



Centre Number

71

Candidate Number

General Certificate of Secondary Education
2010–2011

Science: Single Award (Modular)

Staying Alive

Module 1

Foundation Tier

[GSC11]



TUESDAY 9 NOVEMBER 2010, AFTERNOON

TIME

45 minutes.

INSTRUCTIONS TO CANDIDATES

Write your Centre Number and Candidate Number in the spaces provided at the top of this page.

Write your answers in the spaces provided in this question paper. Answer **all seven** questions.

INFORMATION FOR CANDIDATES

The total mark for this paper is 45.

Figures in brackets printed down the right-hand side of pages indicate the marks awarded to each question or part question.

For Examiner's
use only

Question Number	Marks
1	
2	
3	
4	
5	
6	
7	

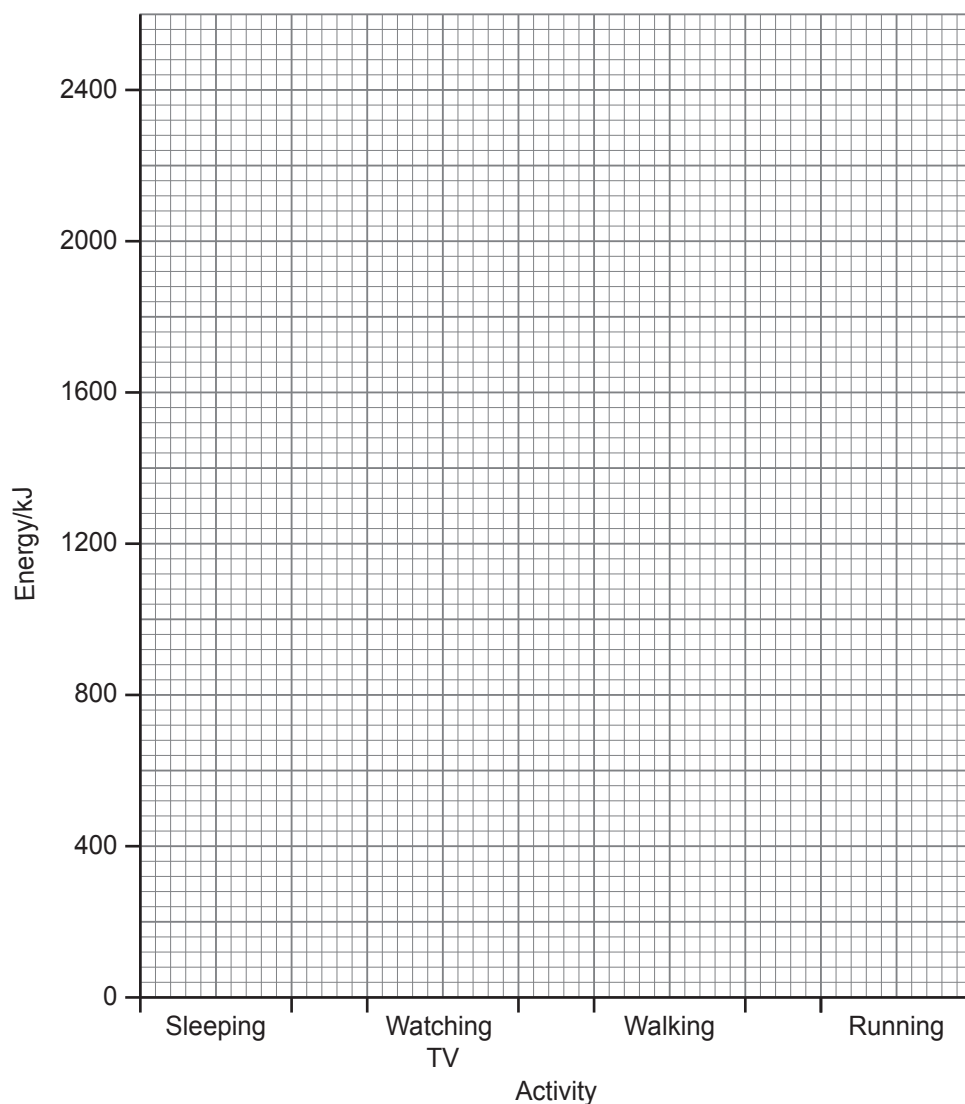
Total
Marks



- 1 (a) The table below shows how much energy a teenage girl needs to do certain activities for one hour.

Activity	Energy needed/kJ
sleeping	400
watching TV	600
walking	1200
running	2400

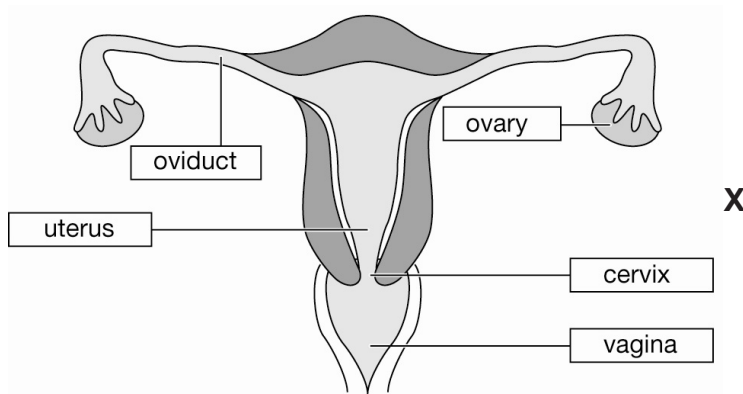
- (i) Draw a **bar chart** of this information on the grid below.



[2]

Examiner Only	
Marks	Remark

3 (a) Below is a diagram of the female reproductive system.



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The phrases below describe the journey of the sperm from leaving the penis to fertilising the egg, but they are in the wrong order.

- A swims through cervix
- B enters vagina
- C swims through uterus
- D fertilises egg
- E enters oviduct

Using the letters (A, B, C, D and E) place the phrases in the correct order below. The first one has been done for you.

B _____ [2]

(b) (i) Females can have an operation to stop them having children. On the diagram above draw a line from X to one of the parts cut during this operation. [1]

(ii) Explain fully how this operation prevents pregnancy. [2]

(iii) Give **one** medical problem associated with teenage pregnancies. [1]

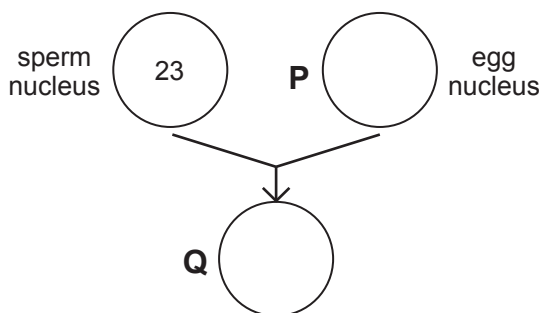
Examiner Only	
Marks	Remark

- 4 (a) The boxes below show some reproductive processes and their descriptions. Use lines to link each process to its correct description. One description will not be used.

Process	Description
Implantation	Placenta ejected
Division	An egg is released
Delivery of afterbirth	One cell becomes a ball of cells
	Fertilised egg burrows into uterus wall

[3]

- (b) Complete the diagram below by writing the number of chromosomes in nucleus **P** and nucleus **Q**.



[1]

- (c) Complete the sentence below.

Choose from:

heterozygous : the phenotype : different : homozygous

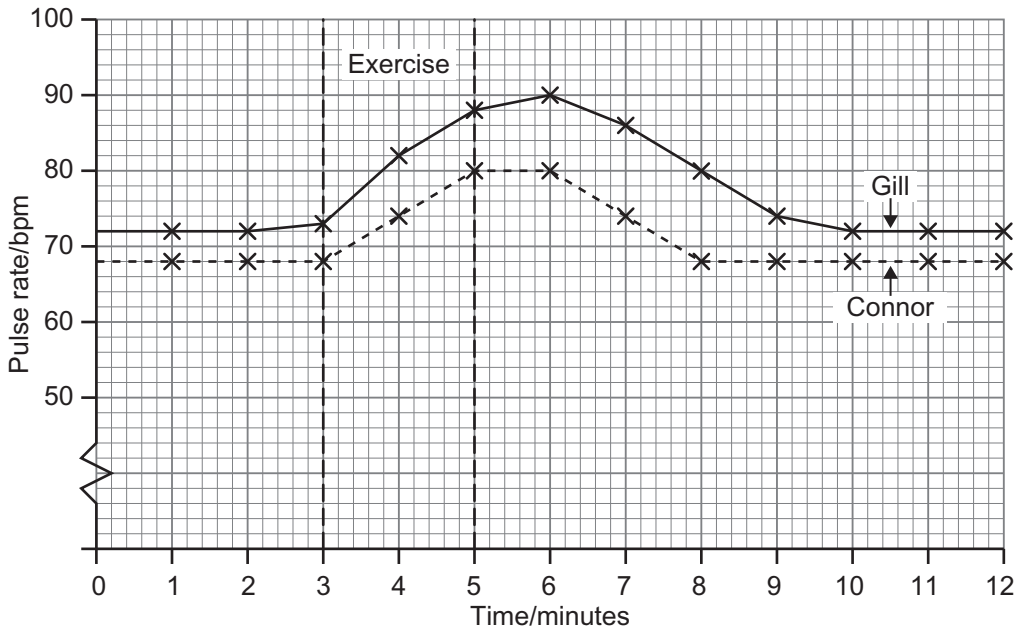
The genotype **BB** is _____ for brown eyes because the offspring have inherited the same gene from each parent.

[1]

Examiner Only

Marks Remark

(c) The graph shows the pulse rate of two 15 year old students before, during and after exercise. Exercise took place from 3–5 minutes.



(i) How many minutes after starting exercise did Gill's pulse rate reach its peak?

_____ minutes [1]

(ii) Which pupil (Gill or Connor) recovered quicker from exercise? Explain your answer.

 _____ [1]

(iii) Gill continued to exercise every day for a number of weeks but Connor stopped exercising. Suggest how this would affect their recovery rates.

 _____ [1]

Examiner Only	
Marks	Remark

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