

G622: Monitoring the Activity of the Human Body – Worksheet B

Unit Name: Monitoring the Activity of the Human Body	Unit Number: G622
Assignment Title: The effect of exercise on cardiovascular performance in fit and unfit individuals	Assignment: G622 Worksheet B
Date Set:	Due Date:

Vocational Brief:

Heart disease accounts for the greatest number of premature deaths in most industrial countries. Physical inactivity is thought to be one of the primary risk factors for cardiovascular disease. The effect of exercise on cardiovascular efficiency can be assessed by measuring pulse rate.

Task:

Effect of Exercise

Compare the pulse rate of fit and unfit individuals before and after exercise.

In this task you are required to:

- identify hazards and carry out a risk assessment
- follow the Practical Instructions given - *Effect of exercise on cardiovascular performance in fit and unfit individuals*
- record any observations and measurements
- process and evaluate results.

Resources:

The complete A –Z Physical Education Handbook - James, Thompson and Wiggins
ISBN 0-340-77213-1

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Practical Instructions

Effect of exercise on cardiovascular performance in fit and unfit individuals

Task

Measure and compare the pulse rate of fit and unfit individuals before and after exercise.

Practical Instructions

Complete a risk assessment before starting the investigation.

Ask your teacher to check your plans before you start.

1. Choose a number of individuals, some of whom think they are fitter than others.
2. The individuals under investigation should be invited to sit for 5 minutes. During this time, explain what they are expected to do and what you will do.
3. After five minutes, measure and record their resting pulse rate (count for 15 seconds).
4. Each individual should be invited to perform a number of pre-determined activities (e.g. step test) for a set number of minutes.
5. Measure and record their pulse rate immediately the exercise finishes and at 1 minute intervals until their pulse rate returns to the resting rate.
6. In addition, take information about each individual under test: age / height / weight / daily routine etc. (you must check that they are willing to give you this information before you record it).

Treatment of your Results

- Calculate the resting pulse rate value (in beats per minute).
- Calculate the post-exercise pulse rate values (in beats per minute).
- Plot graphs of pulse rate against time and any further data you may have collected.
- Look up data for age-related, pre- and post-exercise pulse rates.

Evaluation of Results

Comment on:

- the method
- the results that you obtained for fit and unfit individuals
- possible extension of the investigation.