

Centre Number				
71				
Cano	didate Number			

General Certificate of Secondary Education 2010–2011

## Science: Single Award (Modular)

Staying Alive Module 1

**Foundation Tier** 

[GSC11]

## **TUESDAY 9 NOVEMBER 2010, AFTERNOON**

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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				



6678

certain activities for one hour. Marks Rer Energy needed/kJ Activity 400 sleeping watching TV 600 walking 1200 running 2400 (i) Draw a bar chart of this information on the grid below. 2400 2000 1600 Energy/kJ 1200 800

(a) The table below shows how much energy a teenage girl needs to do

[2]

Running

Examiner Only

400

0 -

Sleeping

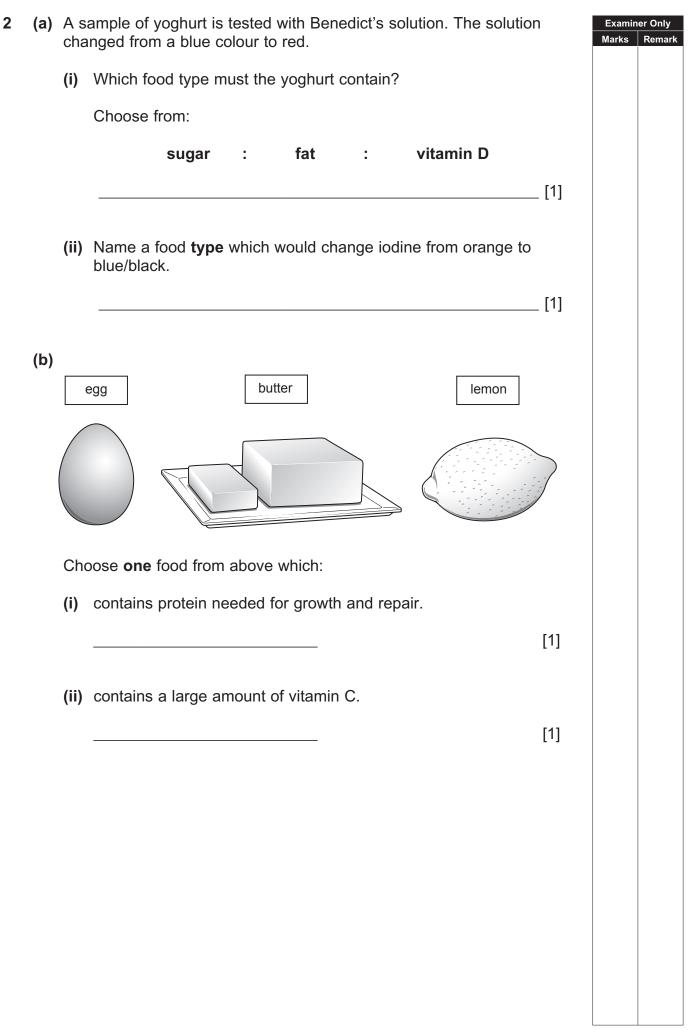
1

Walking

Activity

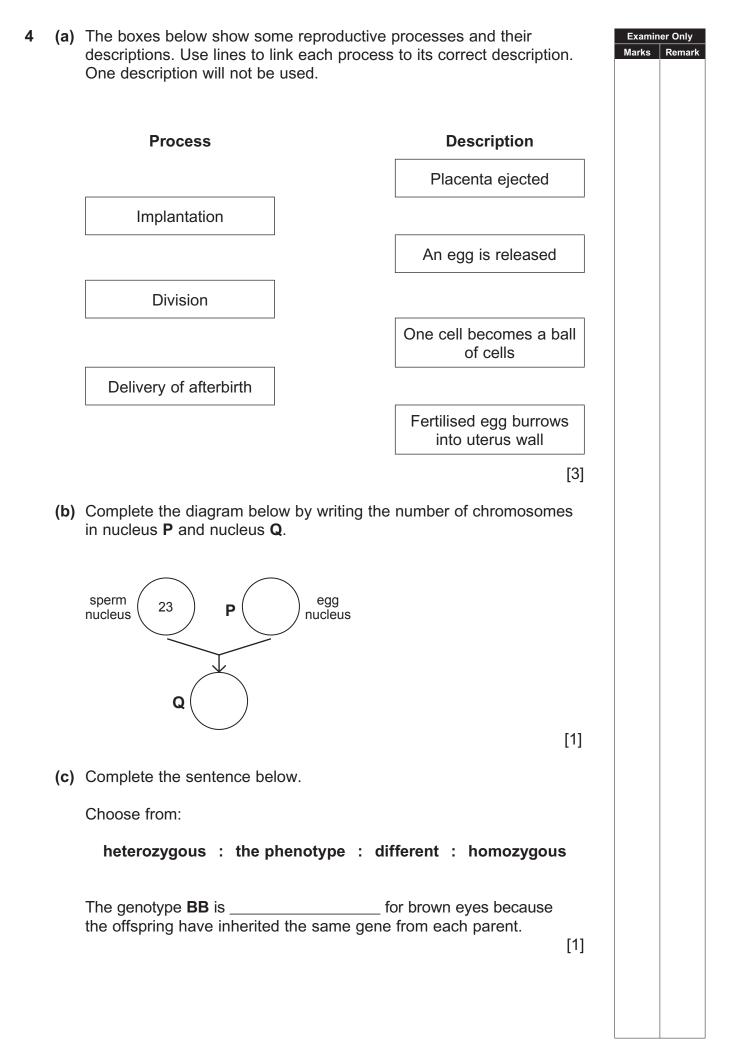
Watching TV

	(ii) Calculate the difference between the amount of energy needed to sleep for one hour and run for one hour.			er Only Remark
		Show your working out.		
		kJ [2]		
	(iii)	Teenage boys are sometimes more active than teenage girls. How will this affect the amount of energy boys need compared to girls?		
		Choose from:		
		increase : decrease : be the same		
		[1]		
(b)	Cor	nplete the sentences below.		
	Cho	oose from:		
	ph	otosynthesis : carbon dioxide : oxygen : respiration		
	The	body gets energy by the process of		
	This	s produces the gas [2]		



(c)	Below are some statements about the disease scurvy.			Examiner Only Marks Remark		
	1.	In the 18th century it was not known why sailors suffered from scurvy on long sea trips.		marks	Kemurk	
	2.	If there was a supply of limes on board fewer sailors suffered from scurvy.				
	3.	Scientists thought that limes prevented scurvy.				
	Wh	ich of these sentences (1, 2 or 3) is a conclusion?				
			[1]			
(d)	(i)	Andrej is very overweight. Apart from eating less food suggest <b>one</b> way that he could lose weight.				
			[1]			
	(11)	Suggest <b>one</b> way that Andrej being very overweight will affect other people in his life.				
			[1]			

3	(a) Below is a diagram of the female reproductive system.				Examiner Only Marks Remark		
			viduct ovary w uterus cervix vagina				
			© Oxford Designers & Illustrators				
			e phrases below describe the journey of the sperm from leaving penis to fertilising the egg, but they are in the wrong order.				
	<ul> <li>A swims through cervix</li> <li>B enters vagina</li> <li>C swims through uterus</li> <li>D fertilises egg</li> <li>E enters oviduct</li> </ul>						
			Using the letters ( <b>A</b> , <b>B</b> , <b>C</b> , <b>D</b> and <b>E</b> ) 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 <b>X</b> to one of the parts cut during this operation. [1]				
		(ii)	Explain fully how this operation prevents pregnancy.				
			[2]				
		(iii)	Give <b>one</b> medical problem associated with teenage pregnancies.				
			[1]				
				I		1	



5 The graph below shows how light affects the rate of photosynthesis.

Examiner Only Marks Remar

(a) A gardener has to decide how much light he needs in his greenhouse. He has a choice of 30, 60 or 90 units of light. The more units of light, the greater the cost.

Light/units

60

90

30

0

Which should he choose?
 \_\_\_\_\_ units of light
 [1]
 2. Explain your choice.
 \_\_\_\_\_
 [2]
 (b) Suggest two ways in which the process of photosynthesis benefits
 humans.
 1.
 \_\_\_\_\_
 2.
 \_\_\_\_\_
 [2]

(a) Complete the table below by naming a structure in the body that Examiner Only carries out each function. Marks Remark Function Name of structure co-ordinator effector receptor [3] (b) Explain fully how a reflex action helps to avoid a severe burn if you accidentally touch something hot. \_\_\_\_\_[2]

9

6

during and after exercise. Exercise took place from 3-5 minutes. Marks Rem 100 Exercise 90 80 Gill Pulse rate/bpm 70 Connor 60 50 2 6 7 9 10 0 1 3 4 5 8 11 12 Time/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]

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I he flo levels.	ow chart below she	ows some stages in the control of blood	GIUCOSE Examiner Only Marks Remark
	1.	Normal blood glucose	
	2.	▼ High blood glucose	
	3.	Hormone produced	
	4.	Normal blood glucose	
(a) (i) (ii)	person's blood (	appened between stages 1 and 2 to ind glucose level. one produced at stage 3 and describe e glucose levels.	[1]
<b>(b)</b> Th	e number of peop	ble suffering from Type 2 diabetes is inc	reasing.
(i)	Suggest <b>two</b> rea	asons for this.	
			[2]
(ii)	) State <b>one</b> differ diabetes.	ence between Type 1 diabetes and Typ	be 2
			[1]

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