Swanage

Enquiry 8: Why didn’t Albert’s wall at Swanage do the trick?

Context and Learning Aims

Pupils will be supported in and outside of the classroom to:

- Know that people around the coast of Britain in places such as Swanage have been ‘defending’ the land from the sea by building sea walls for a long time – over one hundred years.
- Understand that because of rising sea levels and more stormy winter weather the problem of flooding and coastal erosion is going to become worse in the next one hundred years;
- Recognise that the traditional response of building bigger sea walls to protect the coast from storms and rising sea levels, can only be a temporary solution in the short term;
- Consider different approaches (not just building sea walls) to coping with rising sea levels and increasing storminess along the coast in the next one hundred years;
- Explain and apply the concept of settlement and in particular the site; situation and function of settlements;
- Recognise and explain the formation of classic coastal landforms and processes;
- Demonstrate awareness of how physical and human locations are in constant change;
- Apply a range of literacy and numeracy conventions to the study of coastal change and the study of coastal management;
- Be aware that the coastal of settlement of Swanage has been managing coastal processes and change for several centuries;
- Appreciate the range of strategies that have been employed to the present day to manage coastal change;
- Evaluate alternatives for the future and consider the best approach to managing the coast at Swanage for the next 100 years.
Learning and teaching activities and curriculum progression

Key Question 8.1: What are Albert and Richard doing?

Distribute or project the photograph in Resource 8.1. Give the children time to examine the image. Tell them that it was taken in 1904 in the town of Swanage and Albert is sitting in the middle of the front row. Ask them to consider: What do they think the men might have been doing? What evidence is there? Why are there no women in the photograph? Are there any clues as to where the photograph was taken? Why are the men wearing very similar clothes? To extend the thinking of the children show them Resource 8.2. This photograph was taken at the same place in Swanage twenty years later in 1924. What is happening? More work is being done to build a sea wall. Why? The clue is in the old photograph in Resource 8.3. Albert and his workmates were all labourers and the photograph in Resource 8.1 was taken shortly after the completion of construction of the sea wall in Swanage. Resource 8.2 was taken twenty years later when further building of the sea wall was required. Take time to discuss with the children what the purpose of a sea wall is. Why would the town need a wall like this? Its purpose was to act as a barrier between the sea and the town so that waves coming in from the sea would not flood Swanage. Now make the link between Albert and building the sea wall in 1904 and the photograph of the seafront at Swanage in Resource 8.4 taken in January 2014. What has happened and why do the pupils think that Albert’s wall did not do the trick of preventing flooding? Why didn’t it work? Next show the pupils the photograph of Richard in Resource 8.5. He lives in Swanage today – a hundred years after Albert. What do the pupils think he may have in common with Albert? What’s the link between the two? He could be a relative but that’s not it. It is more about what Richard is doing today that is the same as Albert and his workmates did in 1904! Yes, he is intending to build a large wall. Encourage the pupils to speculate about why he might be doing this. Show them the photograph of Richard and his wife outside of the front of his beach hut in Swanage in Resource 8.6. Now why do they think he wants to build a wall like Albert did? Is it to protect the front of the beach hut from the sea coming in – like Albert’s wall? It could be, but actually he is going to build it behind his beach hut. Why? What evidence is there in the photograph? He is going to build it to protect his beach hut from the collapsing cliff behind.

Key Question 8.2: Why didn’t Albert’s wall do the trick?

Why do people in Swanage still have to cope with flooding from the sea over one hundred years on from when Albert built his wall – why did it not do what it was intended to do? The photograph in Resource 8.4 was taken in 2014 during the storms of January and February of that year. What does it show? Strong winds and a high tide combining to overtop the sea wall. One reason why Albert’s wall did not solve the problem of flooding from the sea is shown in the graph in Resource 8.7. By how much has the global sea level risen in mm since 1900? About 185mm. What was the annual average increase then for the 100 years between 1900 and 2000? Tell the pupils that this average has now increased to 3mm a year and could reach 9mm a year by 2100. Another reason why Albert’s wall did not do the trick is that Britain is experiencing more severe winter storms which batter the coast and can also cause tidal surges of the sea inland.
A good example of this is the storm of February 5th 2014 which destroyed the sea wall and railway line at Dawlish in Devon. The pupils can access the BBC website at http://www.bbc.co.uk/news/uk-26042990 to do the following:

- Watch the video of the damage caused to the railway;
- Watch the weather forecast summarising the weather to come in February 2014 – what are the storms coming in from the Atlantic Ocean called?
- On the flood warning map for Wednesday February 5th which counties of England and Wales have the red ‘severe risk’ warnings?

**Key Question 8.3: How can we discover the site, situation and function of the town of Swanage?**

A **settlement** is a place where people live. A settlement may be as small as a single house in a remote area, a town such as Swanage or as a large as a mega city (a city with over 10 million residents such as Shanghai in China). The piece of land upon which a settlement is built is the settlement’s **site**. The **situation** of a settlement is its position in relation to the surrounding physical features of the landscape. The purpose of a settlement such as Swanage is known as its **function**. The original purpose of a settlement often changes over time with, in many cases, the original function disappearing altogether and being replaced by something else.

Divide the children into pairs and distribute copies of the satellite image Resource 8.8, the Ordnance Survey 1:25 000 map extract Resource 9 and the photographs Resource 8.10 and Resource 8.11. Using all four resources together support the children to speculate as to:

The **site** of Swanage i.e. why was this place chosen originally by people as a place to live? Tell the children that fishing was certainly one reason – as long ago as 2000 years. However, can they work out the other reason? There are big clues on the map, particularly to the south of Swanage – stone quarries such as the one in the photograph in Resource 8.12. What was the rock and why was it so important? Limestone marble was used to decorate the interior of stately homes but after the Great Fire of London in 1666 limestone rock was urgently needed in the capital for paving and buildings. From then on stone was loaded upon ships directly from the Swanage seafront and carried by barge out to larger ships in the bay which carried it to London.

The **situation** of Swanage i.e. what is the surrounding area around the town like? Encourage the children to look at the resources again. Yes, Swanage is next to the sea but what is it situated in? What is the name of the semicircular feature which can be seen so clearly in Resource 8.8? What lies along the coast to the north and south of Swanage? Again, look at all three resources 8.8, 8.9, 8.10 and 8.11 together. Swanage is situated on a **bay** between two **headlands** – Ballard Point to the north and Peverill Point to the south. What else do the children notice about the bay? What lies between the sea and the land in the bay? A **beach**.
Key Question 8.4: How has the function of Swanage changed?

What happened in Swanage in 1885? Explain to the children that something happened in Swanage in 1885 that changed the town for ever. What could it have been? Tell them that the answer is on the map right in the middle of the town and shown by a small red circle. What is it? The railway station. What do the children think this meant for Swanage? What could people now do that they couldn’t before? Show the children the photograph in Resource 8.13. It shows a steam train heading towards Swanage bringing people from all over the country.

Why did people come to Swanage after 1885 and what did they do? Working in pairs the children can be encouraged and supported to examine the photographs in Resource 8.14 – Resource 8.22. All of these photographs were taken in Swanage between 1885 and 1910. What can the children see in the photographs? What are the things on wheels close to the waves? What happened inside them? What are people doing in the photographs? This was the beginning of the transformation of Swanage into a holiday resort. To begin with it was only rich people and their families who could afford to travel to Swanage from places like London. For people living and working in the cities what would have been the attraction of coming to Swanage for a holiday?

Show the children examples of postcards and tell them that before people owned telephones or could rely on Facebook it was very popular when on holiday to send messages home to friends and loved ones about travels and adventures via postcards. In fact, along with letters, it was the only way of getting messages home. These are usually pictures of scenic vistas or typical scenes of tourist spots such as Swanage beach in Resource 8.20. Messages were written on the left hand side on the back, they’re addressed on the right hand side, and for the price of a stamp, were sent from anywhere, to anywhere. In this day of instant digital photo sharing via mobile telephones and the Internet, sending a postcard is becoming a lost art.

It is important for the children to know that there are text and language conventions associated with writing a postcard. Model a message that might appear on a holiday postcard such as:

Tuesday August 12th
Dear Charlie
We arrived at our hotel in Torquay on Saturday and we are already having a great time. The journey was boring but after we unpacked we went straight to the beach to play and swim. My cousin Wayne is staying in the same hotel. I am very excited because tomorrow we are going to visit a famous donkey farm where you are able to go on rides.
Derek
P.S. When I get home on Saturday why don’t you come over?
Conventions:

Tuesday August 12th

Dear Charlie (salutation)

We (written in first person) arrived (past tense to locate event in time) at our hotel in Torquay (proper noun to identify places and people) on Saturday and we are already having a great time (abstract noun to convey thoughts and feelings). The journey was boring but after we unpacked we went straight to the beach to play and swim. (sequence of events) My cousin Wayne (proper noun) is staying in the same hotel. I am very excited because tomorrow we are going (shift in tense) to visit a famous donkey farm (use of adjectives to describe nouns) where you are able to go on rides.

Derek (signing off)

P.S. When (temporal connective) I (first person) get home on Saturday why don’t you come over? (Post script adds information)

Having modelled how to write a postcard, provide the children with a blank standard conventional postcard which has no picture on the front and has the reverse divided into two halves with a small rectangle for the stamp. Now ask the children to look again at the girl in Resource 8.19. They need to give the girl a name and then as her character write a postcard home to her Grandmother describing what she has been doing since she arrived; what the journey down to Swanage by train was like; what the weather has been doing; where they are staying and what she thinks of it; the food she has eaten; the treats she has enjoyed etc. When the message is finished the pupils can then draw their own picture of Swanage or a special event such as the fairground/circus/sailing boats/ ferry/fishing/ climbing the hills/ fossil hunting etc. They will need to make up an appropriate first name (what would have been popular in the early 1900s?) and surname for their Grandmother and an address to send the postcard to. They can also research online what a 1d stamp to send the postcard would have looked like in 1900 (who was the monarch then?) and make a neat copy of it in the correct place above the address.

There are a lot of clues on the Ordnance Survey map about how important visitors are to Swanage. Direct the children to examine the blue tourist and leisure information signs and symbols and make a list, using the key, of all the different things available in and around the town. In addition the children can go online at http://www.swanage.gov.uk/Tourist_Information.aspx to research additional attractions including events; exhibitions; parks and gardens etc.

To orientate themselves around Swanage using the Ordnance Survey map in combination with a range of photographs of the area the children can be challenged to have a go at the these activities:

The following photographs were taken from the end of the pier at SX037788. Work out the direction in which the camera was pointing (using 8 points of the compass) to take the picture of:

Resource 8.23: Ballard Point at SX049813;
Resource 8.24: The Grand Hotel at SX033799;
Resource 8.25: Arcade at SX031789;
Resource 8.26: Fish and Chip shop opposite the Heritage Centre at SX034787;
Resource 8.27: Lookout (Coast Guard) Station at SX040786
The following photographs were taken from the Lookout Station at SX040786. Work out the direction in which the camera was pointing (using 8 points of the compass) to take the picture of:

**Resource 8.29**: Durlston Head at SX036773;
**Resource 8.30**: Old Harry at SX055827;
**Resource 8.31**: End of the pier at SX037788
**Resource 8.32**: The Grand Hotel at SX033799

**Key Question 8.5: What should happen at Swanage over the next 100 years?**

Tell the children that a recent report which considered the possible effects of climate change on the coast at Swanage said: *the town of Swanage with its sandy beach frontage and soft clay and gravel cliffs will be faced with increasing challenges in maintaining existing sea defences. These may not be able to cope with the changes in sea level and rates of coastal erosion and could eventually lead to the loss of the local beach.*

Remind the pupils that the sea wall that Albert and his workmates built in 1904 didn’t last long. There are two main alternatives now as we think ahead for the rest of this century:

- Continue to try to *hold the line* i.e. protecting the shoreline through expensive hard engineering projects such as building bigger and stronger sea walls or
- Deciding not to try to fight nature but to work with natural processes such as erosion and flooding caused by waves around the coast – this is known as *no active intervention*.

The options for holding the line are in the table in **Resource 8.33**. Talk through each of these with the pupils and then have them calculate the cost of protecting 2000m of coast at Swanage for each method for the next hundred years. Explain that the design life means approximately how long it will last before being needed to be done again. How much will each method cost for a hundred years? Where will this money come from? One answer will certainly be ‘the government’ but where does the government get its money from? Will the government always have money to pay for the reconstruction do they think? Remember this is just 2000m of coast and the UK is an island with 12,429km! How will this be sustainable time after time? If it’s done at Swanage how will the government, with limited funds, not have to do it at every other place around the coast which is being flooded or where the coast is eroding away?

Now discuss with the pupils what will be involved with the no active intervention approach. Explain that this will mean doing nothing more to replace sea defences such as the sea wall as they fail but rather to work with local people to *adapt* to the consequences of sea level rise. It wouldn’t involve simply doing nothing. Encourage the pupils to think about what could be done to help people such as Richard and his beach hut? For example, moving it somewhere else as the sea level rises is a possibility – *managed retreat*. The same thing would be true for the town of Swanage – identifying buildings most at risk and relocating them. This would involve costs of course but only once. What do the pupils think should happen if the cost of relocating something (like a hospital) works out to be many times more than the cost of say, building a sea wall (and replacing it regularly), would be? Do they think there is a case for holding the line in limited ways in some places, when the costs of managed retreat work out to be very expensive?
As a summative piece to this enquiry the pupils could be encouraged and supported to produce a piece of persuasive writing. Explain to the pupils that the idea of working with natural processes and not taking the traditional approach of building costly hard engineering schemes such as those in Resource 8.33 to hold the line is likely not to be popular with some people in Swanage – especially those who feel that their livelihood (shops) or homes might be lost. How could they be persuaded to think differently? Tell the pupils that they are going to design and produce a leaflet called Working with Nature which is going to be delivered to everyone living and working in Swanage. The leaflet needs, in simple terms, to explain what is going to happen as sea levels rise and storms become more severe to places on the coast such as Swanage. It then needs to provide an outline of the alternative options for Swanage for the next century and explain why working with nature through no active intervention is perhaps the most sensible course of action. Support material for this work are contained in Resource 8.34 (an example of persuasive writing to act as a model for the pupils) and Resources 8.35 and Resources 8.36 (the conventions of persuasive writing)
Sample Resources from Enquiry 8. The complete set of resources supporting learning in this enquiry are available on the accompanying DVD and online at www.lcco.eu

Resource 8.1

Credit: David Hayson and the Swanage Museum