

Centre Number						Candidate Number				
Surname										
Other Names										
Candidate Signature										

For Examiner's Use Total Task 2



General Certificate of Education  
Advanced Subsidiary Examination  
June 2012

## Biology

## BIO3X/PM2

### Unit 3X AS Externally Marked Practical Assignment Task Sheet 2

To be completed before the EMPA Written Test.

For submission by 15 May 2012

**For this paper you must have:**

- a ruler with millimetre measurements
- a calculator.

## Task 2

### Introduction

In this part of the investigation you will look at the effect of exercise on pulse rate.

### Materials

You are provided with

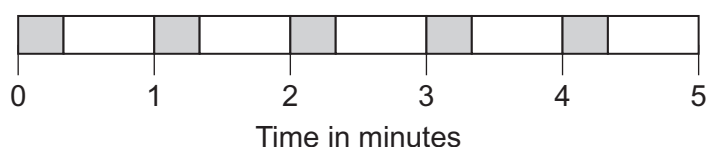
- a stopwatch or timer.

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



### Method

Read the following instructions carefully before you start your investigation.

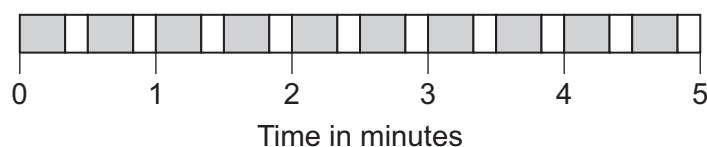
1. Sit down and rest for 10 minutes. You can use this time to draw the table in which you will record your results.
2. Take your pulse for 20 seconds at 1 minute intervals for 5 minutes. The sequence of events is shown in the diagram.





Key

-  Take pulse
-  Record pulse and get ready to take pulse again

3. Exercise by holding the edge of a table or laboratory bench and repeatedly squatting down then standing up again. You must decide for yourself for how long to continue exercising but it should not be for longer than 5 minutes.
4. Immediately after you have stopped exercising, take your pulse for 20 seconds at 30 second intervals for 5 minutes. The sequence of events is shown in the diagram.



Key

-  Take pulse
-  Record pulse and get ready to take pulse again

### You must decide for yourself

- how to standardise the exercise so that you or another person may repeat the investigation in exactly the same way.

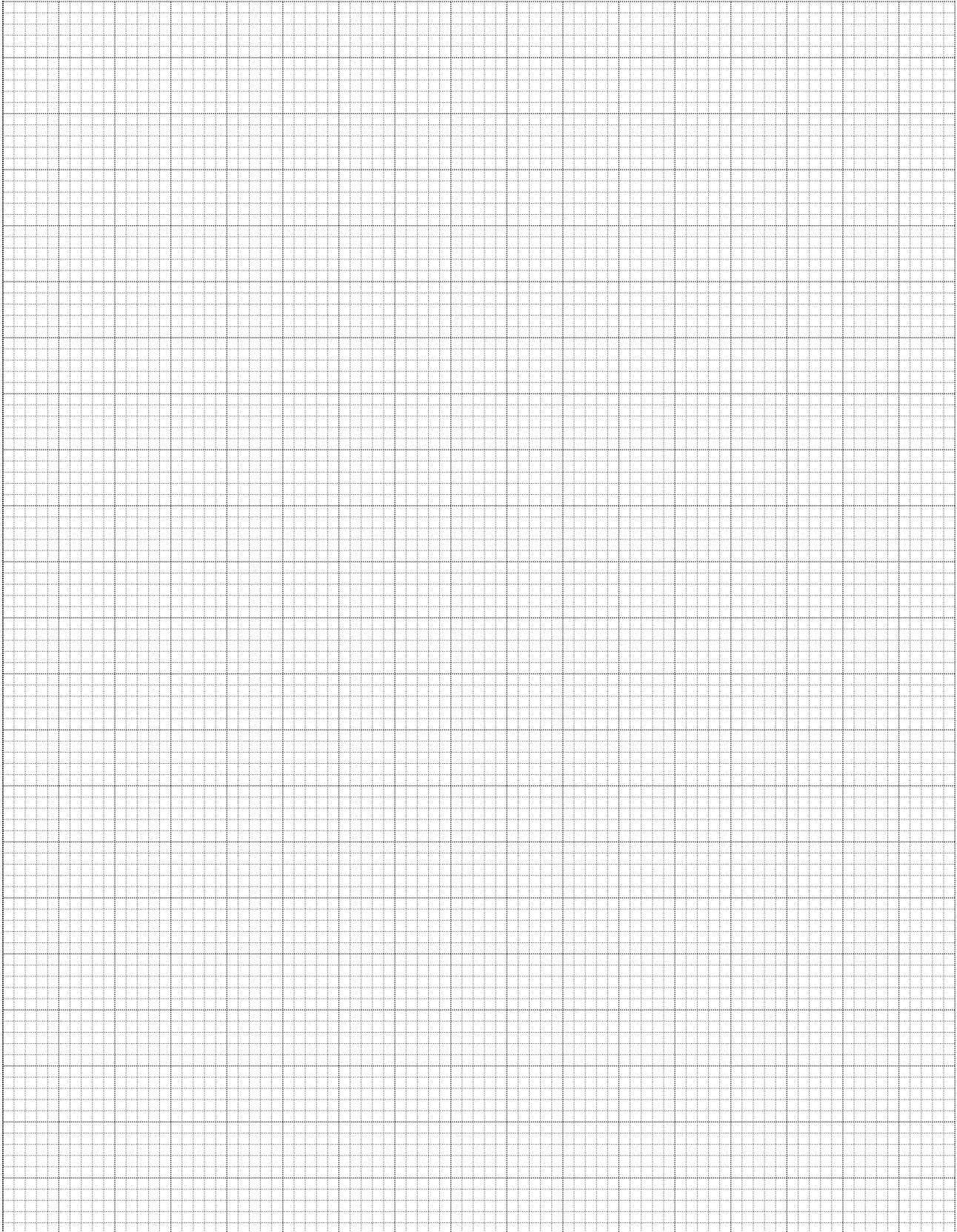
**Presenting your data**

- 4** Record the results of your investigation in an appropriate table in the space below. (3 marks)
- 5** You may be awarded 1 mark for the quality of your practical work. (1 mark)

**Turn over for the next question**

**Turn over ►**

- 6** Use the graph paper to plot an appropriate graph or graphs of the data you collected in **Task 2**. (5 marks)



**END OF TASK 2**