

New
Specification

Rewarding Learning

General Certificate of Secondary Education
2012–2013

Centre Number

71

Candidate Number

Science: Single Award

Unit 1 (Biology)

Foundation Tier

[GSS11]

MONDAY 27 FEBRUARY 2012

9.30 am–10.30 am



TIME

1 hour.

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 eight** questions.

INFORMATION FOR CANDIDATES

The total mark for this paper is 60.

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

Quality of written communication will be assessed in question **7(a)**.

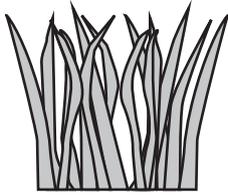
For Examiner's
use only

Question Number	Marks
1	
2	
3	
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8	

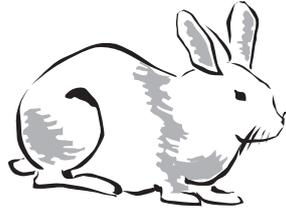
Total
Marks

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- 1 Shown below is a food chain but it is not complete because the arrows are missing.



grass



rabbit



fox

- (a) (i) Complete the food chain by adding the arrows. [1]

- (ii) What do the arrows in a food chain show?

_____ [1]

- (iii) Name the producer in this food chain.

_____ [1]

- (iv) What is the source of energy for all food chains?

_____ [1]

- (b) The table below shows the number of rabbits and foxes in a forest over a period of three years.

	Year		
	1st	2nd	3rd
rabbits	200	300	600
foxes	4	2	0

Explain how the drop in the number of foxes may have caused the rise in the number of rabbits.

_____ [2]

Examiner Only

Marks Remark

2 (a) Given below are some eating disorders and the effect they have.

(i) Use lines to link each disorder with **one** effect it has on sufferers.

Eating disorder

Bulimia

Anorexia

Effect on sufferers

They become obese

They binge eat then make themselves vomit

They eat very little and become thin

[2]

(ii) Modelling is a job that has a higher than average number of people who suffer from eating disorders. Suggest a reason for this.

_____ [1]

(iii) Apart from modelling suggest another job that may have a high number of people with eating disorders.

_____ [1]

Examiner Only	
Marks	Remark

(b) The table below shows the amount of fat in four types of fish.

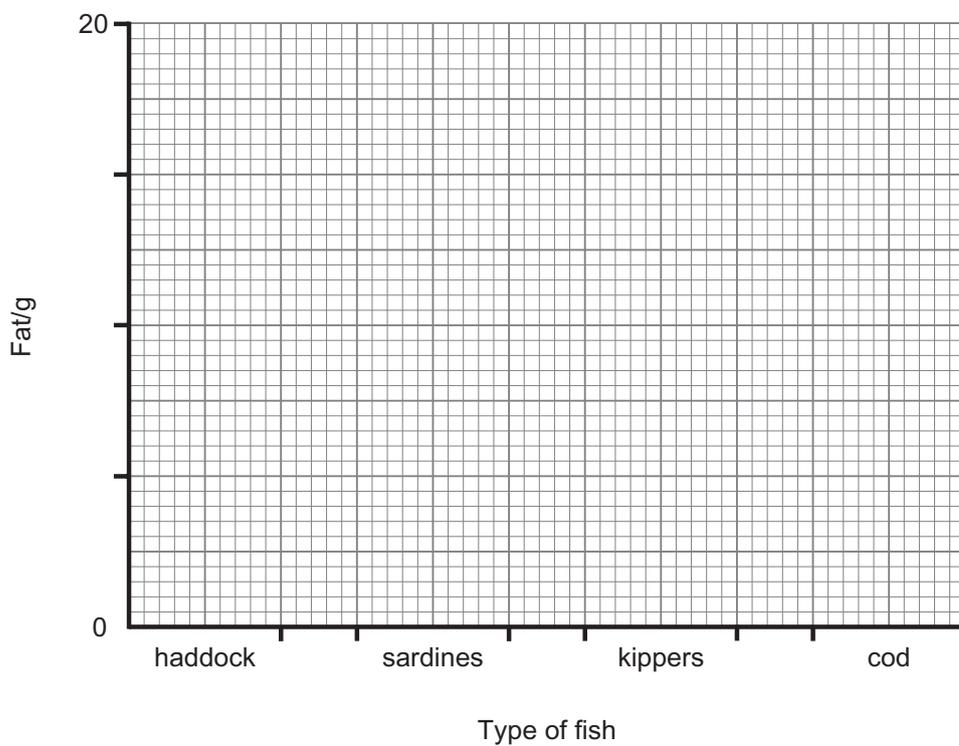
Type	Fat/g
haddock	8
sardines	14
kippers	11
cod	1

(i) On the grid below:

1. complete the scaling for the Y axis.

2. draw a **bar chart** for the information.

[3]



(ii) Name the type of fish someone should eat if they are trying to lose weight. Explain your choice.

_____ [2]

Examiner Only	
Marks	Remark

- 3 (a) The table below shows information about some methods of contraception. Using a tick (✓) complete the table to give **one** statement for each method.

The first is done for you.

Method of contraception	Permanent	Prevents sexually transmitted diseases	Changes hormone levels
female sterilisation	✓		
condoms			
contraceptive pill			

[2]

- (b) (i) Complete the sentences below.

Choose from:

cervix **oviduct** **sperm**
testes **fertilisation** **prostate**

Female sterilisation is permanent because the _____

is cut. Therefore an ovum (egg) and a _____ do not

meet and _____ cannot happen. [3]

- (ii) Give **two** reasons why some people do not approve of contraception.

1. _____

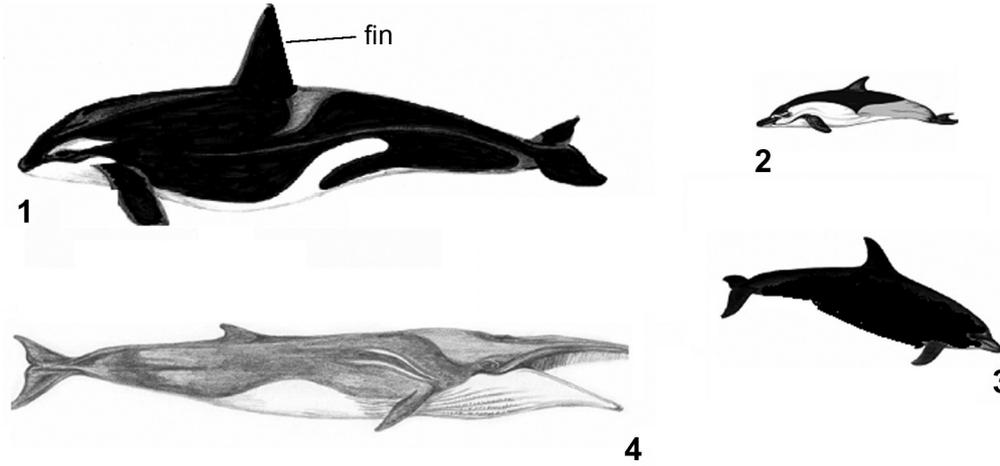
2. _____

_____ [2]

Examiner Only	
Marks	Remark

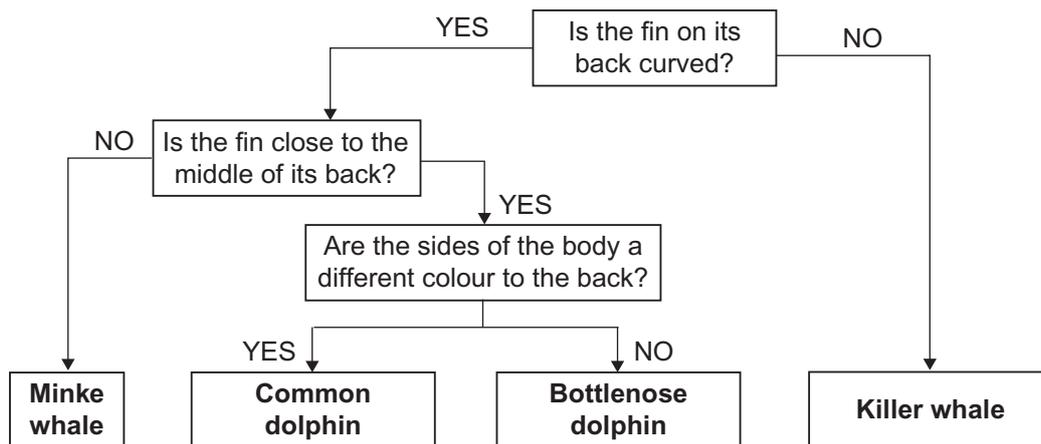
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(Questions continue overleaf)

4 Shown below are pictures of whales and dolphins.



© Hebridean Whale and Dolphin Trust

(a) Identify the animals 1, 2, 3 and 4 using the classification key below.



- 1 _____
- 2 _____
- 3 _____
- 4 _____

[3]

Examiner Only	
Marks	Remark

- 5 (a) Name **two** parts of the body that act as barriers to microbes (microorganisms).

_____ [2]

- (b) The statements below give the steps the immune system takes to defend us against microbes, but they are **not** in the correct order.

A – antibodies attach to the microbes' antigens

B – microbes enter blood

C – microbes clump together

D – microbes are 'eaten'

E – white blood cells produce antibodies

Using the letters **A**, **B**, **C**, **D** and **E** put the steps in the correct order.

The first one has been done.

 B _____ _____ _____ _____ [2]

- (c) Jilly has rubella (German measles). Suggest a reason why her doctor has not given her antibiotics.

_____ [1]

Examiner Only	
Marks	Remark

6 The picture below shows cress plant seedlings.



© Jerome Wexler/Science Photo Library

← light source
←
←

(a) Name and fully explain the process that causes the seedlings to bend to one side.

[3]

(b) Photosynthesis is the process which enables plants to make food.

In the box below write the word equation for photosynthesis.

[3]

(c) Name a process carried out by **both** plants and animals and state its function.

[2]

Examiner Only	
Marks	Remark

- (b) A doctor has to decide which of three different brands of iron supplements (A, B or C) to prescribe to his patients. He collected facts about each brand and the table below shows his findings.

Key

High = 3

Low = 1

Brand	Number of side effects	Swallowing problems	Cost per unit
A	3	3	2
B	3	2	3
C	2	1	3

- (i) Analyse the facts for each brand and state which one he should prescribe. Referring to each brand fully explain your choice.

[3]

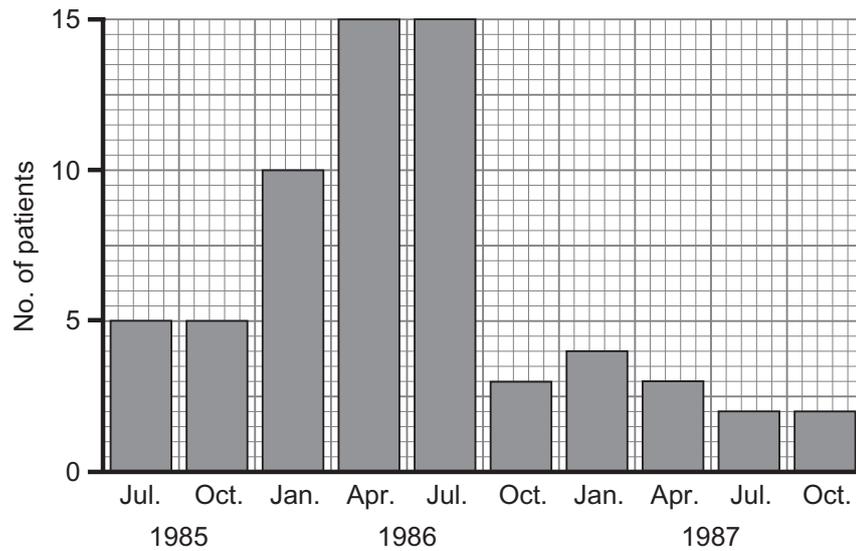
- (ii) Suggest **one** other fact about each brand that he should consider before making his decision.

[1]

Examiner Only

Marks Remark

- 8 (a) The bar chart shows the number of patients who caught MRSA in a hospital between July 1985 and October 1987. Part of their treatment involved antibiotics.



Source: National Institutes of Health

- (i) Suggest when the hospital started to take measures to control the spread of MRSA. Explain your answer.

_____ [2]

- (ii) What is the evidence in the graph that suggests that MRSA bacteria are resistant to antibiotics?

_____ [1]

- (b) (i) One of the measures to control the spread of MRSA is to put infected patients into isolation wards. Suggest a reason why this method is not widely used in hospitals.

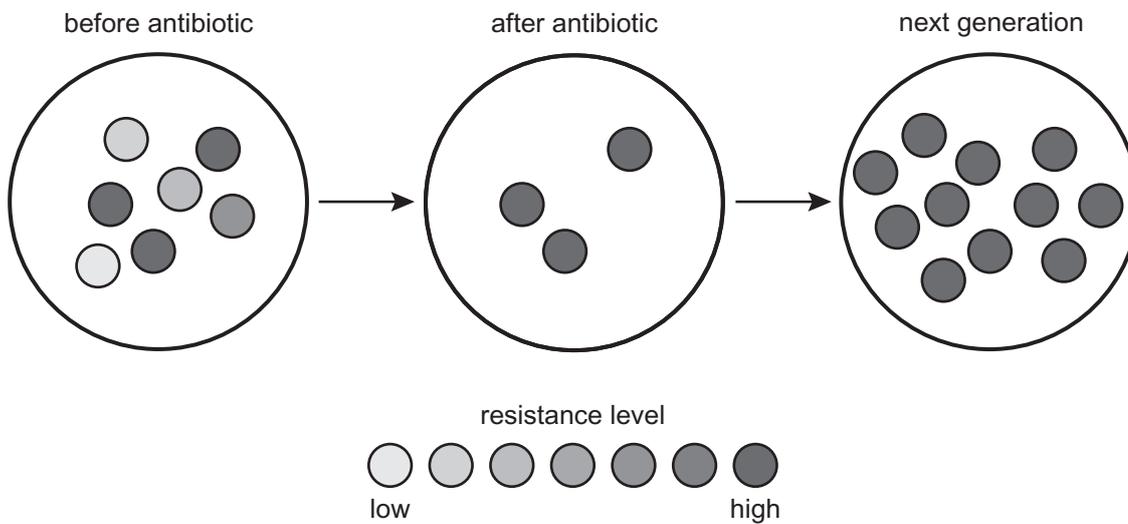
_____ [1]

Examiner Only	
Marks	Remark

(ii) Apart from isolation describe **one** measure that controls the spread of MRSA and suggest why it is effective.

[2]

(c) MRSA is caused by a type of skin bacteria becoming resistant to antibiotics. The diagram below shows how this would have happened.



Use the diagram and your knowledge to explain how the population of skin bacteria became resistant.

[3]

THIS IS THE END OF THE QUESTION PAPER

Examiner Only	
Marks	Remark

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