

DYNAMIC COASTS

BEACHES AT RISK: Key Stage 3 Resource Pack

WORKSHEETS

COASTAL PROCESSES:

- WORKSHEET 1 Introduction to beaches. What and where are they? Who needs them? What are they made of and what is their geological origin? What is flint?
- WORKSHEET 2 Making shingle. Erosion processes and wave energy.
- WORKSHEET 3 Shattered, battered and chattered. How does flint from cliffs become shingle? The process of attrition.
- WORKSHEET 4 Swash and backwash. The formation of waves.
- WORKSHEET 5 Building up or taking down. Constructive and destructive waves. Beach profiles and gradients.
- WORKSHEET 6 Shingle on the move. Longshore drift.
- WORKSHEET 7 Measuring longshore drift. Design a study. Data from Seaford Bay, East Sussex.
- WORKSHEET 8 Field trip to a shingle beach. How have waves and tides shaped the beach? Biodiversity study? Transect of shingle and beach ecosystem.
- WORKSHEET 9 Case study - Kingsdown: Kent's battle with the sea.
- WORKSHEET 10 Why worry if some beaches erode away? Why are beaches important. Flooding risks. Pros and cons of coastal protection.
- WORKSHEET 11 Managing and maintaining beaches. Techniques and costs.
- WORKSHEET 12 Why do cliffs collapse? Caves, arches, stacks and stumps. Etretat, Normandy, an example.
- WORKSHEET 13 Rocks and the coast. Geology. Cliff profiles. Sand beaches.
- WORKSHEET 14 Case study - Cliff retreat at Peacehaven, East Sussex. Role play.
- WORKSHEET 15 Coastal processes crossword.

SHINGLE AND SAND DUNE ECOSYSTEMS:

- WORKSHEET 16 Living on the edge - vegetated shingle. Plant adaptations to a hostile environment.
- WORKSHEET 17 More plants living on the edge.
- WORKSHEET 18 Which plants grow where on shingle? Transects.
- WORKSHEET 19 Shingle beach ecosystems. Food chains and food webs. Biomass and Pyramid of numbers. Decomposers.
- WORKSHEET 20 Vegetated shingle at risk! Research and presentation exercise on unique nature of shingle, threats and conservation remedies.
- WORKSHEET 21 Sand dunes - Location and formation.
- WORKSHEET 22 Sand dune ecosystems. Plant adaptations.



- WORKSHEET 23 Changing conditions across an area of dunes. Transects
WORKSHEET 24 Sand dunes - Conservation and Management. Case studies from
Camber Sands, East Sussex, and Wissant, N. France.
WORKSHEET 25 Sand and shingle ecosystems Crossword.

TOURISM AND THE ENVIRONMENT

- WORKSHEET 26 Coastal tourism. Can it benefit the economy without harming the
environment? Tourism survey questionnaire exercise
WORKSHEET 27 Tourism and the environment. Case study - Seven Sisters Country
Park. Where do their visitors come from? What activities do they
do? How is the park managed?
WORKSHEET 28 Effects of beach litter on people and wildlife. Seven Sisters Country
Park litter clean up versus Beachwatch litter clean up. Litter survey
exercise. Impact of litter on people and animals. Clean up costs.

