



## **CURRUMBIN ROCKY SHORE STUDY**

### **‘PHYSICAL CHARACTERISTICS OF THE ROCKY SHORE’**

**(For safety reasons this study should be conducted at low tide)**

### **INTRODUCTION**

The rocky shore is a common type of environment throughout the world. It has been formed by a number of forces acting on the rock throughout the ages. Some of these include rises and falls in sea level, ice ages, wind and sand erosion. In recent times cyclones and wave action have played their part in splitting the rock and creating cracks and pools. The result has been diversity in rock shape which has created mini habitats called MICROHABITATS, in which animals and plants can live.

The most significant factor in this environment is the activity of the sea; in particular, (a) the rising and falling of the tide and (b) the pounding action of the waves. The animals that live in this environment have a range of clever adaptations for dealing with the constantly changing conditions.

Because the conditions are very different depending on the distance from high tide mark the rocky shore is often broken up into zones. There is a set of organisms that have adapted in a particular way to each zone and they are almost exclusive, although some organisms are versatile enough to overlap from one zone into the next.

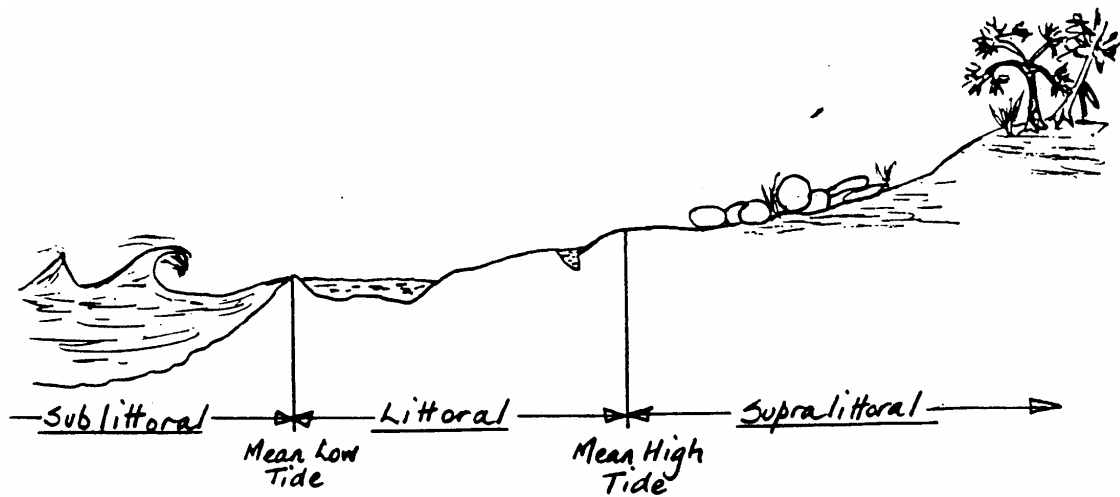


The rocky shore will fall roughly into the following zones:

Above High tide mark    i)    Supralittoral Zone

↓                            ii)    Littoral Zone

Below Low tide mark    iii)    Sublittoral Zone



## **AIMS**

- Identify and give the common names of much of the animal and plant life found on the rocky shore
- To gain a better understanding of the varying conditions in the different zones
- Describe the adaptations of these animals and plants to their particular rocky shore environment

## **EQUIPMENT**

- Sunscreen and Hat
- Mosquito repellent
- Water Bottle
- Clipboard folder
- Notepad, pen and pencil
- Ruler and eraser
- Thermometer
- Light meter
- Magnifying lens
- Books to help identify rocky shore species

## **PROCEDURE**

- Walk along the rocky shore from the supralittoral zone (sand) and see if you can determine roughly where one zone ends and another begins
- Choose an area of about 1 metre squared in each of the three zones and measure the physical factors
- Complete exercise 1
- In each area of 1 metre square study the animal life and determine the way in which the animal life is suited to its particular environment
- Complete exercise 2



**EXERCISE 1a**

(i) Temperature

- Of high water level pool \_\_\_\_\_
- Of medium water level pool \_\_\_\_\_
- Of low water level pool \_\_\_\_\_

(ii) Salinity – taste test. Compare the ‘salt’ taste of water at:

- High water level \_\_\_\_\_
- Medium water level \_\_\_\_\_
- Low water level \_\_\_\_\_

(iii) Sun/shade. Express the amount of sunlight as a reading and as a percentage

- High water level \_\_\_\_\_
- Medium water level \_\_\_\_\_
- Low water level \_\_\_\_\_

**EXERCISE 1b**

(i) Study the temperature readings and explain your answers in terms of the different zones, indicating whether these are the results you would have expected to obtain.

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(ii) Study the salinity results. Do they differ from pool to pool? Why do you think this is the case?

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(iii) Study the levels of sunlight. Is there a marked difference between the zones? Use your knowledge of zonation to explain the results.

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## EXERCISE 2

1. What specific conditions do the living organisms have to tolerate in each of the zones?

a) \_\_\_\_\_

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b) \_\_\_\_\_

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c) \_\_\_\_\_

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2. Describe how some of the animals withstand the pounding of the waves (use specific examples).

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