



A Day at the Beach Present and Future

Primary Geography

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Specialist knowledge for teachers

Morecambe Bay is a unique geological site, into which four estuaries flow, forming a vast intertidal area. However, the world, as well as the UK coastline, is constantly changing and this impacts on our daily lives and activities. Processes such as coastal erosion and coastal flooding are putting local communities on the 'front line' of climate change (Arnall, 2023). Morecambe Bay is not an exception and there is increased risk of coastal flooding predicted in future. The aim of this resource is to support children in learning more about the physical and human geographies of their local coastal environment and understand how these may continue to change in the future.

The [Environment Agency's Coastal Strategy](#) (2020) focuses on coastal adaptation and building the resilience of coastal communities. It recognises that the public are still not sufficiently involved in decision making or resilience building and that more work needs to be done to engage the coastal communities.

This series of activities is designed to give school children an understanding of coastal change and the interplay between natural and human processes. This will equip them with the skills and confidence to take action in decision-making processes designed to shape the future of their local coastal environment.

Key knowledge and concepts:

- Climate impacts on the coast: past, present and future coastal change
- Uncertainty and dealing with uncertainty: future predictions are uncertain, but that should not stop us from taking small actions in our local community
- Resilience: What is resilience and how can it be built?
- Understanding natural and human change on the coast

The resource emphasises the importance of visualising past, present and future changes through recognition that the coastal environment is undergoing a continuous process of change ([Pollastri et al., 2024](#)). [The Flood Hub](#) provides an accessible overview called 'A Changing Coastline' which summarises the ways in which both human and physical processes cause coastal change over time. This includes information on the concept of 'longshore drift', by which sediment and material is eroded by the tide and deposited elsewhere. It also identifies the impact of human developments, flood defences and climate change. Developing a deeper understanding of the ways in which these different elements interact can be a step towards mitigating the effects of climate anxiety ([Crandon et al., 2022](#)).

Teachers need to familiarise themselves with and understand the coastal geographies of the region and local geomorphological changes. These concepts can be explored further by reading the North West Case Study from Coastal and Geotechnical Services, engaging with information provided by the [Morecambe Bay Partnership](#), understanding the future predictions of coastal change (e.g. from [One Home](#) or the [Environment Agency](#)) and recognising the impact of human developments on the coast. This final element can be seen in local museums such as the [Dock Museum](#) in Barrow or the [Morecambe Heritage Centre](#) and can also be facilitated by the children learning intergenerationally from their parents, grandparents, families, carers and communities. If teachers wish to develop a more in-depth understanding of geomorphic processes, the following [video](#) can help.

To extend the pupils' knowledge of how coastal geographies impact on wildlife in the area, this article from the [Cumbrian Wildlife Trust](#) and the [Living Seas North West](#) website provide useful resources about species living in and off the Cumbrian coast. Whilst on the beach, pupils can be encouraged to link these concepts and locate evidence of different species, considering how human and physical changes may have impacted on their habitats and survival.



Examples in practice

This resource centres around a field trip to the beach, but as with any experience beyond the classroom, this must be adequately prepared for beforehand and followed up after the visit. Some examples of activities are found below, with further details provided on the MBC Moodle.

Understanding pupils' prior experiences

It is important to gain an insight into children's understandings and thoughts about the beach before the visit. Remember not to assume prior knowledge, even if children live close to a beach. By using a questionnaire at various points in the learning experience, you can track how their understanding develops and their perspectives change. Some initial questions could include:

- How often do you go to the beach?
- Do you know the names and locations of the local beaches?
- Describe what you know about the beach.
- What did you do and see at the beach?
- What was your favourite part of being at the beach?
- How was the beach being cared for?
- How did you take care of the beach?

Locating the local beaches on various maps

Children should find their surrounding area using a variety of mapping apps, atlases and Ordnance Survey maps. Introduce this to the class using Google Earth. Zoom in and out so they can see where the school is compared to the beach. Introduce the OS map (OS Explorer Series 1:250,000 scale). Show that the area on Google Earth is the same as the representation on their own map. Key questions:

- Where are our local beaches? Find and record their names
- Identify the beach we will be visiting and find out its 4/6 figure grid reference
- Is it close enough to walk to?
- Which way would we walk? Plan the route
- Involve the children in organising the experience day on the beach and involve them in completing the risk assessment



Day at the beach

Field trip: A walk along Earnse Bay to Biggar Bank, with a variety of stopping points arranged for planned activities.

Suggested Itinerary

Morning:

- On arrival, locate yourselves on the OS map extract
- Follow the suggested route along Earnse Bay, stopping at specific sites
- Identify your location each time you stop, using geographical markers
- Collect information about the location and take photos of geographical features at each site
- Record on the map what you have seen or collected at each site

Lunch at Windy Gap

Afternoon:

- Engage in a series of 'Beach School' type opportunities to allow children to become interested in their environment e.g. identifying different types of rock, finding evidence of wildlife, exploring the tide line, comparing the texture of the sand in different places
- Complete the walk back to the collection point



Curriculum aims and objectives

The aim of this unit of work is to learn about the beach near the place where they live. This unit uses Earnse Bay as the local beach for schools on the Cumbrian side of the Bay, but the principles could be adapted to most beach settings. The idea is to visit the local beach to increase the children's knowledge of a marine environment and observe the physical and human effects which have shaped this.

Head

Pupils will develop knowledge of key geographical processes, both physical and human, which have shaped the landscape of the coast into what they see today.

Heart

Field work engenders a greater personal connection with the place of the beach, which can encourage care and responsibility for their coastline.

Hands

Pupils will engage in practical activities on the beach, developing their skills in mapwork, observation, recording data and analysing findings. They will be able to present their work to others and participate in activities designed to contribute to the sustainable future of the beach.

Returning to the same beach setting 2 or 3 times in the year promotes an understanding of the effects of seasonal change on this environment and allows the children to recognise the natural rhythms at the beach. They can observe the tidal currents, features of the shoreline, identify sand, rocks, shells and shingle, and discover evidence of wildlife.

This unit fulfills some key purposes from the Geography National Curriculum and links directly to specific aims and skills that are NC requirements for KS2.

Purposes

- Promote fascination, curiosity and knowledge of their local beach
- Identify interaction between physical and human processes
- Study the formation and use of their local landscape and environment

Aims

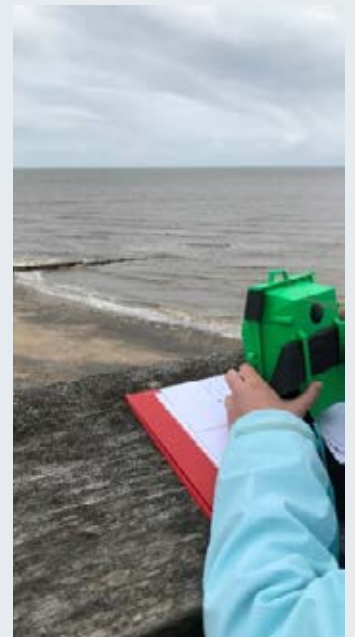
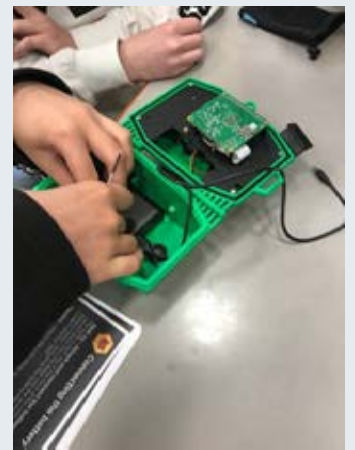
- Develop contextual knowledge of location, including defining physical and human characteristics and how these provide a geographical context for understanding processes of change
- Create an understanding of geographical processes that give rise to key physical and human features on the beach, recognising how these are interdependent and bring about spatial variation and change over time
- Identify sustainable action and behaviours at the beach which can support the long-term 'health' of the environment

Skills

- Use fieldwork to observe, measure, record and present the human and physical features in the local area, using a range of methods e.g. maps, plans, pictures, statistical counts and digital technologies. By looking at different areas on the beach, they can compare variations in rock structures, tidal paths and wildlife
- Interpret sources, maps, graphs, questionnaires and GIS data related to their local beach in order to understand the geographical processes which have shaped the landscape
- Communicate information using geographical terminology, presenting data in a range of written and visual forms and using technology where appropriate (e.g. digital images and maps)

As this unit has a fieldwork element to it, there are fantastic opportunities for 'incidental learning' – the learning that is driven by what happens on the day and the children's questioning. Further ideas to support this can be found in the online resources.

The fieldwork element, being out of the classroom, has benefits for learners who have a preference for active and physical experiences. It also encourages an appreciation of place, supports well-being and aids physical fitness. Consider using a workbook to document their experiences with questionnaires, photos and text.



Adaptations to extend impact

Our unit of work is aimed at Y5/6 Upper KS2 but it could be adapted for younger children by simplifying the mapping skills - using google maps instead of OS maps.

An important element in this unit is to get children to the beach and enjoy their surroundings. This covers an important part of the geography curriculum for any school aged child - field work. Visit the MBC Moodle for more Beach School activities which would ensure your children have a productive day out. On visits children also learn how to make observations, ask questions and collect and analyse data - which are important transferable skills. We hope enjoyment will lead to caring, positive attitudes and a desire to take responsibility.

A unit of work that involves visiting a beach and enjoying your local surroundings can be linked to so many areas of the National Curriculum and support a school's ethos and values. There are also opportunities available for older children.

- KS3/4 Science - Ecology and Ecosystems
- KS3/4 Geography - Coastal landscapes in UK
- Mental health and Well-being - the benefits of being outdoors
- Community - working towards shared goals

Using our coastal landscapes as our classrooms provides a wider opportunity for learners. Though this unit involves structure and a flexible agenda, there is also room for 'incidental learning'. When in the great outdoors children ask such interesting questions and make insightful observations. The knowledge of place section should support teachers to answer those questions that children ask when they are stimulated by their surroundings. But when children ask a question you don't know the answer to, that provides a fantastic new direction for their learning!

