

Bridport Sands Facies Change

In all the places listed below the geological sequence found is:

limestone
sands
clay

The beds are all Jurassic , part Upper Lias and part Inferior Oolite

It was originally assumed that at first clay was deposited over the whole area and then sands and lastly limestone. However in 1929 a detailed collection of ammonites was made from these beds.

The sequence of ammonite zones is given below.

- 12 Temetoceras
- 11 Cypholloceras
- 10 Playdellia
- 9 Dumortieria b
- 8 Dumortieria a
- 7 Phyllosegrammoceras
- 6 Pseudogrammoceras
- 5 Grammoceras
- 4 Haugia
- 3 Lillia
- 2 Hildoceras
- 1 Harpoceras

The places listed below all lie on a straight line running NNE from Bridport in Dorset to Cheltenham in Gloucestershire and they are about equally spaced: Bridport, Yeovil, Mendips, Bath, Chipping Sodbury, Wotton, Cheltenham.

Plot the information below as a graph with the zones on the vertical axis and the places on the horizontal axis. Colour each lithology a different colour. join the beds up. Then draw your conclusions about the sequence of sedimentation.

Teacher's Notes

This exercise can also be presented to the students with the information in the table on 7 separate cards. Alternatively use the completed diagram as an overhead transparency. Cover up all but one zone to illustrate that at any one time all three lithologies were being deposited but at different places.

Bridport	Yeovil
limestone zones 12	limestone zones 10 to 12
Sands zones 10 and 11	Sands zones 9
Clay zones 1 to 9	Clay zones 1 to 8

Mendips	Bath
limestone zones 9 to 12	limestone zones 7 to 12
Sands zones 8	Sands zones 6
Clay zones 1 to 7	Clay zones 1 to 5

Chipping Sodbury	Wotton under Edge
limestone zones 6 to 12	limestone zones 5 to 12
Sands zones 5	Sands zones 3 and 4
Clay zones 1 to 4	Clay zones 1 and 2

Cheltenham
limestone zones 5 to 12
Sands zones 4
Clay zones 1 to 3

Bridport Sands Facies Change

zone	Bridport		Yeovil		Mendips		Bath		Chipping		Wotton		Chelten
12													
11													
10													
9													
8													
7													
6													
5													
4													
3													
2													
1													

Colour scheme = Limestone
 = sands
 = clay