

## Lesson Plans: Rate of Coral Growth

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### Objective

The objective is to understand the fact that the growth of coral depends on water depth and the effect of sea level changes on corals.

### Materials

Each student or group of students will need the following:

- Graph paper
- Pen
- Ruler

### Important Points to Understand

If the greenhouse effect occurs, its effects will be global, both on land and in the sea. The information given in the following table shows the rate of growth (in mm per year) of coral patch reefs in different depths of water along the Great Barrier Reef, Australia. As we all are aware, many islands in the Pacific region are coral islands so that any information on coral growth is important. It is necessary to point out that no concentration has been given to increase water temperatures in this exercise. Also how much of local coral is still alive and so able to respond to growth is a matter of conjecture and will vary from place to place.

<b>Depth (m)</b>	0.5	1.5	2.5	3.5	4.5	5.5	6.5	7.5
<b>Growth (mm y-1)</b>	8.9	10.3	16.2	9.2	12.1	10.6	9.9	7.8
<b>Depth (m)</b>	8.5	9.5	10.5	11.5	12.5	13.5	14.5	15.5
<b>Growth (mm y-1)</b>	5.8	8.4	7.8	8.7	9.3	9.4	9.4	9.3

### Procedure

1. Study the data from the given table.
2. Plot the data on a graph paper, depth on horizontal axis and growth on the vertical axis.
3. Pick the depths of fastest and slowest growth from the graph.

### Questions

1. At what depth do these coral grow fastest?
2. At what depth do these coral grow slowest?
3. What can you infer from the graph when the water is deeper and deeper?
4. At what depth will these coral grow fastest if the sea level rises half a meter?
5. Do you expect that these corals will be affected by sea level changes?
6. What other factors might influence coral growth?