

## Activity 9.2

### To find the effect of exercise on the rate of heart beat

#### Skills

A03.2 Planning

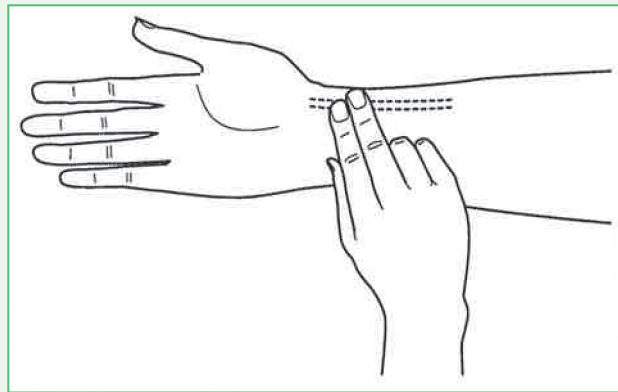
A03.3 Observing, measuring and recording

A03.4 Interpreting and evaluating observations and data

#### Safety

Don't do vigorous exercise if you know it could harm your health.

The best way to measure the rate of your heart beat is to take your pulse. Use the first two fingers of your right hand and rest them on the inside of your left wrist. Feel for the tendon near the outside of your wrist. If you rest your fingers lightly just over this tendon, you can feel the artery in your wrist pulsing as your heart pumps blood through it.



- 1 Construct a results chart, ready to fill in your results. You need to read through the whole set of instructions first, so that you can see exactly what you need to have in your results chart.
- 2 Sit quietly for two minutes, to make sure you are completely relaxed.
- 3 Count the number of pulses in one minute. Record it in your table.
- 4 Wait one minute, then count your pulse again, and record.
- 5 Now do some vigorous exercise, such as stepping up and down onto a chair, for exactly two minutes. At the end of this time, sit down. Immediately count your pulse in the next minute, and record.
- 6 Continue to record your pulse rate every other minute, until it has returned to near the level before you started to exercise.
- 7 Draw a graph of your results, putting time on the bottom axis ( $x$ -axis).
- 8 Compare your results with those of other people in your class. How much variation is there in pulse rate when resting? How much variation is there in pulse rate after exercise? How much variation is there in the time taken for pulse rate to return to normal after exercise?
- 9 Design an experiment to test the hypothesis that training reduces the time taken for the pulse rate to return to normal after exercise. Remember to think hard about controlling variables. This will be very difficult for this experiment, but do the best you can.