2 Chapter Task

Investigating Rates of Change in Body Temperature

Use either a Calculator Based Laboratory (CBL) and temperature probe or a thermometer with a Fahrenheit scale to measure your body temperature for 2 min. Then allow the temperature probe or thermometer to return to room temperature for an additional minute.

? What happens to the average and instantaneous rate of change in temperature as the probe or thermometer heats up and cools?

A. Collect data every 5 s for the 3 min interval. For the first 2 min, hold the thermometer or probe tightly in your hands. After 2 min, release the thermometer or probe and allow it to rest on the desk for one more minute. Use the data you collected to draw a graph of temperature versus time.

B. Determine where the temperature was the highest and the lowest.

C. Was there any time when the temperature remained fairly constant?

D. When was the temperature increasing? When was it decreasing?

E. Determine the average rate of change over the interval when the temperature
i) increased
ii) decreased
iii) remained fairly constant

F. At what point did the greatest rate of change in temperature occur? At what point was the temperature rising most rapidly? At what point was the temperature falling most rapidly?

Task *Checklist*

- ✔ Did you label your graph accurately?
- ✔ Did you use appropriate points to determine the average rate of change?
- ✔ Did you use an appropriate technique to determine the instantaneous rate of change?
- ✔ Did you interpret your graph correctly to draw reasonable conclusions?