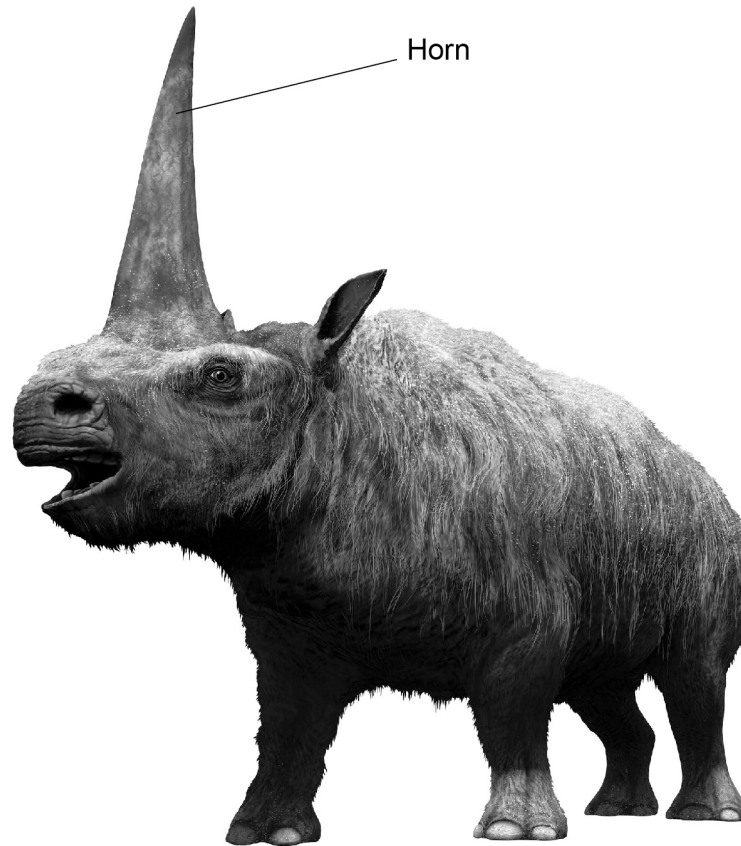


0 6

Figure 8 shows what the extinct Siberian rhinoceros (*Elasmotherium sibiricum*) might have looked like.

Figure 8



0 6 . 1

What is the genus of the Siberian rhinoceros?

[1 mark]

Tick (✓) **one** box.

Elasmotherium

Elasmotherium sibiricum

sibiricum



The 'three-domain system' of classification places all living organisms in one of three domains.

0 6 . 2 Which domain was the Siberian rhinoceros in?

[1 mark]

Tick (✓) **one** box.

Archaea

Eukaryota

Prokaryota

0 6 . 3 Who developed the 'three-domain system' of classification?

[1 mark]

Tick (✓) **one** box.

Carl Woese

Charles Darwin

Gregor Mendel

0 6 . 4 The horn of the Siberian rhinoceros is estimated to have been 150 cm long.

Suggest **one** advantage of this adaptation to the Siberian rhinoceros.

[1 mark]

Question 6 continues on the next page

Turn over ►



0 6 . 5 The only parts of the Siberian rhinoceros that have been found are fossilised bones.

Give **one** reason why **only** the bones of the body of the Siberian rhinoceros became fossils.

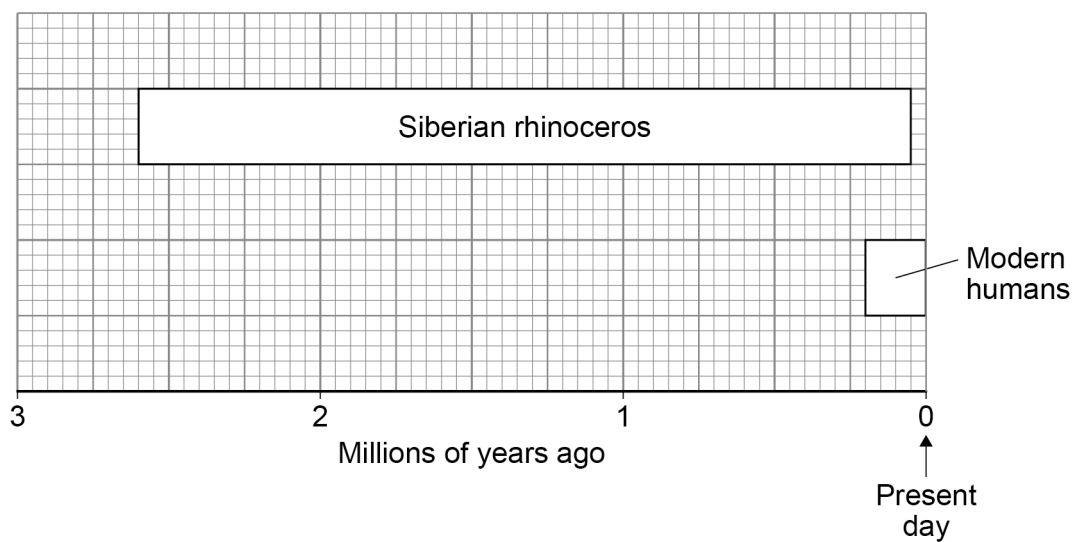
[1 mark]

0 6 . 6 Suggest how scientists can estimate when the Siberian rhinoceros was alive.

[1 mark]

Figure 9 shows when the Siberian rhinoceros existed and when modern humans existed.

Figure 9



06.7

How many million years ago did the Siberian rhinoceros become extinct?

[1 mark]

_____ million years ago

06.8

Determine the time in years when both the Siberian rhinoceros and modern humans existed together.

Use **Figure 9** and your answer to Question **06.7**.

[3 marks]

Time = _____ years

06.9

Suggest **two** factors that may have caused the extinction of the Siberian rhinoceros.

[2 marks]

1 _____

2 _____

12

Turn over for the next question

Turn over ►



Question	Answers	Extra information	Mark	AO / Spec. Ref.
06.1	<i>Elasmotherium</i>		1	AO2 4.6.4
06.2	eukaryota		1	AO2 4.6.4
06.3	Carl Woese		1	AO1 4.6.4
06.4	any one from: <ul style="list-style-type: none"> • fighting / competing for mates / food / territory • to kill predators / prey 	allow for defence / protection	1	AO2 4.7.1.1 4.7.1.4
6.5	(bones or hard tissues) did not decay	allow soft tissues decayed or were eaten allow other parts decayed or were eaten allow horn could be damaged / lost in fighting	1	AO1 4.6.3.5
06.6	any one from: <ul style="list-style-type: none"> • compare to other fossils of known age • by the age of the rocks (where fossil was found) 	allow compare with the fossil record allow depth underground (where fossil was found) allow (radio)carbon / isotope dating allow DNA analysis	1	AO2 4.6.3.5 4.6.3.6

06.7 mark with 06.8	0.05 (million years ago)		1	AO2 4.6.3.6
06.8 mark with 06.7	0.2 – 0.05	allow 0.05 × 3 allow ecf from question 06.7	1	AO2 4.6.3.6
	0.15		1	
	150 000 (years)	allow 0.15 million (years)	1	
06.9	any two from: <ul style="list-style-type: none"> • drought • ice age / global warming • volcanic activity • asteroid / meteor collision • (new) predators • (new) disease • competition for food • competition for mates • lack of habitat or habitat change 	ignore pollution allow earthquakes / tsunami allow hunters / poachers / eaten allow named pathogen allow lack of food allow isolation or lack of mates if no other marks awarded allow natural disaster or climate change or catastrophic event for 1 mark	2	AO2 4.6.3.6
Total			12	