

## Oceans 11 – Graphing Lab – Water

The following data represents actual measurements taken at a particular location in the Pacific Ocean.

### Procedure

Using the data included here, and suitable graph paper, plot the following 3 graphs:

1. Temperature (x) vs Depth (y)
2. Salinity (x) vs Depth (y)
3. Density (x) vs Depth (y)

Then answer the questions below.

Depth (m)	Temperature(c)	Salinity (ppt)	Density (g/cm )
0 (surface)	17.6	34.8	25.0
100	16.9	34.2	25.2
200	11.8	34.1	26.0
300	9.6	34.1	26.3
400	7.7	34.0	26.6
500	6.6	34.0	26.8
600	5.9	34.0	27.0
700	5.0	34.2	27.1
800	4.4	34.3	27.2
900	4.0	34.3	27.2
1000	3.6	34.4	27.4

- ppt means parts per thousand

### Questions:

1. For each of the three graphs state the relationship between the two variables. For example, in the first graph – does temperature increase or decrease as depth increases.
2. Why do you think salinity and temperature are highest at the ocean's surface?
3. Which has the greatest effect on density, salinity or temperature. Why do you think that?
4. Do you think this experimental data was collected near the equator or far from it. Why do you think that?
5. Do you think this experimental data was collected close the the coast or far from it? Why do you think that?