

Rocky shore Investigation : Key Stage 2

Question : do different seaweeds live in different places on the beach?

Discuss how to answer question e.g. what data to collect , how to record data , how to identify the main seaweeds

Children should learn:

- to ask scientific questions
- to plan how to answer questions
- to decide what kind of evidence to collect
- to collect and record data appropriately
- to identify and describe patterns in data
- to look critically at data collected
- to try to explain their results using their scientific knowledge and understanding
- to describe the limitation of their own and others' evidence
- suggest reasons for any differences in the plants using scientific knowledge where possible
- draw conclusions recognising limitations in evidence

Species Identification

Good field keys are available from the Field Studies Council.

<http://www.field-studies-council.org/publications/pubsinfo.aspx?Code=OP61>

Investigation

This can be approached on two levels :

- a) a transect from lower to upper shore (or vice-versa, depending on tides) using 0.5m x 0.5m quadrats at appropriate intervals and a simple recording scale.

Does the seaweed change? Location :

1 2 3 4 5 6 7

low water

Saw wrack							
Bladder wrack							
Egg wrack							
Spiral wrack							
Channel wrack							

Score 0% 1-5% 6-25% 26-50% 51-75% 76-100%

 0 1 2 3 4 5

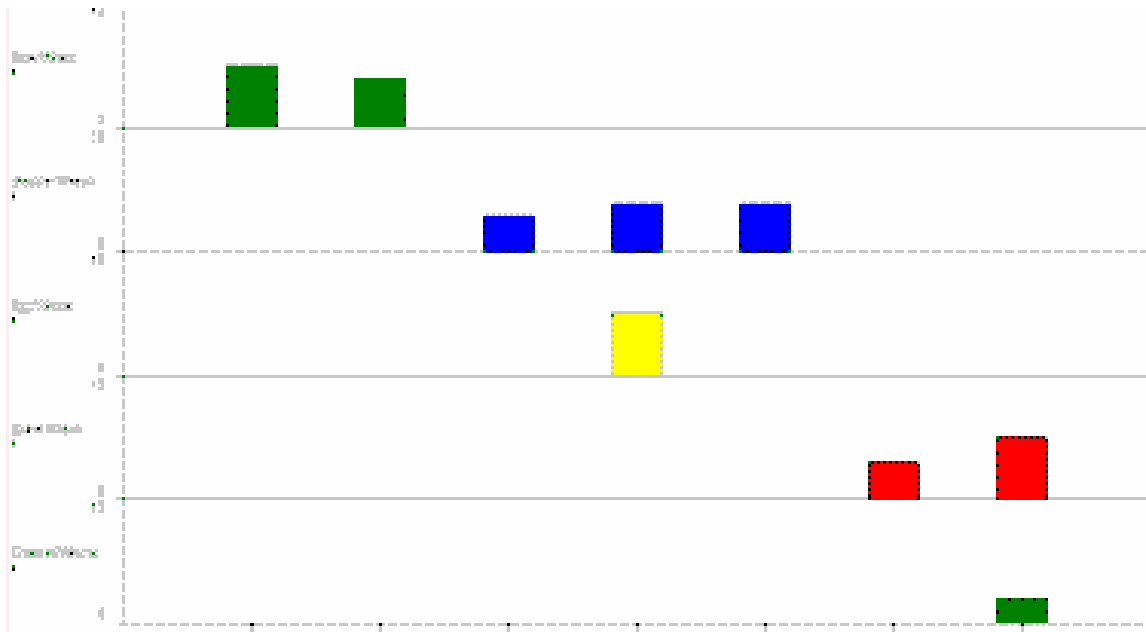
b) a transect from upper to lower shore using a journey stick (bamboo barbecue skewer) to record changes – this can be done after a more formal transect to reinforce the distribution patterns found.

N.B. Preferably strandline seaweed should be used to avoid damage to the environment.



Explanation of results

Graphed results back in the classroom would show a typical zonation.



Simple conclusions would be that different seaweeds occur in different places on the shore.

Key points :

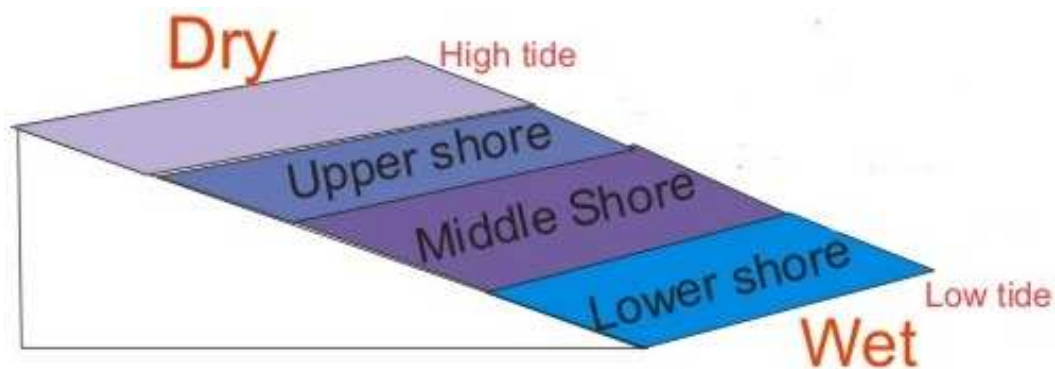
As the tide comes in and out twice a day, animals and plants at the top of the shore get much less water than those at the bottom .

The lower shore animals and seaweeds spend most of their time submerged under water.

The upper shore animals and seaweeds spend most of their time out of the water.

Some seaweeds e.g. Spiral Wrack and Channel Wrack, are found only on the upper shore. These seaweeds are able to survive being dried out.

Some seaweeds e.g. Saw Wrack, are found only on the lower shore as they cannot survive being dried out.



Does the seaweed change?

Location :

1

2

3

4

5

6

7

low water

Saw wrack							
Bladder wrack							
Egg wrack							
Spiral wrack							
Channel wrack							

Score

0%
0

1-5%
1

6-25%
2

26-50%
3

51-75%
4

76-100%
5