



Human Biology

HBI3T/Q10/task

Unit 3T AS Investigative Skills Assignment Task Sheet

The effect of the intensity of exercise on breathing rate

Introduction

A person's breathing rate is affected by the length and intensity of exercise.

In this investigation, you will measure your breathing rate after carrying out the same exercise for the same length of time but at different intensities.

Materials

You are provided with

- a timer
- a chair.

You may ask your teacher for any other apparatus you require.

Outline method

Read these instructions carefully before you start your investigation.

1. The exercise you will be carrying out for this investigation is standing up from a chair and sitting down repeatedly for one minute.
2. You will increase the intensity of exercise by increasing the number of times you stand up and sit down in one minute.
3. Place the chair securely where it cannot slip (e.g. with its back against a wall) and sit on it with both of your feet on the floor.
4. While sitting quietly on the chair, count and record your breathing rate as the number of times you breathe during one minute.
5. Stand up straight and then sit down. Do this at intervals of 5 seconds for one minute.
6. At the end of one minute of exercise, record your breathing rate whilst sitting.
7. Take a suitable rest period.
8. Repeat steps 5, 6 and 7 using an interval of 4 seconds, then 3 seconds and, finally 2 seconds.

You will need to decide for yourself

- the length of time over which you measure your breathing rate after each minute of exercise
- the length of the resting period between each minute of exercise.

ISA HBI3T/Q10 Candidate Results Sheet: Stage 1

The effect of the intensity of exercise on breathing rate

Centre Number

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Candidate Number

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Candidate Name
(3 marks)

Record your data in a table in the space below.

Hand in this sheet at the end of each practical session.

ISA HBI3T/Q10 Candidate Results Sheet: Stage 2

The effect of the intensity of exercise on breathing rate

Centre Number

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Candidate Number

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Candidate Name
(5 marks)

Use the graph paper to plot a graph of your processed data.

Hand in this sheet at the end of each practical session.

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