

Reading extract and questions:

Year 3-4

Fossils

Set A/B



A fossil is physical evidence of a prehistoric plant or animal. This may be their preserved remains or other traces, such as marks they made in the ground while they were alive.

Fossilised remains – including fossil bones and teeth – are known as body fossils. Fossilised shells are also body fossils.

Other fossilised signs of a plant or animal are called trace fossils. Dinosaur trace fossils include footprints, imprints of their skin or feathers, and poo – called coprolites.

Does everything fossilise?

Do all living things turn into a fossil once they die? No! Very few things do. A specific set of circumstances and conditions are needed for fossilisation to occur, so it is actually a very rare event.

Most things that die rot away completely, leaving nothing behind.

Nearly all fossils we find – around 99% – are from marine animals such as shellfish and sharks. This is because they lived in the sea, where sand or mud could bury their remains quickly after they died.

Once remains are buried under sediment, their decomposition slows down due to a lack of oxygen, giving enough time for fossilisation to occur.

How do fossils form?

The most common way an animal such as a dinosaur fossilises is called petrification. These are the key steps:

1. The animal dies.
2. Soft parts of the animal's body, including skin and muscles, start to rot away. Scavengers may come and eat some of the remains.
3. Before the body disappears completely, it is buried by sediment (mud, sand or silt). Often at this point only the bones and teeth remain.
4. Many more layers of sediment build up on top. This puts a lot of weight and pressure onto the layers below, squashing them. Eventually, they turn into sedimentary rock.
5. While this is happening, water seeps into the bones and teeth, turning them to stone as it leaves behind minerals.

This process can take thousands or even millions of years.

Tree fossils, also known as petrified wood, form in the same way. This is why it's possible to count the growth rings of some fossil trees.

Uplift, weathering and erosion: why we can find fossils

How do we find fossils when they've been buried under millions of years' worth of rock? It's down to a combination of uplift, weathering and erosion (plus luck).

The Earth's surface is broken up into huge, irregularly shaped pieces – tectonic plates – that fit together like a jigsaw. These plates drift around very slowly, driven by heat from within the Earth.

In certain parts of the world, these plates will collide. This can force areas of rock together and push them upwards. In the most dramatic instances, such uplift can form mountain ranges. This is why fossils of marine animals can be found at the top of Mount Everest!

Uplift is only part of the story. Weathering and erosion from wind, rain, ice, heat and rivers break rocks apart and wash the fragments away, leaving fossils exposed.

Questions for *Fossils* Set A

Vocabulary

1. Look at the first paragraph. **Find** and **copy** a word that means *proof*.

2. 'A specific set of circumstances and conditions are needed for fossilisation to occur...'

In this sentence the word *occur* means... Tick **one**.

soil

☐

break down

☐

take place

☐

bury

☐

3. Look at the section of text beginning: 'Do all living things turn ...'

Find and **copy one** word that means *found in the sea*.

Retrieval

4. Give **two** examples of body fossils.

1. _____

2. _____

5. What creatures are most fossils we find from?

6. Complete the table below with **one** piece of evidence to support each statement.

	Evidence
Fossils from the sea can be found in the mountains.	
Uplift isn't the only reason fossils are formed.	

Inference

7. How do you know fossils are a rare find? Use evidence from the text to support your answer.

8. Why don't we find fossils of creatures that have died recently?

Summarise

9. Here are some summaries of different paragraphs in the text. Number them from **1** to **4** to show the order in which they appear.

- ☐ Why we can find fossils.
- ☐ The process of fossil formation.
- ☐ The difference between trace fossils and bone fossils.
- ☐ Why marine fossils are more common than other fossils.

Meaning as a whole

10. Tick **one** box in each row to show whether the statements are **true** or **false**.

	True	False
Fossilised shells are called trace fossils.		
All fossils we find are marine fossils.		
Tree fossils are made in the same way as other fossils.		
Fossils are always found close to where they are buried.		

Questions for *Fossils*

Set B

Vocabulary

1. Look at the section of text beginning: '*Do all living things turn ...*'. Find and **copy one** word similar in meaning to the word *rotting*.

2. In the section '*How do Fossils Form?*' it says: '*Scavengers may come and eat some of the remains.*' What does the word *scavengers* mean in this sentence?

3. *It's down to a combination of uplift, weathering and erosion (plus luck).*

In this sentence the word *combination* means...

Tick **one**.

jigsaw

☐

plates

☐

fortune

☐

mixture

☐

Retrieval

4. Give **two** examples of trace fossils.

1. _____

2. _____

5. What happens to most things that die?

6. Look at the paragraph '*How fossils are formed.*'
What is the body of a creature or plant buried by?

Tick **one**.

water

☐

minerals

☐

leaves

☐

sediment

☐

7. What slows decomposition once the remains are buried?

Inference

8. Read the paragraph on *Uplift, weathering and erosion* and complete the table below:

	Evidence
What causes uplift?	
What causes weathering and erosion?	

Meaning as a whole

9. Draw lines to match each section to its main content.

Introduction

Remains are buried by sediment before they disappear completely.

Why we find fossils

A description of different types of fossils.

How do fossils form?

Movement of the Earth's plates causes fossils to come to the surface.

Does everything fossilise?

Fossilisation is a very rare event.

Predict

10. Why is the discovery of fossils important to historians/those who are interested in the past?

Answers for Fossils

Set A:

Vocabulary:

1. evidence
2. take place
3. marine

Retrieval:

4. any two from teeth/bones/shells
5. marine animals such as shellfish and sharks
- 6.

	Evidence
Fossils from the sea can be found in the mountains.	This is why fossils of marine animals can be found at the top of Mount Everest!
Uplift isn't the only reason fossils are formed.	It's down to a combination of uplift, weathering and erosion (plus luck).

Inference:

7. very few things turn into fossils/it's a rare event/a specific set of circumstances and conditions are needed for fossilisation to take place/most things that die rot away completely leaving nothing behind.
8. the process can take thousands/millions of years

Summarise:

9.

- | | |
|---|--|
| 4 | Why we can find fossils. |
| 3 | The process of fossil formation. |
| 1 | The difference between trace fossils and bone fossils. |
| 2 | Why marine fossils are more common than other fossils. |

Meaning as a whole:

10.

	True	False
Fossilised shells are called trace fossils.		✓
Nearly all fossils we find are marine fossils.	✓	
Tree fossils are made in the same way as other fossils.	✓	
Fossils are always found close to where they are buried.		✓

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Answers for Fossils

Set B:

Vocabulary:

1. decomposition
2. an animal that feeds on dead animals/plants
3. mixture

Retrieval:

4. any two from footprints/imprints of their skin or feathers/poo (called coprolites)
5. They rot away completely leaving nothing behind.
6. sediment
7. oxygen

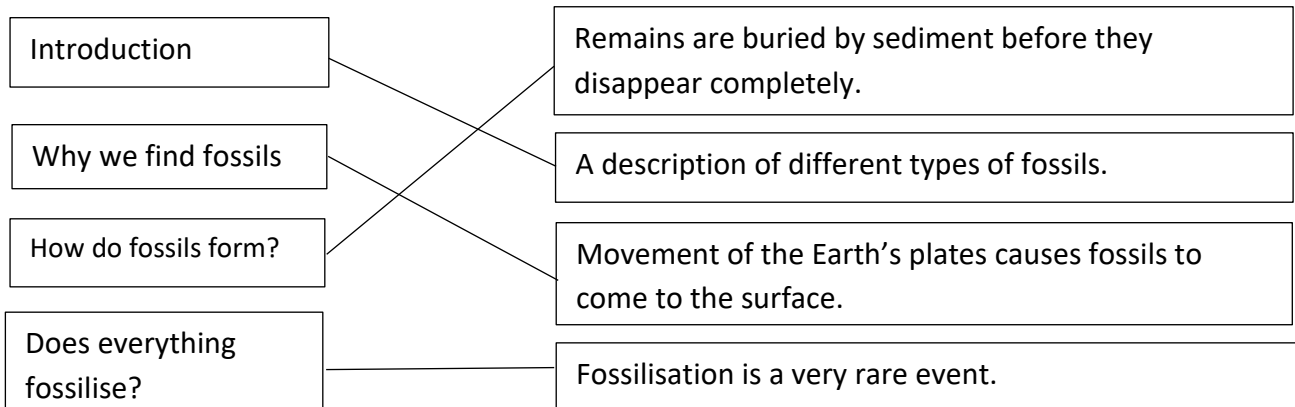
Inference:

8.

	Evidence
What causes uplift?	The Earth's plates collide. This can force areas of rock together and push them upwards.
What causes weathering and erosion?	Wind, rain, ice, heat and rivers break rocks apart.

Meaning as a whole

9. Draw lines to match each section to its main content.



Predict

10. Accept any plausible answer. E.g. They give them important information about creatures and plants that lived long ago/they can help them find out about different types of dinosaurs/they can help them understand what was alive on the planet in different periods of time.

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