INTRODUCTION TO BEACHES

1. WHAT ARE BEACHES?

a) Write a definition of beaches, including what they look like and what they are made of:

_____

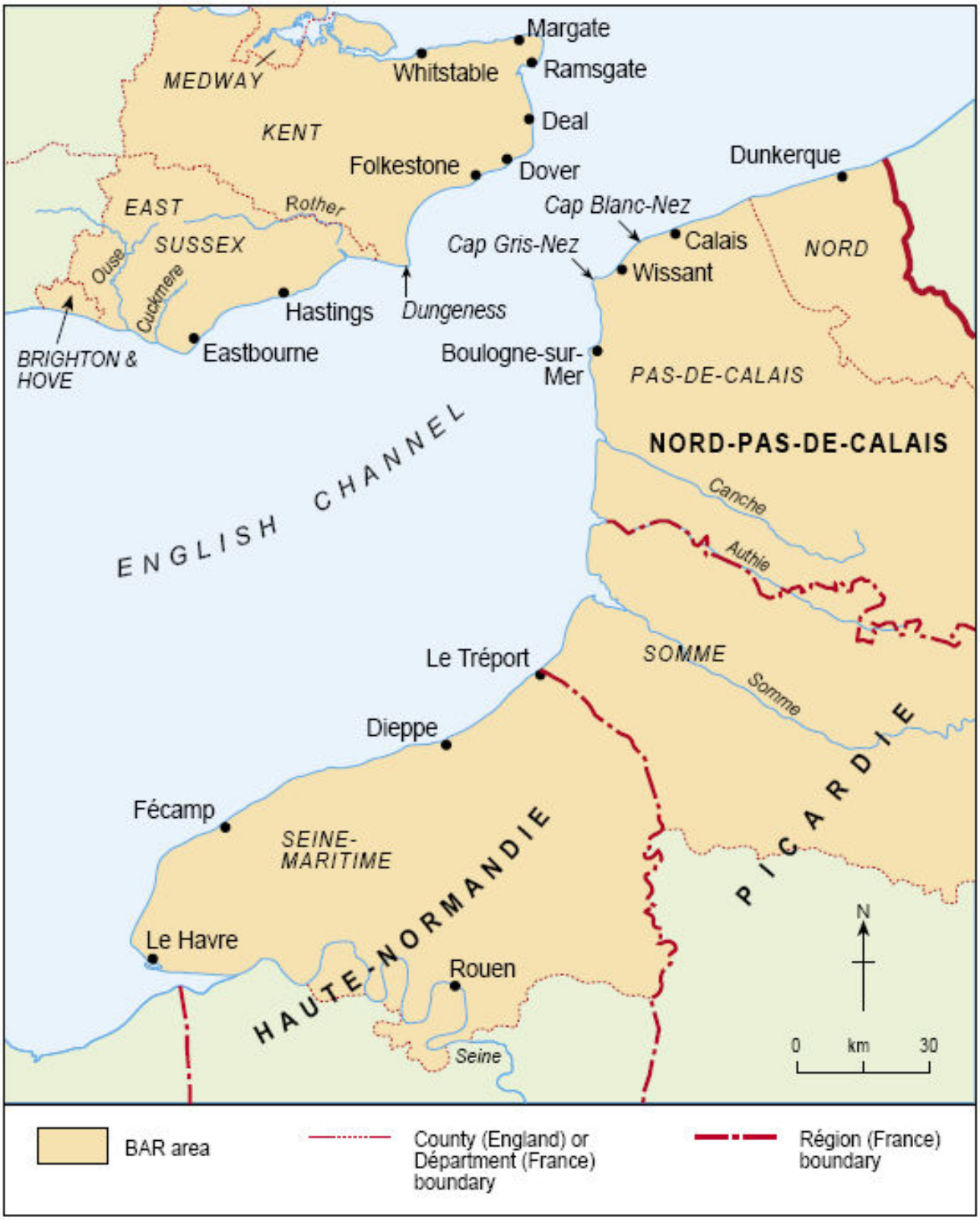
_____

_____

_____

_____

LOCATION OF THE BAR PROJECT



2. WHO NEEDS BEACHES?

Look at the four photographs on the first page. Many uses of beaches are shown, and you can probably think of more. Try to group the uses under broad headings (e.g. TOURISM AND RECREATION) giving examples or additional information if possible:

a)_____

b)_____

c)_____

d)_____

e)_____

3. WHERE ARE THE BEACHES IN THIS STUDY?

a) Using an atlas, draw and label the Channel Tunnel on the map 'LOCATION OF THE BAR PROJECT'. Also, add the following:

Within South East England: (1) the southern edge of London, **(2)** Peacehaven in East Sussex, **(3)** Newhaven in East Sussex, **(4)** Seaford in East Sussex, **(5)** Camber Sands in East Sussex, **(6)** Kingsdown in Kent, and **(7)** Herne Bay in Kent.

Within North France: **(8)** Étretat, between Le Havre and Fécamp, **(9)** Baie de Somme.

b) Using the map scale and a ruler calculate the distance in kilometres, across the Channel, between:

Dover and Calais _____ km

Newhaven and Dieppe _____ km

c) Using your atlas, calculate the distance between Dieppe and Paris. Indicate this distance on the map on the preceding page, using an arrow drawn in the correct direction from the edge of the map.

d) How far is London from Paris via the Newhaven-Dieppe ferry? _____ km

e) Is this the shortest possible route between the two capitals? _____

f) Which of the London to Paris routes would you choose? Explain why.

_____

_____

_____

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4. WHAT ARE THE BEACHES IN SOUTH EAST ENGLAND AND NORTH FRANCE MADE OF, AND WHAT IS THEIR GEOLOGICAL ORIGIN?

Most of the beaches in the BAR area, on the English side of the Channel are made of flint shingle, with only minor amounts of sand. On the French side there is much more sand.

The flints originated in the Chalk and have since been eroded out of the rock and turned into shingle.

HOW WAS THE FLINT SHINGLE FORMED?

a) Fill in the missing words from the list below:

Shingle beaches are made from _____ pebbles and cobbles. These look greyish or brownish on the outside and shiny black or dark grey inside, if broken. Flint is a form of _____ , which developed in the _____ when it was deposited some 70 to 100 million years ago, during the _____ period (the latter part of the Dinosaur era). The Chalk was formed from calcareous mud deposited on the bed of a huge tropical _____ , which covered much of North-West _____ . Scattered within the mud were the remains of minute organisms, rich in silica, which had lived in the sea, glass sponges, d_____ and r_____ . This silica dissolved in the circulating waters within the mud and then was redeposited as silica in the form of n_____ and layers while the mud was accumulating and hardening into chalk. The silica, now known as _____ , developed especially in the bedding _____ or discontinuities in the laying down of the beds of Chalk. Thus the nodules occur in bands in the bedding planes, as do sheets of flint, which can be seen exposed on the _____ platform.

Missing words:
nodules, Chalk, planes, Cretaceous, sea, radiolaria, shore, flint, silica, diatoms, Europe, flint.

b) Use the photo below to help explain the origin of the flint. Draw label lines and add the labels below round the edge of the photo. You will need to show: **(1)** Bed of chalk, (layer of mud under sea which hardened into chalk), **(2)** Bedding plane (discontinuity or gap between chalk layers) and **(3)** Nodules of flint along the bedding planes in the Chalk.