



# Study of a Mangrove Ecosystem

## (Adaptation of Mangrove Plants)

### Background information:

Where does a plant grow is influenced by a number of physical (or abiotic) factors and biotic factors. Mangrove habitat is always densely vegetated. However, plants are not evenly distributed in a mangrove habitat. Some plant species grow near the sea water, some grow at the back shore; some grow near the stream outlet, some grow away from the steam outlet.

### Task:

Design and carry out an investigation to find out distribution pattern of major mangrove plants and to study the adaptive features shown on their leaves, fruits and roots. Write a full report for your investigation work and your findings.

### Available equipment and material:

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|---|---|
| 1. Clipboard                                      | 2. Light meter  |
| 3. Digital thermohygrometer                       | 4. Soil thermometer   |
| 5. Digital anemometer                             | 6. Trowel   |
| 7. Forceps  | 8. Water sampling bottles                                     |
| 9. Transect (50 m)                                | 10. Quadrat (0.5 m X 0.5 m)                                   |
| 11. Magnifying glasses                            | 12. Plastic bag   |
| 13. Refractometer (to be used in Lab.)            | 14. pH meter (to be used in Lab.)                             |
| 15. Filter paper in the oven (to be used in Lab.) | 16. Compound microscope and glass slides (to be used in Lab.) |
| 17. Dissecting microscope (to be used in Lab.)    | 18. Standard glass wares (to be used in Lab.)                 |
| 19. Wildlife Pictorial Guide (Book)               | 20. Estuarine Organisms (Book)                                |
| 21. Hong Kong Coastal plants (Book)               |   |

*Some items listed above may not be useful, students should decide what to be used. Additional equipment or material can be provided upon request, as long as the request item is available.*

### Procedure and time arrangement:

1. Group discussion and formulation of investigation plan - 50 mins
2. Distribution of equipment - 10 mins
3. Field work - 90 mins
4. Laboratory work - 60 mins
5. Group discussion and interpretation of results - 90 mins
6. Write up the full report

