PARENT NOTES

Geography

Ecosystems

At A Glance:

- ✓ Physical Geography
- ✓ Key Stage 4
- ✓ Low-mid, high ability range
- ✓ National Curriculum 2014
- ✓ Focusing on the concept of 'ecosystems'
- ✓ Pre-visit, on-site and follow-up activities available in project pack.

What's Involved?

Students will learn about the salt marsh ecosystem in the Lymington / Keyhaven area, and also the key characteristics of the marshes. They consider the relative problems and benefits of tidal inundation which is one of the key characteristics of this type of coastal ecosystem.

"Ecosystems, the ecosphere, those are good gifts. We have to regard them as good gifts because we couldn't live without them."

- Wendell Berry

About this activity

This is a geography resource which engages students with the physical geography of Lymington, while on their ferry crossing to/from the Isle of Wight. The resource leads students through knowing what salt marshes are and how they develop, including the concept of vegetation succession. Through map work, photo interpretation, and individual research, students then examine the location and extent, and the key characteristics, of the salt marshes in this location. As well as learning about the development and characteristics of salt marsh ecosystems, students also examine their importance on a local, national and international scale. While on the ferry crossing, students will be able to observe the salt marshes first-hand. A variety of tasks enables them to fully investigate what they are like, what some of the threats to them are and the impacts of these threats, and also make observations of some of the management strategies that are in place to protect them. On their return to school, students then work in small groups to research and present on a given topic/role, linked with the management of this stretch of coast and the coastal salt marsh ecosystems here. This then leads on to an investigation of some of the species that live, feed or breed in the marsh ecosystem; some students will go on to consider the specific adaptations of these to the unique characteristics of the environment, and also investigate different species, other than those given in the worksheet.

Questions & Answers

What is the task?

- This is a geography task which enables students to make first-hand observations of the physical (coastal landscapes and coastal ecosystems) and human geography (settlement, human activities, the impacts of these activities and the management of the environment) of a specific area.
- Students will learn about the physical geography of the area; specifically, they will learn about the natural (physical) characteristics of the coastal salt marsh ecosystem here.
- Students will learn about the human geography – settlement, human activities – of the area
- Students will learn how the physical and human geography of a place interacts; the threats posed by human activities and how human beings are aiming to manage and conserve the coastal environment.
- There are plenty of opportunities for students to carry out independent research and activities, including the post visit activity where they work in groups to prepare a presentation on a given topic.

Questions & Answers

How does this link to my child's learning?

- Below are the relevant KS4 links showing where this resource fits into your child's studies:
  - ✓ **Pearson Education Ltd (Edexcel) Geography A**, Topic 1: Coastal landscapes and processes. Human activities and impacts, and coastal management. Topic 3: Ecosystems. Importance of marine ecosystems and how human activities are degrading them.
  - ✓ **Pearson Education Ltd (Edexcel) Geography B**, Topic 4: Distinct physical landscapes and physical processes. How human activity affects coastal landscapes. Management of coasts.
  - ✓ **Pearson Education Ltd (Edexcel) IGCSE Geography**, Topic 2: Coastal Environments. Distinctive coastal ecosystems; their distribution and abiotic/biotic characteristics. Threats and management.
  - ✓ **OCR GCSE Geography A,** Living in the UK today: "Environmental Challenges". How ecosystems are used and modified by human activity. The World Around Us; 'Ecosystems of the planet', and 'Environmental threats to our planet'
  - ✓ **OCR GCSE Geography B**, Topic 2: Changing climate. Topic 4: Sustaining ecosystems; the concept of an ecosystem.
  - ✓ **AQA GCSE Geography, Section A**: The Challenge of natural hazards – climate change. Section B: The Living World. An example of a small-scale UK ecosystem. Section C: Physical landscapes – coastal management.
  - ✓ **WJEC Geography A, Unit 1**, core theme 1: Landscapes and physical processes: The development of distinctive coastal features. Human activity and intervention in coastal landscapes. Unit 2, core theme 5: weather, climate and ecosystems.
  - ✓ **WJEC Eduqas GCSE in GEOGRAPHY A**, Unit 1, Core Theme 1: Landscapes and physical processes: Human activity in a distinctive UK landscape, including management of human impacts. Theme 5: weather, climate and ecosystems.
  - ✓ **WJEC Eduqas in Geography B**, Theme 2: Changing environments: Human activity has modified coastal processes/landscapes over time. Coastal management. Weather and climate; the consequences of climate change on wildlife and habitats.

The activities in this resource enable students to cover the above aspects of their specification.

What will they learn?

- How to define the meaning of key terms associated with salt marsh development/succession and the key characteristics of this type of coastal ecosystem.
- To describe both the physical and the human geography of Lymington, and the surrounding area of the Solent, specifically the extent of, and characteristics of, the salt marshes here.
- To describe and explain the threats posed by humans, and human activities, to the salt marsh ecosystem.
- To explain the ways in which managers and key players are conserving and managing the salt marshes and wider coastal zone.
- How to use a variety of different sources of information, e.g. maps, images, and their own observations, to find out about the physical and human characteristics and features of a location.
- How to work effectively both independently, and collaboratively with their peers.
- All students will carry out research using the internet.
- Some students will use GIS in the post-visit activity.

What can they do in preparation?

- Students can use the internet and/or books to ensure that they fully understand the pre-visit activities before their ferry trip. There are web-links provided on the worksheet to help with this.
- It is essential that students have a secure understanding of the key terms and theory before their trip.
- Students may wish to find out more about Lymington, this part of the coast more generally, or about salt marsh ecosystems, using their own research of websites.

How does this enrich study undertaken in school?

- Nothing beats first-hand experience of what is learnt in school. Seeing the geography of this area first-hand will allow them to appreciate the physical nature of the location. Many students will not have seen a salt marsh before! Students would not get the same experience from a textbook, or still images, as they are able to do being their first-hand and making observations for themselves.
- Through the experience and first-hand observations of varied locations, students understand what they are learning, and retain the information, much better. The resource contains detailed information about this specific coastal location, and coastal ecosystem, in order to provide an excellent case study for (I) GCSE Geography.
- This activity involves a lot of fundamental skills in geography: conducting primary fieldwork, such as making observations, interpreting maps and photos, sketching, and recording information which can then be analysed.
- Also, good fieldwork is fun! Students have the opportunity to fully engage with the subject and immerse themselves in it; something which will hopefully enthuse them and instill in them a curiosity about the world around them for the rest of their lives.

What skills do they need to demonstrate?

- ✓ Observational skills - the ability to observe and interpret features of both the physical and the human geography that they can see, and record them accurately in written and picture (field sketch) form.
- ✓ Literacy – using the guidance on the worksheet to complete the activities as instructed to do so. Lower ability students will be provided with hints, additional guidance and sentence starters/writing frames to assist them with this, as well as the support of their teacher and peers.
- ✓ Working with others – collaborating and cooperating with other students to complete activities and support each other's understanding.
- ✓ Working independently – showing that they can follow instructions to complete an activity on their own, within the time frame and following the expectations given to them.
- ✓ Geographical skills will be practised, e.g. making and recording observations during fieldwork, interpreting maps and photos, and sketching.

Helpful Resources

Encourage your child to research Lymington's geographical features!

This activity was compiled by **Education Destination** in conjunction with **Wightlink Ferries.** We help students of all ages and abilities to experience excellent curriculum based learning opportunities at many Island venues and attractions.

edudest.info

On **Wightlink Ferries** you'll find an amazing location for learning! Three routes that showcase geography and history at its finest! Explore the history of defence and explore Ryde's glorious past! Fabulous learning in many subjects and topics!

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For further reading about physical features in geography, **wikipedia** offers an excellent range of articles.
This would serve as an ideal introduction for learners prior to their visit, and is suitable for ages 7 upwards.

wikipedia.org