

0 3

Fossils give evidence about organisms that lived a long time ago.

0 3 . 1

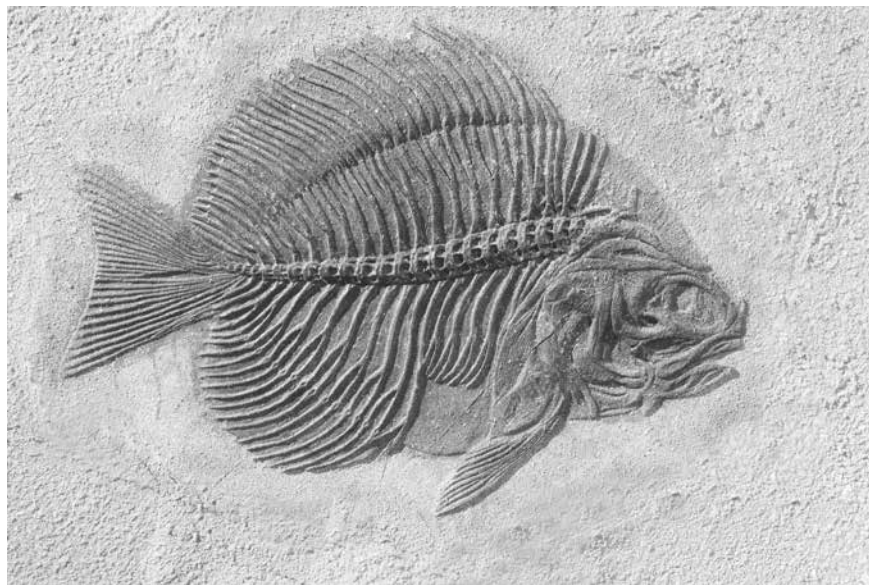
Scientists have found very few fossils of the earliest life forms.

Give **one** reason why.

[1 mark]

Figure 3 is a photograph of a fossilised fish.

Figure 3



0 3 . 2

Suggest how the fossil in **Figure 3** was formed.

[2 marks]



0 3 . 3 The species of fish shown in **Figure 3** is now extinct.

Give **two** possible causes of extinction.

[2 marks]

1 _____

2 _____

Modern fish species have evolved from fish that lived a long time ago.

Evolution is caused by mutation and natural selection.

0 3 . 4 What is a mutation?

[1 mark]

Tick **one** box.

A change in a gene

Accidental damage to an organism

An organism with a new characteristic

The loss of a species

0 3 . 5 Describe the process of natural selection.

[3 marks]



Question	Answers	Extra information	Mark	AO / Spec. Ref.
03.1	(organism) soft-bodied or (fossil) destroyed	allow lack hard parts / skeleton / shell allow (organism) eaten / decayed allow buried (very) deep allow they are (very) small	1	AO1 4.6.3.5
03.2	any two from: <ul style="list-style-type: none"> • the fish (dies) buried in sediment / sand / mud • (only) the soft parts decayed / eaten or the hard parts / bones did not decay or were not eaten • mineralisation occurred 	allow other examples of sediments do not accept rock(s) allow description of mineralisation eg bones turned to stone allow imprinted (in the sediment)	2	AO2 4.6.3.5
03.3	any two from: <ul style="list-style-type: none"> • drought • ice age / global warming • volcanic activity • asteroid / meteor collision • (new) predators • (new) disease / named pathogen • competition for food • competition for mates • lack of habitat or habitat change 	ignore pollution allow earthquakes / tsunami allow hunters / poachers allow eaten allow lack of food allow isolation or lack of mates if no other marks awarded allow natural disaster / climate change / weather change / catastrophic event / environmental change for 1 mark	2	AO1 4.6.3.6

Question	Answers	Extra information	Mark	AO / Spec. Ref.
03.4	a change in a gene		1	AO1 4.6.2.1
03.5	there is variation (between members of a species) better adapted survive (reproduce and) pass on (favourable) allele(s) / gene(s) / mutation(s) / DNA / genetic material	allow in terms of an example allow mutation allow 'survival of the fittest' ignore pass on characteristic(s)	1 1 1	AO1 4.6 4.6.2.2 4.6.3.1
Total			9	