DETAILED SCHEME OF WORK

PHYSICAL GEOGRAPHY UNIT 7 THE COASTAL ZONE

Version 1

AQA Geography Specification A The Coastal Zone Scheme of Work Suggestions

Key Idea	Specification Content	Time (hrs)	Starter ideas	Possible main activities	Ideas for Plenaries
The coast is shaped by weathering, mass movement, erosion, transportation and deposition.	Weathering processes – mechanical, chemical. Mass movement – sliding and slumping. Constructive and destructive waves. Processes of erosion – hydraulic power, abrasion, attrition and solution. Processes of transportation – longshore drift, traction, saltation, suspension and solution. Deposition and the reasons for it.	3	1.Introduce photographs of beaches from around the world (Hawaii, Mediterranean, good surfing locations etc.) with different size waves - discuss possible factors influencing their size 2.Measure approximate fetch on world map for different parts of the UK. 3.Show wave power activity: http://www.pbs.org/wnet/savageseas/multimedia/wavemachine.html Ask what causes the waves? What impact can they have? What factors affect their power? 4.For a good description and explanation of the process of longshore drift, see www.georesources.co.uk/leld.htm 5.TABOO Define geographical terms without using particular words, and someone else has to identify them. 6.Geogames Coastal Features Countdown Conundrum - test yourself - 30 seconds a go! 7.Show photographs or slides of a storm at sea - preferably showing large waves arriving at a coastal point. Discuss impact of destructive waves and storms on cliffs – the cliffs crumble in time. Draw a spider diagram to show as many factors as possible that affect the development of the coastline Which type of coastline would you go for surfing? Name some beaches where surfing takes place. What have they got in common? 8.Make waves by blowing on the surface of water in a shallow tray, with a straw. 9.Mind movie. You are on a beach alone. What can you see and hear? What can we do at the coast? Create a graffiti wall on the board.	1.Discuss factors that affect the height/ power of waves. Strength of wind etc). Tabulate the differences between constructive and destructive waves. How does the shape of the coastline affect incoming waves? 2.Emphasise the characteristics of the two wave types using labelled diagrams and Boardworks PowerPoint slides 3. Process of longshore drift explained using annotated diagrams 4. GeoActive Online 386 provides a useful framework for exploring longshore drift through examples from East Devon and West Dorset. 5.Make a study of geological maps showing the origin of a sample of pebbles found on a beach 6.Use photographic evidence of movement eg build up of material behind harbour wall etc 7.Design and describe an experiment to test for the existence of longshore drift and measure its speed and direction on a beach. Consider factors that may affect the results. 8.Introduce and define the types of weathering: mechanical, chemical (and biological). Explain the terms and ask students to draw diagrams to illustrate. The work should contain 3 labelled diagrams or annotated photographs and a short paragraph for each type. Mechanical weathering: growth of salt crystals causes stresses in the rock which later breaks; Chemical weathering: from acidic rainfall which dissolves weak minerals and causes rocks to decay; Biological weathering: from plants which cause rocks to break up – such as plant roots. Do a similar exercise for mass movement as it contributes to coastal landscapes. There are two types: rock fall, whereby weathered rock fragments fall from a cliff face and build up at the base of the cliff; and slumping whereby the cliff is eroded at its base by wave action and the cliff above becomes unstable. It gradually slides down under its own weight and the weight of rain water which lubricates the process. 9. Show that you understand the differences between a. mechanical and chemical weathering b. hydraulic power and abrasion c. processes operating at the base of the cliffs and those on the tops 10 Using the NT text, read p 146-147. Draw sketches to show the types of mass movement. Answer questions a,b,c,d,e. 11. Imagine the local council has decided to place an information board at the top of a cliff to warn people of the dangers of cliff collapse.	1.List 3 things you / your neighbour found out today about waves/weathering... 2. How do waves affect us? How do we use waves? 3.Write all the words relating to today's work you can in the next 60 seconds 4.Create a mnemonic to remember today's key idea (eg CASH, HACC, SHAC) 5.The answer is *******(fetch, attrition, backwash etc) - now write the question... 6. Play coastal millionaire (Geography At The Movies) 7. Make cards with the words fetch, swash, backwash, prevailing wind, tide, destructive wave etc and put them face down. Pupils choose cards and act out the meaning for the rest of the class to guess 8. Outline that factors work together. So, although Cornwall has long fetch and strong winds, the geology of granite means erosion is slow. By contrast, in Holderness the geology is boulder clay which is relatively easily eroded, even though fetch is short. 9. Ask students to devise a game using a ball and themselves to show longshore drift. 10. Quick test. Call out student name and definition eg for constructive, destructive, longshore drift, fetch etc. Allow 5 seconds per term. 11. Hangman. Choose a keyword from the lesson and play Hangman to introduce the word.

			10. Show some rounded beach pebbles and sand. Why are the pebbles round? Where did they come from originally? Why are the sand grains so small? 11. As pupils come in give each a piece of paper with a number. Call out numbers at random to aska quick revision question: What causes waves? What makes waves grow bigger? Name 2 types of work that the waves do. What happens to the material that the waves erode? Which will erode faster- granite or clay cliffs? What are 2 types of weathering? Why does weathering make erosion easier? 12. Explain why so much coastal erosion takes place during storms. Why will a storm cause more erosion along some parts of the coast than others? 13. Use the 2 interactive activities on waves in Kerboodle (Nelson Thornes support materials) 14. Use picture cards to identify processes of weathering and mass movement 15 . Look at a map of the British Isles (Atlas) Ask students what they notice when they compare the shape of the western coastline with that of the eastern. Introduce idea of wave energy, geological differences..	Design an information board explaining why the cliff is vulnerable to rockfalls 12. Using NT text p 148, produce a poster to show each type of erosion process. The poster should include a diagram, a definition and a way of remembering the process 13. Draw fully labelled diagrams of each type of coastal transportation. See p 148-149 in the NT textbook	This can be run as a competition, with the person getting the right answer being awarded a merit. 12. So is the sea wearing the British Isles away and making them smaller? Discuss 13.Draw a spider diagram to include as many factors as possible that affect the development of the coastline 14. What type of coastline would you choose for surfing? Name some beaches where surfing occurs. Where are they located? 15. Why are some beaches covered with sand but others are shingle beaches? 16. Play taboo for the processes in this unit 17. What would the earth look like if weathering did not happen? Why? 18 Peer assessment of the posters (see activity 11) based on success criteria. 19 Show students a picture of a beach with groynes. How can you tell the dominant direction?
Distinctive landforms result from	Landforms resulting from	3	1.See the Channel 4 video on landforms at www.channel4.com/learning/microsites/W/whatsnew/content/year20_6/Geography.pdf	1. Animated diagrams to show how a headland is eroded to form other features such as caves. (sequence and processes involved) 2.Use of aerial photographs/OS map to identify erosional features and	1.Set up a 'Blockbusters' grid – then use coastal words and phrases 2.What am I?

different processes.	erosion – characteristics and formation of headlands and bays, cliffs and wave cut platforms, caves, arches and stacks. Landforms resulting from deposition – characteristics and formation of beaches, spits and bars. R/L		2.The following article describes and explains landforms and some processes, and could provide a good starter activity: www.bbc.co.uk/schools/gcsebitesize/geography/coastal/coastalfeaturesrev1.shtml 3.Use SLN website (Visual geography section) to obtain several suitable starters focusing on landforms created by erosion and deposition. These include "A question of coasts" and "visual graphics" 4. The 5 Ws game –who, what where, when why. Show an unusual picture which is related to the content of the lesson. Ask questions related to the 5 W's. Could be a mystery object which has to be identified. Perhaps a handful of beach sediment from a local beach, some of which is not from the local area 6. Several games relating to coastal landforms and processes available at GeoBytes - St Ivo School Geography Department Website Interactive Games on coastal and other topics can be found organised by type under the GeoGames section of the site. Most are made by R Chambers. 7.Provide photos of coastal features. Ask students to name them and say how they might have been formed Show some rounded beach pebbles of different sizes, plus some sand. Why are the pebbles round/ Where did they come from? Why are the sand grains small? Where did they originate? Why are some beaches covered in sand whereas others are made of shingle? 8. Label keywords on a photo or diagram on the whiteboard (e.g. What landforms can	predict future changes to coastlines. 3. Coastal processes and associated landforms are covered in the New Wider World with relevant photographs, diagrams and an OS map extract of the Isle of Purbeck. Students can draw annotated diagrams of the features and complement them with aerial photos or OS map extracts, examples available from Infomapper. 4. Students can create a PowerPoint presentation on coastal landforms and processes using video-clips, photos and text from the BBC site 5. After considering the geology of the Dorset coastline, prepare and complete a mystery task about Old Harry Rocks in Dorset (Available on Slideshare). 6.Construct pop up headland. See Tony Cassidy's Radical Geography. See also PowerPoint illustrating how you can use Angel Cake to show the formation of a Wave Cut Platform. 7.Re-sort labels of processes involved in spit formation into correct order. Discussion about process of deposition 8.Simple diagrams to show formation of depositional features 9.Annotated aerial photographs/recognition of features formed on OS maps 10.Students create a flickbook of a changing coastal landform using one of the BBC Education Class Clips as inspiration. On the back of the flickbook they write the explanation of the processes at work. Peer assessment increases the range of processes students cover. GeoActive (Nelson Thornes) 356 *Coastal Fieldwork* is good and has data that can be used in the classroom. 11.Virtual fieldwork (of Reculver) at: http://www.georesources.co.uk/recintro.htm 12.BBC Education Class Clip archive has good clips on coastal regions 13.Modelling with clay / playdough e.g. different colours to show build up of spit over time 14.Show pupils a video excerpt of wave action and coastal landforms and ask them to note five things it shows about the effects of wave action on shaping the coastline. It is helpful if features resulting from both erosion and deposition are shown, *eg cave/spit.* Ask pupils to draw an annotated sketch of a chosen landform to identify its main features and to suggest the processes responsible for producing those features. 15. Provide pupils with an OS map of a stretch of coastline which includes some of the landforms they are familiar with from the video. Ask them to plan a coastal walk to include a range of landforms, and to mark this on an outline map of the coast with notes on what they would see and where.	Read out descriptions of various coastal features and the students have to identify what it is 3. Odd One Out from a group of three. Two marks. One for the correct odd one out and the second for the correct reason. 4.Pairing exercises - give cards with paired words jumbled and working in twos sort the cards into the correct pairs 5.Acronyms related to topics just studied eg LSD WCP S & BW S & B C, A, S , S 6. Game of words and meanings – pupils go around the class giving a word and choosing the next person to give the meaning and then they choose the next person to pose a word etc 7. Sorting games Name physical features on cards and sort , oiuytrewq into Eros ional and depositional. (Could have third option of features which are both) 8.Watch the classic *Geography in Animation* video about coastal erosion. 9.Coastal bingo. See Radical Geography website 10.Students silently draw landforms on the board for others to guess 11.Discuss in pairs why the coastline of Britain varies so much in different places 12.Write coastal landscapes in the middle of a page. How many ideas can you come up with in 3 minutes? 13.Ready steady … teach Play the theme tune to *Ready, Steady, Cook.* Provide groups (three or four students per group) with a shopping bag of ingredients (e.g. playdoh, string, lollypop sticks). Tell the groups they have five minutes to plan an activity in which they use the ingredients to

			you see?) classify them by colour-coding (e.g. Which are caused by erosion, which by deposition). 9. Questions battle Which pair can make up the most questions about a photo? 10. Run a movie or video clip on coastal landforms. Pupils write a short storyboard, captions or script 11.Articulate Put pupils into groups of 3-4 and give each group an envelope containing at least 25 words or phrases. Taking it in turns, pupils have 45 seconds each to explain as many words/phrases as possible without using any derivations of the word(s 12. Conceal and Describe In pairs, one pupil describes a picture or photograph to their partner who draws it. The partner should ask questions if anything is unclear. Teacher then asks what was hard to describe, how it was overcome, what sort of questions helped to clarify. 13. Show students an OS map of a stretch of coastline with Headlands and bays. Where do the beaches tend to occur and why? (link to wave refraction/differential erosion)	16.For additional information on landforms, see www.bbc.co.uk/schools/gcsebitesize/geography/geogskills 17.The BBC TV Series *Coast 1* (2005), available on DVD (ASIN: B000BHZ1H4), shows examples of all landforms around the UK. 18. Talk about erosion by destructive waves on cliffed coasts. Ask students to describe how the erosion at foot of cliffs by waves creates a notch. This notch grows and in time the cliff above collapses. In this way the cliff retreats. As the cliff retreats it leaves a wave cut platform. Show an image of the effect of this process (perhaps Seven Sisters, Kent). 19. Study a spit (or headland). Choose one of Britain's spits such as Sandbanks in Poole Harbour, Hurst Castle or Spurn Head. Find an aerial view and draw a field sketch, and a map to show location. Annotate landforms and processes, describe land uses and things to do there. 20 Laminate a set of colour prints of coastal landforms (at least 10 images). Give them to pairs of pupils to identify and sketch, Add a paragraph to explain formation. 21. Using the NT text, answer questions 1a,b,c, and 2a,b,c, on p 153. Read the paragraph and answer the questions on p 151 about wave cut platforms. 22. Use an OS map of Swanage Bay to identify coastal landforms. Draw a tracing of the coast including landforms, geological variation. Show images of Old Harry to illustrate the example 23. Read p 154-157 on details of beaches and spits. Answer questions 1a-i on p 157 and questions 3c,d on p 155	'teach' a geographical idea or process, e.g. longshore drift, coastal erosion /deposition features 14.Scrambled phrases Write scrambled phrases relevant to the topic on the board: pupils unscramble them. 15.Highlighting text For example, processes of erosion in one colour, sequence of landforms in another. 16.Sentences Give pupils sentences, put into order to make a paragraph. 17.Build a paragraph Start with a photo or other resource. Add a short sentence: choose someone to add another, then another 18. Name 4 features of coastal erosion and 4 landforms of coastal deposition, (and 4 processes of erosion) 19. Play bingo for erosional and depositional features
Rising sea level will have important consequences for people living in the	Reasons for rising sea level. A case study to illustrate the economic, social,	2	1.Climate change is responsible for rise in sea levels. Scientists predict that many areas are at risk of flooding. Explain how these 'predictions' have led to prevention: Thames Barrier and 'Thames Estuary 2010' project. Highlight the difference between 'prediction' and 'prevention'.	1.Use of Environment Agency website flood mapping resources. What are the vulnerable areas locally and nationally? GIS 2 Brainstorm the impacts of rising sea levels. Classify under Environmental / Economic / Social / Political. 3.Study consequence maps to show impacts over 5/10/25 years 4.Students investigate different ways that countries plan for floods. They look at examples such as how buildings are designed, how	1.Wrong and Right statements – related to changing sea levels Teacher reads out a statement. If a true statement – pupils put up the right hand, if wrong – put up left hand. 2. It's the year 2050. Global warming has caused rising sea levels around the British Isles and

coastal zone	environmental and political impact of coastal flooding. R/L		2.Ask students: What has global warming got to do with coasts? How do we know that sea levels have changed in the past? What evidence is there? 3.Pictionary Draw a word related to the topic. Rest of the group have to work out what it is. 4.Interview a character in a picture – what would you wish to know? What story do you think they would tell? 5. The worst case prediction is a sea level rise of just 4 metres. Why is this likely to have a devastating worldwide impact? 6. Show picture/slides of the polar ice cap. How could this be linked to coasts?	organisations such as the Environment Agency provide warnings, and how people are educated to be prepared for possible flood events. 5.For an interactive DME game considering flood management techniques, see www.discoverysoftware.co.uk/FloodRanger.htm 6. Brainstorm to find out what students know about measures taken to reduce the effects of sea level change in cities such as London. Investigate the Thames Flood Barrier—why it was necessary, how it works, its effectiveness, future plans, sustainability. 7. Describe flooding in Bangladesh: its causes, impacts of specific floods, responses, flood control methods. See Waugh (New Wider World) pages 260-263 8. Use the NT text. Annotate a map of the UK with the information about coastal impacts shown on p 70. Read p 158-159. Add further annotations. Answer questions 1a,b,c,d on p 159	many more storms. You're the minister in charge of the coast. You've decided there will be no more sea defences. What are arguments in favour and against? 3. Play just a minute. Students have the chance to speak for a minute about the effects of rising sea levels without repetition or hesitation. 4. In your opinion, where should our priorities be- in defending coastlines against rising sea levels, or in stopping global warming? 5. Give one economic, environmental, social and political consequence of coastal flooding in the UK. Would coastal flooding have a bigger impact in Bangladesh or the UK? Justify your answer
Coastal erosion can lead to cliff collapse. This causes problems for people and the environment.	A case study of an area of recent or threatened cliff collapse – rates of coastal erosion; reasons why some areas are susceptible to undercutting by the sea and collapse; how people may	2	1.Holderness as an example of coastline retreat at: http://www.hull.ac.uk/coastalobs/general/erosionandflooding/erosion.html 2.Show visual images of the Holderness coast. Consider the loss of villages along the coast as a result of cliff retreat. The reasons for such rapid erosion in Holderness are: geology is soft, easily eroded boulder clay; exposed coast; rising sea levels; destructive waves; and the fact that material is rapidly removed by the sea. 3.Think about how people are directly affected by the erosion of the Holderness coast. Ask students what different views they might have. 4.What options might there be for the future of the Holderness coastline? Ask students to	1.Students use an atlas geology map to find named stretches of coastline that are made of a particular rocks. Students then locate pictures of these coastlines using FLICKR and annotate to name and describe the features before deciding if they are hard or soft rock types. For extension they could be added to Google earth or Google map. 2.Photo analysis of chosen threatened coastline drawing sketches of places annotated with factors leading to collapse. 3.Mapping exercises to calculate rates of erosion over time. 4.What if? exercises to illustrate human involvement e.g. "what if the barriers are not replaced?" AF 5.Storyboard and script for short TV report on the impacts on lives and the environment. 6. Ask pupils to watch a video of a cliff collapse *without the commentary* to improve observational skills, and then, in pairs, to discuss what they saw. Replay the video with the commentary and ask them to sort out any inaccuracies/misconceptions they had. 7. Discuss with pupils newspaper reports of cliff collapse, highlighting/	1.Spelling games Wrongly spelt words on the whiteboard – students write the correct spellings. 2.Geog games: coastal penalty shoot-out 3.Just a Minute Talk for as long as possible about a subject without hesitation, repetition, deviation. 4.Photo Quiz What key features do the photos show (e.g. on a Powerpoint presentation)? 5.I Spy Generate words from a photo: maybe classify into geography/other words 6. Cut up – back together Give the children a cut-up text about coastal erosion/cliff collapse

	worsen the situation; the impact on people's lives and the environment. L		give these options 5. Use BBC class clips to introduce an exercise where students are given cards with a range of factors that lead to coastal erosion. Ask them to rank and/or match the cards to show the combination of factors that lead to coastal erosion. 6.Watch movie of cliff retreat. Using the IWB, do a prediction exercise, students mark where they think the final position of the cliff will be – they then justify their answers using their previous knowledge about coastal erosion. 7.Show a photo of a house teetering on the edge of a cliff. Ask students to imagine they live there. How do they feel? What is likely to happen? 8. 13. BBC GCSE Bitesize Geography has video material on coastal retreat: http://www.bbc.co.uk/schools/gcsebitesize/geography/ 9. Ask students to give examples of how people use the coastline and possible problems of living there.	underlining the points which indicate the processes that cause the event and its consequences. Ask them to use these to draw a series of sketches (with notes from photographs) to emphasise the impact of weathering and erosion on a cliff face. 8.Ask pupils to write an explanation of why cliffs collapse for a newspaper article. Pupils' accounts should include what happened, how people responded, and advice to the local authority on how to control the hazard or prevent a recurrence. 9.BBC Class Clips Geography 1 Use BBC Class clips Coasts Sequence 1: Our Environment – Rising Sea Defences Clips A and B start to answer the question 'what are the causes of coastal erosion?' and make up the first two of a sequence of eleven clips on coastal management. The overarching enquiry question is prompted by the on screen activity before clip C, 'Should the Government build sea defences to protect the UK's human environments?'.	eg Holbeck Hall and get them to put it back together again 7. Verbal tennis - divide class into 2 groups who take turns to say a word related to the current topic. No words can be repeated. Scored as tennis. Possible use of ball too! 8. Using a photo of unstable cliffs, ask why people built homes in such a risky place. Do you think people should get compensation for the loss of homes?
There is discussion about how the coast should be managed. There is debate about the costs and benefits of 'hard' and 'soft' engineering.	Management strategies: Hard engineering – sea walls, groynes, rock armour. Soft engineering – beach nourishment, dune regeneration and marsh	4	1.Why is it necessary to protect the coastline? Discussion of the effects of erosion and flooding on the environment and people 2.Use an atlas to find the name of at least 10 major world cities on the coast 3.Digital Geography Noel Jenkins has added a 360° immersing panorama to 360cities.net of Sidmouth Seafront showing the various coastal defences 4.Show images of land use along the coast. Ask pupils to identify where there might be conflicts. 5.Who am I? Write words on stickers and stick them to a pupil's forehead or back. He	1.Discuss Hard and soft engineering options Tabulate advantages and disadvantages of different methods and discuss sustainability of each 2.Decision making exercise - Scenario of coastline (actual/fictitious) subjected to rapid erosion. Choose and cost methods of defence from options given and justify decision. Evaluate chosen method(s) in terms of impact of the environment and economy. This could be developed into group debate with individuals playing various roles 3.The Essential Mapwork Skills book contains four sets of exercises utilising maps at a range of scales and colour photographs to develop knowledge and understanding of: • Coastal erosion (Lulworth Cove, Dorset); • Coastal defence (Robin Hood's Bay, North Yorkshire); • Coastal deposition (Blakeney Point, Norfolk); and • Coastal tourism and hurricane mitigation (Miami Beach, USA and	1.Stress the main points: that beach replenishment is an ongoing problem and is expensive, managed retreat makes many people who lose homes unhappy, and cliff regrading is relatively cheap but it needs to be part of other methods. 2.Play just a minute on methods of coastal defence and their benefits and problems. 3.Should people who lose their home through coastal erosion be given compensation? Is beach replenishment a good idea? Is it sustainable? 4.Dominoes Present students with a set of

	creation. Managed retreat. A case study of coastal managemen t to assess the costs and benefits of strategies adopted. L		or she then has to ask a series of questions to work out what their word is. 6.Students play a 'strike it rich'-type game in which they identify and estimate the costs of a range of hard and soft sea defences. This idea is based on a TV game show in which contestants are faced with a range of prizes which they win if they can guess the correct price. Students were provided with a series of cards with possible costs printed on them. As a defence scheme was shown on the PowerPoint, they hold up the corresponding cost. 7. Look at photos of sea defences. Ask whether defences last forever. Can we really stop the sea eroding places? Why do we bother? What if we gave people money to move inland instead? Which places are not worth saving from erosion? 8. How might the management of one part of the coast lead to problems elsewhere? (terminal groyne syndrome)	Lamai, Thailand). 4.Local examples can be explored through the maps and aerial photographs available through Infomapper 5.The BBC GCSE Bitesize Geography website contains useful photographs and diagrams to illustrate the range of strategies employed in coastal management. There are 'Test bites' which students can complete online to check their knowledge and understanding. 6.The case study on the New Forest coastline in the New Wider World or on Lyme Regis in GeoActive 364 provides sufficient evidence for students to conduct a thorough evaluation of the strategy. 7.Mock planning meetings / debate / role play of interest groups (local residents, tourists, farmers, government local and national, environment agency, conservationists) 8.Ask pupils to investigate different strategies of coastal management, *eg do nothing, build sea walls, build groynes,* and to write a summary of the different viewpoints, listing points for and against particular proposals. They should add their own viewpoint and justify it. (Some pupils may be given the option of presenting their report in the style of different newspapers, *eg tabloid, broadsheet,* or as a report for television.) 9.For a description and photographs of soft and hard engineering see www.geography-site.co.uk/ pages/physical/coastal/defences.html 10.Put students into groups of three. Each group has one method of hard engineering and must consider its advantages and disadvantages using the table in the student book. Each group presents its findings to the rest of the class. Some points to stress include: sea walls work well but are very expensive, groynes keep the beach but are ugly, rip rap is expensive but works well, revetments work but are expensive, and off-shore reefs can interfere with boats and are expensive. Do the advantages outweigh the disadvantages – ask students to vote. Which method(s) won overall? Now repeat the group work with the different types of soft engineering approaches, including beach replenishment, managed retreat and cliff regrading. Repeat the vote. Which method(s) won overall? 11.BBC Class Clips Geography 1 Sequence 1: Our Environment – Rising Sea Defences	dominoes, made from card. Each domino has a key word (to do with coastal defence) and a definition on it. Students have to match up as many dominoes as possible, making links between words, definitions, concepts. (See SLN site) 5.Wordsearch Create a wordsearch with definitions on words in books over previous few weeks 6.Mnemonics Pupils create mnemonics or acrostics for subject specific vocabulary 7.At the end of an investigation of an issue, pupils draw around their hands. On the one hand … they fill in the pros of the issue (hard/soft engineering), and on the other hand … they write the cons 8. Name and explain to your neighbour 5 hard engineering measures we use to stop coastal erosion 9. The actions of people are a major factor in the erosion of the coast. Do you agree/ Give reasons

				Clips C - J These eight clips present students with various official and unofficial evidence for and against different methods of coastal management. Students are presented with facts and opinions on how and why the coastline is changing as well as various causes, effects and responses to these changes. Watch the clips then ask students to create a cost benefit analysis (CBA). Provide a map of a section of coastline that includes locations from these clips. Give students a budget and ask them to decide which places should be 'saved' from coastal erosion, how and why. 12. Use NT text p 162-163 to produce annotated diagrams of hard engineering techniques. Explain the methods used at Minehead. Do a similar exercise for saft engineering (p164)	
Coastal areas provide a unique environment and habitat. There is a need for conservation and this leads to conflict with other land uses.	A case study of a coastal habitat – its environmental characteristics; the resulting habitat and species that inhabit it and reasons why. Strategies to ensure the environment is conserved, but also allow sustainable use of the area.	3	1.Convert some definitions into text speak, paste and annotate them into PowerPoint, add a message tone and ask students to provide the correct terminology 2. What's the Question? Working in pairs, or small groups, students are given a set of answers relating to the lesson. Their task is to work out what the question is. 3. Ask what are salt marshes? Why are they so special? Where do they occur? Why are they under threat? What types of vegetation grow in them? How do they change over time?	1.Virtual fieldtrip, using visual material provided by teacher / sourced from the web. 2. Conflict matrix with varying user groups represented (tourists, conservationists, recreational users, National Trust, other landowners) Role play with above groups represented and then compare and contrast with reality as above. 3. A good case study based on Chichester Harbour can be accessed at www.conservancy.co.uk/learn/wildlife/saltmarsh.htm . Use the information to produce an ICT generated leaflet showing coastal conservation strategies 4. Use field data based on a sand dune environment to produce graphs re plant diversity, soils etc indicating trends from the HWM inland. (psammosere plant succession). Explain the changes observed 5. Use the NT text p 167-169 discussing pioneer plants, vegetation succession and salt marsh habitats. Answer questions on p 169 6. Use the Kerboodle case study of sand dune environments in Powys	1.Do an alphabet run from A to Z with a word to do with coasts and the sea for each letter 2. You have one minute to work with a partner and decide 4 key things you have learnt today about coastal habitats 3. Show pictures of different coastal habitats (saltmarshes, mudflats, sand dunes). How are people interfering with these habitats? How can they be managed and preserved?