known as a 'sketch-pert')? Well then, let's show off that talent… You are going to draw a sketch of the harbour, as seen from the ferry. You should try to draw the 'basics' fairly quickly, before the ferry departs/ arrives and you can't get a good view anymore!

Once you have drawn your sketch, add lots of labels to identify and describe the location of Portsmouth and its main features. Your own knowledge of Portsmouth (remember what you did pre-visit!), the OS map above, and your teacher will help with this. Then, try to add detail to a few of your labels, to make them into annotations, which *explain* as well as simply describe the *site* and *situation* of Portsmouth.

Task 3: Defence designers!

Before your trip, you learnt a little about the different forms of defence that have been built in, and along the shores of, The Solent.

On the map (right), **mark on the locations** of as many different forms of defence as you can (hint: Calshot and Hurst Castles are on their own respective spits!)

▸ Write a letter / postcard home to describe what these defence structures are like and where they are and, importantly, why you think that they were built here in the first place (what role did they play in defending this part of the coast, and why does the 'geography' of this area make it (a) vulnerable to attack and, (b), therefore a strategic place to build defences?). Try to be as 'geographical' as you can in your description and explanations.

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_____
_____
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Hurst Castle, at the end of Hurst Spit

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_____

ON-SITE TASKS

Task 4: Ferry nice photos

Several ferries operate into and out of Portsmouth. See how many of them you can see and take a picture of. The images below will help you to identify what you are looking out for – can you identify each one and, for bonus points, where it goes to/from?

As you look around the Harbour and near the entrance from the Solent, you will also notice how busy Portsmouth Harbour is!

See if you can find, and photograph, as many other types of vessel in, or entering/leaving, the harbour as you can. All of your photos will be useful in the post-visit activity!

POST-VISIT TASKS

Task 1: Investigating shipping movements

You are going to be investigating the shipping/vessel movements into and out of Portsmouth Harbour.

Go to the following website: http://www.solentprotection.org/solent-now/

'Solent Now' gives live feeds from vessels in the Solent; the vessel's name and position, along with their speed and direction (given as a bearing), is constantly updated. If you zoom into the Portsmouth Harbour area (zoom into the 500m scale), you will be able to hover over any vessel to see this information.

The map also contains information about the ferry routes. Zoom further in (to the 300 or even 100m scale) to see where these ferries go to/from.

You will also notice that there are options on the left-hand side. Look, for example, at 'vessel filters', where you can choose to display which types of vessel that you want to be shown. Notice, also, the 'layers' options… You can choose for the vessel names, or for their projected course (within a pre-set time limit) to be shown on the map.

Spend some time experimenting and getting used to the map, and the various options/ways of using it.

This map is a form of **GIS: Geographical Information System**. This is basically a system whereby all manner of different types of Geographical data may be represented on a base map/base maps. This information is built up in 'layers' which can be turned on and off by the user, so that they can investigate and study different information about that area. Relationships and patterns between different sets of data (in different map layers) can be analysed. It really is very clever, and very 'modern' stuff; welcome to the world of GIS!

Now, using the map, you are going to complete each task to fill in the table below:

1. Go out to the 3km scale and move the map so that it's just above Fareham and just to the left of the 'S' of Stubbington. How many vessels are in this area? (Hover over the symbol bottom left!)	
2. Using the 'vessel filters' option, find out which type of vessel is a) the most common and, b) the least common on your map. Can you offer an explanation as to why you think this is the situation?	
3. Select 'passenger vessels' only. Write down the names of each passenger vessel present in the Harbour at the time, and write down where it goes to/from.	
4. Which other passenger vessel routes are there; where do they go to/from? (Clue – zoom right in and look at the dotted lines!)	

5. Select 'high speed craft' only. Which two ferries to the Isle of Wight are high speed? Where do they go to/from?	
6. How many pictures of different passenger vessels did you manage to take on board the ferry? Insert these here, and add a label for each to indicate where the vessel goes between.	
7. Select a different type of vessel of your own choice. Zoom in and out and use the mapping tools, e.g. the 'projected course' facility, to find out about the movements of this type of vessel. Write a description of what you have found out. Include specific vessel names in your description.	
8. Select another 'layer' to display, e.g. the ports or lights. Write about the location of your chosen features in and around Portsmouth Harbour and the main vessel routes in and out of it. Be as 'Geographical' as you can, e.g. give specific place names, compass directions, and use the scale to give distances.	

POST-VISIT TASKS

Now, go to the Royal Navy shipping movements site, here:

https://www.royalnavy.mod.uk/qhm/portsmouth/shipping-movements

View the shipping movements, as either a web page or a PDF, for the current day. Choose a variety of vessels that are moving around, into or out of, the harbour. The abbreviations/key for their movements/locations (from and to) are on the link above!

Write down the name of each ship, and their movements, in the space below.

Using ALL of the information that you have gathered, answer the questions below:

a) Why has the physical and human Geography of Portsmouth's site, and the surrounding area (situation) led to its development and success as a major port?

b) Why has the physical and human Geography of Portsmouth's site, and the surrounding area (situation) led to its development and success as a major naval port/base?

c) What evidence have you observed/found out to suggest that Portsmouth Harbour is still one of the 'World's greatest ports', as it was considered to be by the 19th century?