

Core Lab Activity pages 20(1)

Activity 1-3B "Temperature and Water Density"

Name: _____

Section #: _____

Question: What happens to the temperature of ocean water the deeper you go?

Materials: Graph paper Pencil Eraser

Procedure:

1. Create a graph by plotting the following data points on the graph paper provided. Do not forget to label your graph completely. **Connect the points with a smooth line.**

The Effect of Depth (m) on Ocean Water Temperature.

Depth (m)	Temperature (°C)
0	22
100	22
200	22
300	20.5
400	18
500	14
600	10
700	8
900	6
1000	5
1200	4

Analysis:

1. What is the relationship between temperature and water depth? 2 marks

2. Does the temperature of water change at a constant rate as you go deeper? 1 mark

3. Between what depths is the temperature difference the *greatest*? **Circle one** 1 mark

(a) 0-400 m

(b) 400-800 m

(c) 800-1200m

4. Which is denser, hot or cold water? Explain why. 3 marks

5. How does density of water affect the water's ability to float or sink? 2 marks

6. What do you think would happen when cold water from the Labrador Current meets the warmer water from the Gulf Stream? 2 marks
