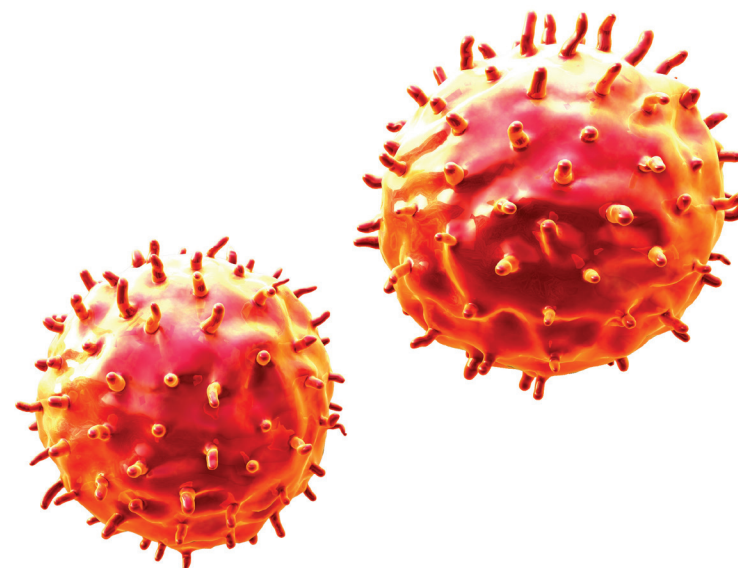


Interactive Example Candidate Responses

Paper 3 (May / June 2016), Question 2

Cambridge IGCSE™
Biology 0610



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2 Fig. 2.1 shows a gorilla with her baby.



Fig. 2.1

(a) Gorillas are mammals and have characteristics that are **only** found in mammals, and not in any other vertebrate group.

State:

(i) **one** mammalian characteristic visible in Fig. 2.1

Fur[1]

(ii) **two** mammalian characteristics **not** visible in Fig. 2.1

1 Suckle the babies

2 External ears

[2]

Select
page

Your
Mark

2(a)(i)

2(a)(ii)

2(b)(i)

2(b)(ii)

2(b)(iii)

2(b)(iv)

2(c)

Q2	Mark scheme	
(a)(i)	fur/hair; (external) ears; mammary glands;	1 mark
(a)(ii)	give birth (to live young) ; suckle young/feed young on milk ; 3 inner ear ossicles ; differentiated teeth ; 2 sets of teeth (deciduous and permanent) / AW ; diaphragm ; sweat glands ; sebaceous glands ;	2 marks

(b) Fig. 2.2 shows the average body mass and Table 2.1 shows the average lifespan of males in six species of mammal.

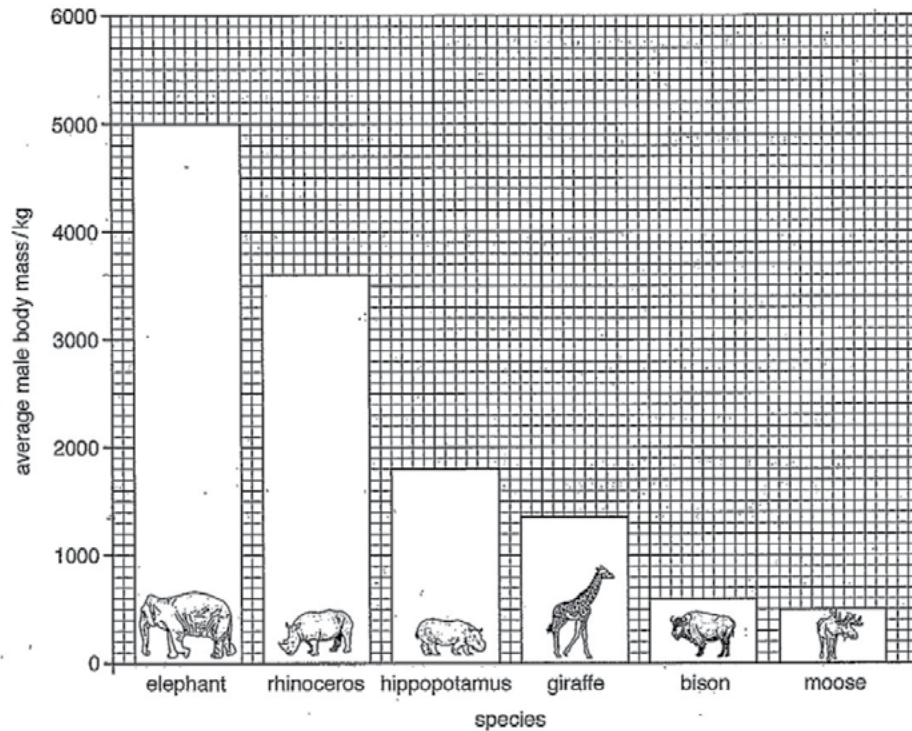


Fig. 2.2

Table 2.1

spécies	average male lifespan/years
elephant	70
rhinoceros	48
hippopotamus	42
giraffe	25
bison	23
moose	21

Select page

Your Mark

2(a)(i)

2(a)(ii)

2(b)(i)

2(b)(ii)

2(b)(iii)

2(b)(iv)

2(c)

Q2	Mark scheme	
(b)(i)	bison ;	1 mark
(b)(ii)	3600 (kg) ;	1 mark
(b)(iii)	number between 1300–1400 (kg) ;	1 mark
(b)(iv)	the larg(er) the body mass, the long(er) the life span/AW ora ; A positive correlation I proportional unqualified R directly proportional	1 mark
(c)	A AW throughout A examples of the categories I healthy life-style I good/stressful/hostile environment unqualified 1 water/potable/clean/drinkable ; 2 adequate food supply/balanced diet/eating healthily/ access to food/no famine ; 3 medical facilities/doctors/hospitals/treatments ; 4 personal hygiene ; 5 sanitation/sewage treatment/removal of rubbish ; 6 exercise facilities/taking regular exercise ; 7 shelter from elements/housing ; 8 absence of pollution/safe or clean environment ; 9 use of modern technology ; 10 improved education/schools ; 11 avoidance of smoking/alcohol/drugs ; 12 avoidance of hazardous behaviour/promiscuity/risky activities/crime/no war ; I avoid natural disasters/diseases 13 reduction in poverty ;	3 marks

(i) Name the mammal that has an average lifespan of 23 years.

Bison [1]

(ii) State the average body mass of a male rhinoceros.

3600 kg [1]

(iii) State the average body mass of the mammal that has an average lifespan of 25 years.

1350 kg [1]

(iv) Describe the relationship between average body mass and average lifespan shown in Fig. 2.2 and Table 2.1.

As the average body mass increases, the average lifespan increases. [1]

(c) The average lifespan of a human male can vary from 40 years to 85 years. The lifespan partly depends on the things available in the country where the man lives. Suggest **three** things that would increase the chance of a man having a longer lifespan.

1 Increased food supply

2 Less diseases

3 Increased health care

[3]

[Total: 10]

Your
Mark

2(a)(i)

2(a)(ii)

2(b)(i)

2(b)(ii)

2(b)(iii)

2(b)(iv)

2(c)

Q2	Mark scheme	
(b)(i)	bison ;	1 mark
(b)(ii)	3600 (kg) ;	1 mark
(b)(iii)	number between 1300–1400 (kg) ;	1 mark
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2 Fig. 2.1 shows a gorilla with her baby.



Fig. 2.1

(a) Gorillas are mammals and have characteristics that are **only** found in mammals, and not in any other vertebrate group.

State:

(i) **one** mammalian characteristic visible in Fig. 2.1

Fur. [1]

(ii) **two** mammalian characteristics **not** visible in Fig. 2.1

1 1 pair of legs

2 [2]

Select
page

Your
Mark

2(a)(i)

2(a)(ii)

2(b)(i)

2(b)(ii)

2(b)(iii)

2(b)(iv)

2(c)

Q2	Mark scheme	
(a)(i)	fur/hair; (external) ears; mammary glands;	1 mark
(a)(ii)	give birth (to live young) ; suckle young/feed young on milk ; 3 inner ear ossicles ; differentiated teeth ; 2 sets of teeth (deciduous and permanent) / AW ; diaphragm ; sweat glands ; sebaceous glands ;	2 marks

(b) Fig. 2.2 shows the average body mass and Table 2.1 shows the average lifespan of males in six species of mammal.

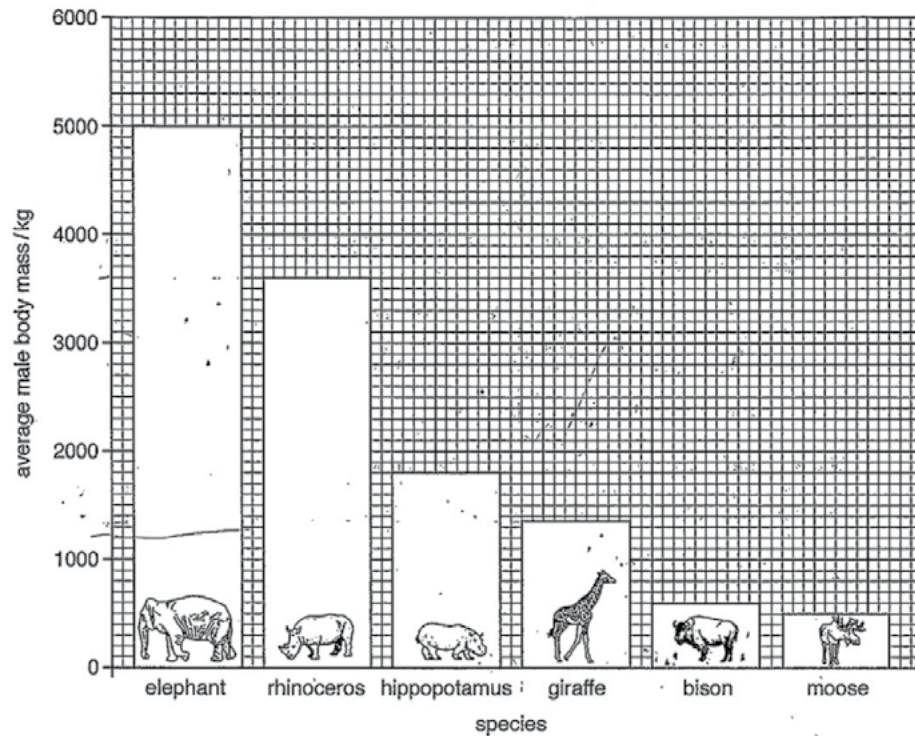


Fig. 2.2

Table 2.1

species	average male lifespan/years
elephant	70
rhinoceros	48
hippopotamus	42
giraffe	25
bison	23
moose	21

Select page

Your Mark

2(a)(i)

2(a)(ii)

2(b)(i)

2(b)(ii)

2(b)(iii)

2(b)(iv)

2(c)

Q2	Mark scheme	
(b)(i)	bison ;	1 mark
(b)(ii)	3600 (kg) ;	1 mark
(b)(iii)	number between 1300–1400 (kg) ;	1 mark
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(i) Name the mammal that has an average lifespan of 23 years.

..... bison [1]

(ii) State the average body-mass of a male rhinoceros.

..... 3600 kg [1]

(iii) State the average body mass of the mammal that has an average lifespan of 25 years.

..... 1850 kg [1]

(iv) Describe the relationship between average body mass and average lifespan shown in Fig. 2.2 and Table 2.1.

..... as average body mass decreases
average lifespan decrease. They are
inversely proportional [1]

(c) The average lifespan of a human male can vary from 40 years to 85 years.
The lifespan partly depends on the things available in the country where the man lives.
Suggest **three** things that would increase the chance of a man having a longer lifespan.

1 No Pollution [3]

2 balanced diet [3]

3 [3]

[Total: 10]

Your
Mark

2(a)(i)

2(a)(ii)

2(b)(i)

2(b)(ii)

2(b)(iii)

2(b)(iv)

2(c)

Q2	Mark scheme	
(b)(i)	bison ;	1 mark
(b)(ii)	3600 (kg) ;	1 mark
(b)(iii)	number between 1300–1400 (kg) ;	1 mark
(b)(iv)	the larg(er) the body mass, the long(er) the life span/AW ora ; A positive correlation I proportional unqualified R directly proportional	1 mark
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2 Fig. 2.1 shows a gorilla with her baby.



Fig. 2.1

- (a) Gorillas are mammals and have characteristics that are **only** found in mammals, and not in any other vertebrate group.

State:

- (i) **one** mammalian characteristic visible in Fig. 2.1

..... *Have hair* [1]

- (ii) **two** mammalian characteristics **not** visible in Fig. 2.1

1 *Finger toes*

2 *flappy ears* [2]

Select
page

Your
Mark

2(a)(i)

2(a)(ii)

2(b)(i)

2(b)(ii)

2(b)(iii)

2(b)(iv)

2(c)

Q2	Mark scheme	
(a)(i)	fur/hair; (external) ears; mammary glands;	1 mark
(a)(ii)	give birth (to live young) ; suckle young/feed young on milk ; 3 inner ear ossicles ; differentiated teeth ; 2 sets of teeth (deciduous and permanent) / AW ; diaphragm ; sweat glands ; sebaceous glands ;	2 marks

(b) Fig. 2.2 shows the average body mass and Table 2.1 shows the average lifespan of males in six species of mammal.

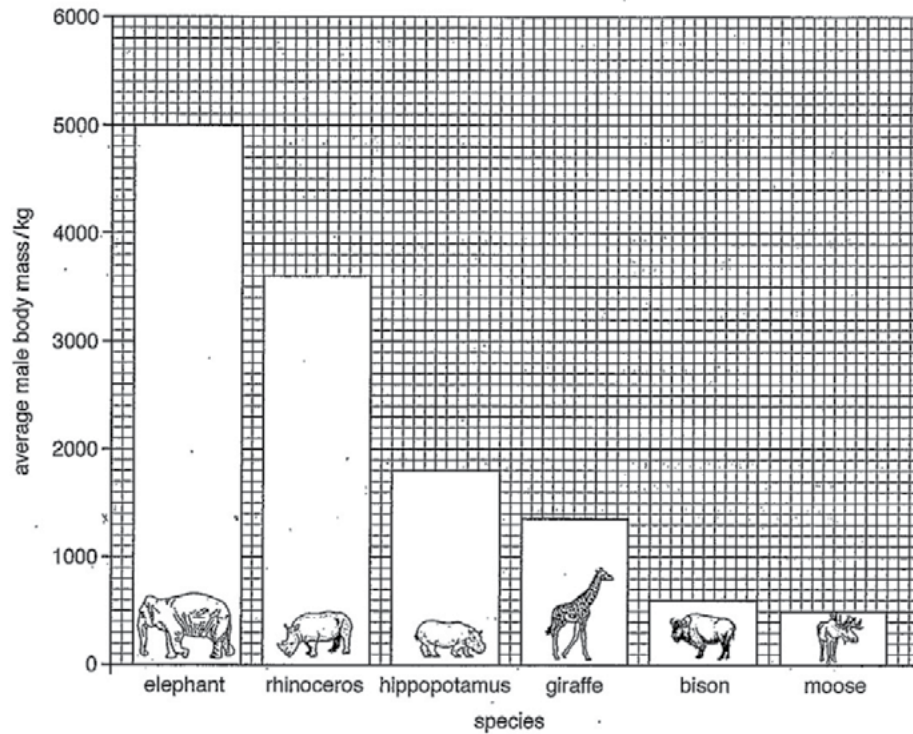


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Table 2.1

species	average male lifespan/years
elephant	70
rhinoceros	48
hippopotamus	42
giraffe	25
bison	23
moose	21

Your
Mark

2(a)(i)

2(a)(ii)

2(b)(i)

2(b)(ii)

2(b)(iii)

2(b)(iv)

2(c)

Q2	Mark scheme	
(b)(i)	bison ;	1 mark
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(i) Name the mammal that has an average lifespan of 23 years.

..... Bison [1]

(ii) State the average body mass of a male rhinoceros.

..... 3060 kg [1]

(iii) State the average body mass of the mammal that has an average lifespan of 25 years.

..... 1035 kg [1]

(iv) Describe the relationship between average body mass and average lifespan shown in Fig. 2.2 and Table 2.1.

..... Directly proportional as by increasing the average
..... life span of years the average body mass
..... increases [1]

(c) The average lifespan of a human male can vary from 40 years to 85 years.
The lifespan partly depends on the things available in the country where the man lives.
Suggest **three** things that would increase the chance of a man having a longer lifespan.

1 No disease spread
.....

2 No predators having clean water
..... and food and eating healthy food
.....

3 Exercising
.....

[3]

[Total: 10]

Your
Mark

2(a)(i)

2(a)(ii)

2(b)(i)

2(b)(ii)

2(b)(iii)

2(b)(iv)

2(c)

Q2	Mark scheme	
(b)(i)	bison ;	1 mark
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