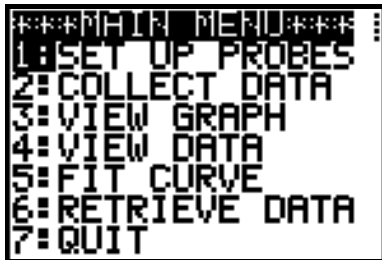


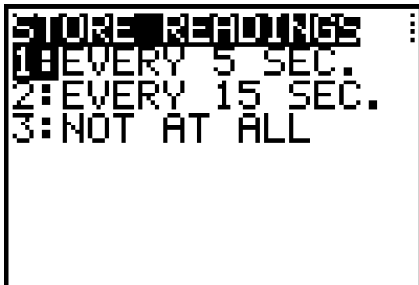


monitoring heart rate.

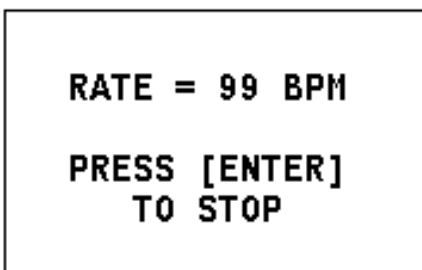
1. Wet each electrode on the *POLAR* transmitter belt with the 5% NaCl solution, position on the subject just below the chest, and hold it in place with the elastic strap.
2. Fit the receiver module into channel 1 on the CBL2.
3. Attach the calculator to the CBL2.
4. Open the **ChemBio** APP and press enter to get to the following screen:-



5. Select SET UP PROBES and follow the on screen prompts to place the **heart rate monitor** in channel 1.
6. On the SELECT DEVICE menu, select 2:CHEST BELT.
7. On the HEART RATE MENU select 1:COLLECT DATA to get to the following screen:-

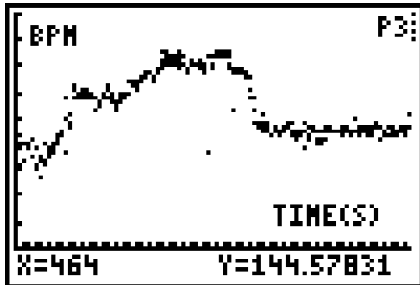


8. Select either 1: EVERY 5 SEC. or 2:EVERY 15 SEC. and sampling begins.



The calculator now displays this screen, with the BPM value being continuously updated.
No real time graph is available.

9. At the end of the sampling period, press enter, and on the HEART RATE MENU select 3:VIEW BPM GRAPH.



Here is an example plot showing heart rate before, during and after exercise.
 The < and > arrow keys can be used to trace the plot with the corresponding values for x and y being displayed.
 The recovery period can thus be investigated on screen.

STORE READINGS	STORE READINGS
1:EVERY 5 SEC.	2:EVERY 15 SEC.
4 seconds between data points on graph	12 seconds between data points on graph

NB. This is the relationship between sampling modes and data points.

10. Press enter, 4:RETURN and 7:QUIT to finish.



In this example, the heart rate data list has been imported into a spreadsheet application (TI InterActive) and used to generate the graph.

- For investigations involving exercise:-

Apparatus required

- ◆ simple exercise equipment such as bench, bicycle or steps.
- ◆ 5% NaCl solution for good contact between the chest belt electrodes and the chest.

- An exercise bicycle is ideal for indoor work. For outdoor work, the kit can be placed in a rucksack or bum bag.

Safety

the needs of pupils with specific medical conditions, and those excused from PE, should be considered when deciding if they should take part. Suitable shoes should be worn, and benches/steps should be held firm. Over-competitiveness should be avoided.