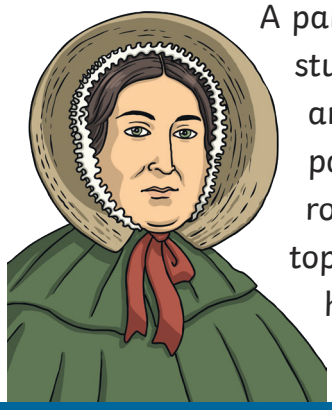
Palaeontology

What Is a Palaeontologist?



Mary Anning

A palaeontologist is someone who learns about life on Earth by studying fossils. Fossils are the remains of plants, animals and other living things. When living things die, the hard parts, such as the skeletons, are covered over the years by rock called sediment. More and more sediment builds-up on top of the hard parts which eventually turn into a rock. The hard parts disappear and are replaced by minerals which make the fossil. Palaeontologists dig up the fossils and use them to learn about how the Earth and living things have changed over time.

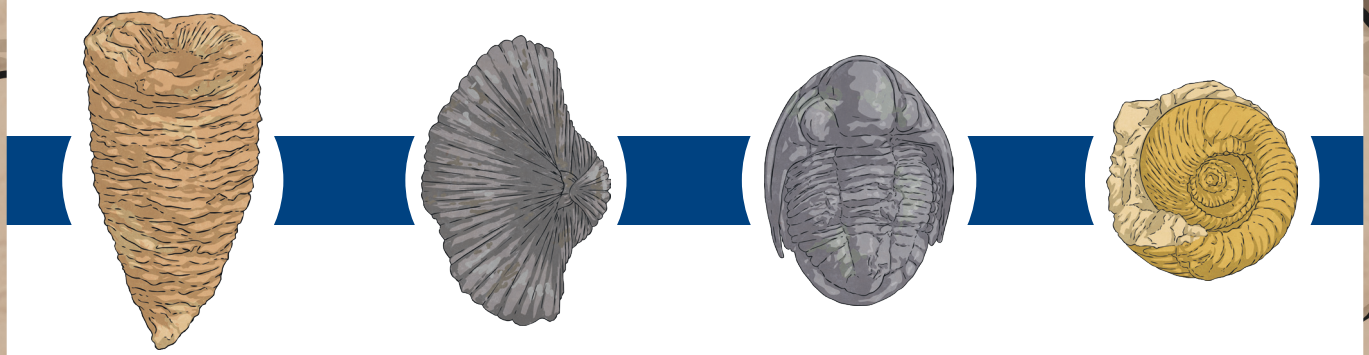
Fossil Hunting Then

Finding fossils was a dangerous activity. Palaeontologists have to take care when searching for fossils. The surfaces that they work on can be slippery and unstable. There is always a danger too that rocks will fall from above and hurt the scientists working below.

Mary Anning was one of the first palaeontologists. She made many incredible discoveries and is thought of as one of the greatest fossil hunters to have ever lived. She would spend her time searching the coast with her dog, Trey, and on one occasion, she was almost killed by a landslide (where lots of rocks fall at once from the cliff).

Fossil Hunting Now

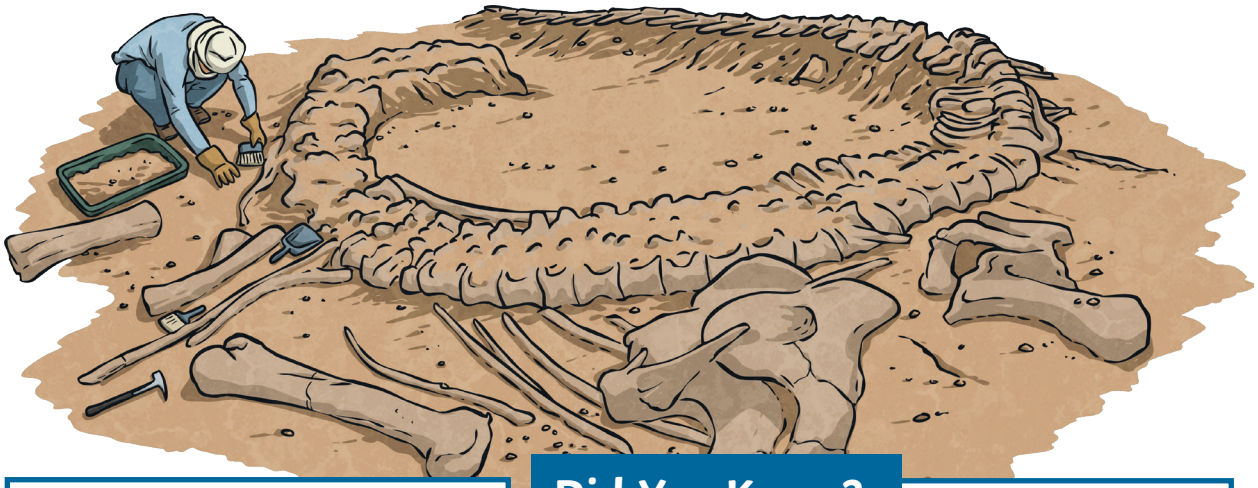
Today, palaeontologists search where fossils have already been found. They keep safe by wearing hard hats and using special equipment. New fossils are usually found by accident by people who are just out having fun at the beach or going for a walk.



We have learned a lot from palaeontologists:

We know that there were animals who lived millions of years ago, including the dinosaurs.

The climate became colder and the dinosaurs were not able to survive.



Dinosaurs became extinct due to a falling asteroid. When the asteroid fell, it caused the climate (weather) to change.

Did You Know?

Not all dinosaurs are dead. All the birds (including chickens) that are alive today are related to the dinosaurs!

Questions

1. What do palaeontologists study? Tick **one.**

   - ○ the stars
   - ○ animals
   - ○ fossils
   - ○ the ocean

2. What replaces the skeleton of an animal to make a fossil? Tick **one.**

   - ○ salt
   - ○ minerals
   - ○ rocks
   - ○ sand

3. What was the name of Mary Anning's dog? Tick **one.**

   - ○ Trey
   - ○ Troy
   - ○ Trevor
   - ○ Terry

4. What is it called when lots of rocks fall at once from a cliff?

   _____

5. Look at the **What Have We Learned from Palaeontologists** section.
   Find and **copy** a word that means **no longer alive.**

   _____

6. Which animal is related to dinosaurs? Tick **one.**

   - ○ elephants
   - ○ horses
   - ○ dogs
   - ○ chickens

7. Explain in your own words how dinosaurs became extinct.

   _____

   _____

   _____

Answers

1. What do palaeontologists study? Tick **one.**

   ○ the stars
   ○ animals
   ✓ **fossils**
   ○ the ocean

2. What replaces the skeleton of an animal to make a fossil? Tick **one.**

   ○ salt
   ✓ **minerals**
   ○ rocks
   ○ sand

3. What was the name of Mary Anning's dog? Tick **one.**

   ✓ **Trey**
   ○ Troy
   ○ Trevor
   ○ Terry

4. What is it called when lots of rocks fall at once from a cliff?

   landslide

5. Look at the **What Have We Learned from Palaeontologists** section.
   Find and **copy** a word that means **no longer alive.**

   extinct

6. Which animal is related to dinosaurs? Tick **one.**

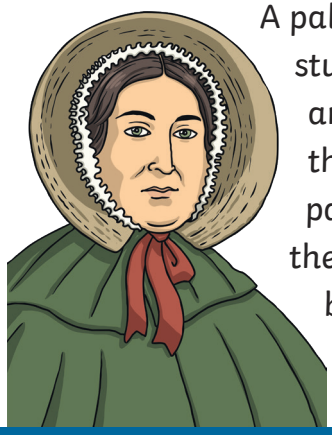
   ○ elephants
   ○ horses
   ○ dogs
   ✓ **chickens**

7. Explain in your own words how dinosaurs became extinct.

   Pupil's own response, such as: Dinosaurs became extinct because an asteroid fell to Earth and caused the climate to change. The weather got colder and to the dinosaurs couldn't survive.

Palaeontology

What Is a Palaeontologist?



Mary Anning

A palaeontologist is a scientist who learns about life on Earth by studying fossils. Fossils are the preserved remains of plants, animals and other living things. When living things die, the soft parts of the body dissolve into the ground. The hard parts, such as a skeleton, however do not and are covered over the years by rock called sediment. More and more sediment builds-up over time and squashes the hard parts down and they eventually turn into a rock. The hard parts gradually dissolve and minerals leave a model of the original bone which is called a fossil. Palaeontologists dig up the fossils and use them to learn about how the Earth and living things have changed over time.

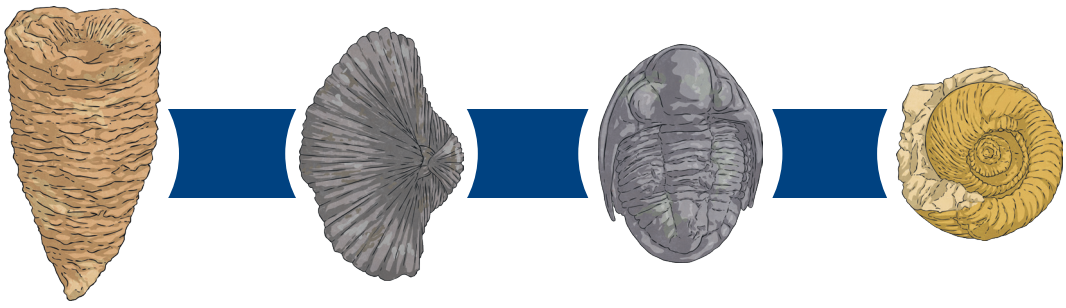
Dangers

Finding fossils was a dangerous activity. Palaeontologists have to take care when searching for fossils. The surfaces that they work on can be slippery and unstable. There is always a danger too that rocks will fall from above in a landslide and hurt the scientists working below.

Mary Anning, who lived in the 1700s, was one of the first palaeontologists. She made many incredible discoveries and is thought of as one of the greatest fossil hunters to have ever lived. She would spend her time searching the coast in Dorset with her dog, Trey, and on one occasion, she narrowly missed being killed by a landslide (where lots of rocks fall at once from the cliff).

Modern Palaeontology

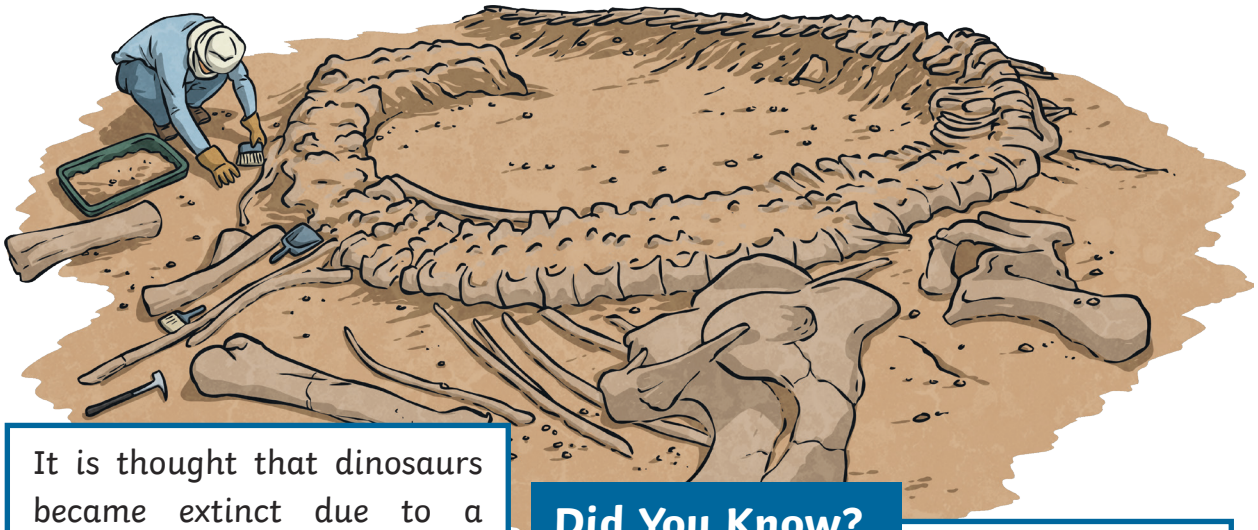
Modern palaeontologists don't often go out searching for fossils like Mary Anning did. They search on existing sites where fossils have already been found. They take safety precautions such as wearing hard hats, using special equipment and checking the times of tides so that they don't become isolated in remote locations. New fossils are usually found by accident by people who are simply going for a walk who are not palaeontologists at all.



We have learned a lot from palaeontologists:

We know that there were animals who lived millions of years ago, the most fascinating of which are the dinosaurs.

We understand more about dinosaurs. For example, how they looked, what they ate and how they lived.



It is thought that dinosaurs became extinct due to a falling asteroid. The impact of the asteroid was so huge that it changed the climate (weather) around the world. The climate became colder and the dinosaurs were not able to survive.

Did You Know?

Not all dinosaurs are dead. All the birds (including chickens) that are alive today are related to the dinosaurs! Even the dinosaurs that did not fly, like the T-Rex, have similarities with modern birds such as hollow bones.

Questions

1. What is a palaeontologist? Tick **one.**

   - ◯ an architect
   - ◯ a historian
   - ◯ a scientist
   - ◯ a doctor

2. What word is used to describe the rocks that form fossils? Tick **one.**

   - ◯ minerals
   - ◯ sediment
   - ◯ salt
   - ◯ stones

3. **Look at the first paragraph.**

   Find and **copy** a word that means **slowly.**

   _____

4. Why do palaeontologists study fossils?

   _____

5. Where did Mary Anning search for fossils? Tick **one.**

   - ◯ Devon
   - ◯ Dorset
   - ◯ Suffolk
   - ◯ Somerset

6. Name **two** ways in which modern palaeontology is safer today than in the past.

   _____

   _____

   _____

7. What have palaeontologists taught us about dinosaurs? Use evidence from the text to support your answer.

   _____

   _____

   _____

8. What have birds today and the T-Rex got in common? Tick **one.**

- ○ wings
- ○ heavy bones
- ○ short legs
- ○ hollow bones

Answers

1. What is a palaeontologist? Tick **one.**

   ○ an architect
   ○ a historian
   ✓ **a scientist**
   ○ a doctor

2. What word is used to describe the rocks that form fossils? Tick **one.**

   ○ minerals
   ✓ **sediment**
   ○ salt
   ○ stones

3. **Look at the first paragraph.**

   Find and **copy** a word that means **slowly.**

   gradually

4. Why do palaeontologists study fossils?

   To learn about how the Earth and living things have changed over time.

5. Where did Mary Anning search for fossils? Tick **one.**

   ○ Devon
   ✓ **Dorset**
   ○ Suffolk
   ○ Somerset

6. Name **two** ways in which modern palaeontology is safer today than in the past.

   Modern palaeontology is safer today because...
   Answer should include two of the following:
   - **they search on existing sites where fossils have already been found**
   - **they wear hard hats**
   - **they use special equipment**
   - **they check the times of the tides**

7. What have palaeontologists taught us about dinosaurs? Use evidence from the text to support your answer.

Pupil's own response, such as: Scientists have taught us that dinosaurs lived millions of years ago but that when an asteroid fell to Earth, it changed the climate which meant that it was too cold for the dinosaurs to survive. They have also taught us that some animals that are alive today are related to dinosaurs, such as the chicken.

8. What have birds today and the T-Rex got in common? Tick **one.**

- ○ wings
- ○ heavy bones
- ○ short legs
- ⊘ **hollow bones**

Palaeontology

What Is a Palaeontologist?

Mary Anning

A palaeontologist is a scientist who learns about life on Earth by excavating, studying and examining fossils. Fossils are the preserved remains of dead organisms such as plants, animals and bacteria. When living things die, the soft parts of the body decompose into the ground. Under certain conditions however, the hard parts, such as a skeleton, become buried by rock called sediment. As more and more sediment builds-up over time, the hard parts begin to compact and eventually turn into a rock. The hard parts are dissolved by water seeping through the rock and are replaced by minerals which leave an imprint of the bone known as a fossil. This process is called fossilisation. Palaeontologists dig up the fossils and use them to learn about how the Earth and living things have changed over time.

Finding fossils was, and can still be, a treacherous activity. Palaeontologist have to take care when searching for fossils. The surfaces that they work on can be slippery and unstable. There is always a danger too that rocks will fall from above creating a potentially dangerous situation for those working below.

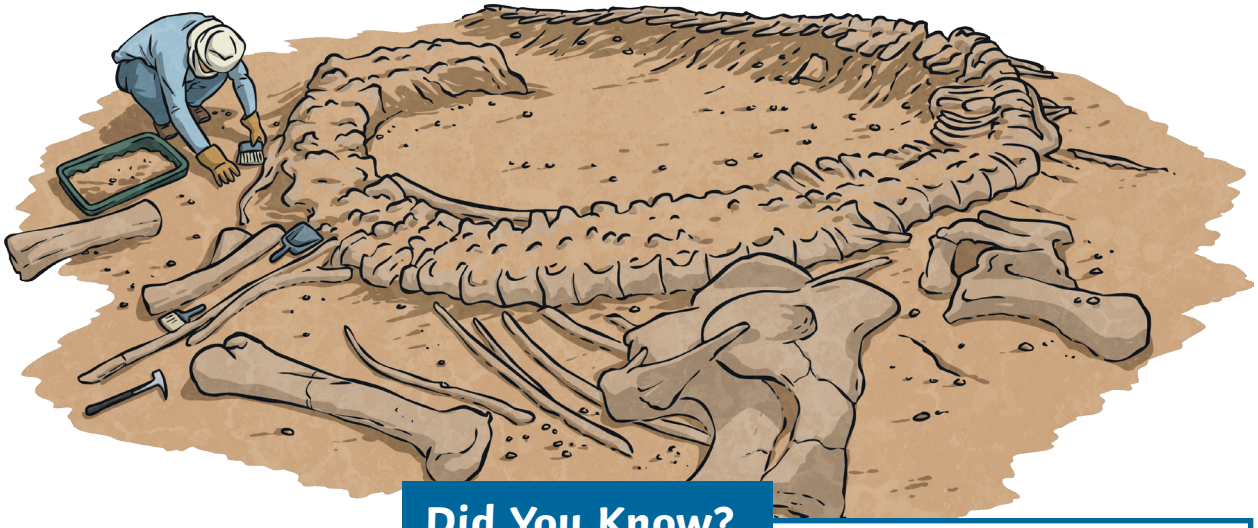
Mary Anning, who lived in the 1700s, was one of the first palaeontologists. Born to poor parents, she would spend most days searching the beaches where she lived in Dorset for what she called 'curiosities'; unusual things. At the age of 12, she discovered the fossil of an ancient reptile called an ichthyosaur. She went on to make many incredible discoveries in her and is thought of as one of the greatest fossil hunters to have ever lived. During one of her searches, she narrowly missed being crushed and killed by a landslide.

Modern palaeontologists don't often go out searching for fossils like Mary Anning did. They search on existing sites where fossils have already been found. They take safety precautions such as wearing hard hats, using sophisticated equipment and checking the times of tides so that they don't become isolated in remote locations. New fossils are usually found by accident by people who are simply going for a walk who are not palaeontologists at all.

Palaeontologists have taught us a great deal about what life on Earth was like millions of years ago. We know that there were animals who lived millions of years ago, the most fascinating of which are the dinosaurs. Thanks to

palaeontologists, we understand more about dinosaurs; how they might have looked, what they ate and how they lived.

It is thought that dinosaurs became extinct when an asteroid collided with Earth. The impact of the asteroid was so huge that it changed the climate around the world. This is supported by evidence of a thin layer of sedimentary rock around the Earth which contains the metal iridium. This metal is rarely found in the Earth's crust but is very common in asteroids. The climate became colder and the dinosaurs were not able to survive.



Did You Know?

Not all dinosaurs are dead. The avian (flying) dinosaurs did not die out. All the birds (including chickens) that are alive today are related to the dinosaurs! Even the dinosaurs that did not fly, like the T-Rex, have similarities with modern birds such as hollow bones.

Questions

1. What happens to the soft parts of dead animals?

_____

2. Look at the second paragraph.
Find and **copy** a word that means **dangerous.**

_____

3. Why do you think Mary Anning is thought of **as one of the greatest fossil hunters to have ever lived.**

_____

_____

_____

4. Fill in the **missing** words in this sentence:

They take safety _____ such as wearing hard hats, using sophisticated _____ and checking the times of tides so that they don't become _____ in remote locations.

5. How many years ago did were dinosaurs alive? Tick **one.**

- ○ thousands
- ○ billions
- ○ millions
- ○ hundreds

6. Why do scientists believe that an asteroid hit Earth? Use evidence from the text to support your answer.

_____

_____

_____

7. What did palaeontologists learn about the T-Rex's legs? Tick **one.**

- ○ They were long.
- ○ They were heavy.
- ○ They were hairy.
- ○ They were hollow.

8. Would you like to be a palaeontologist? Give reasons from the text to support your answer.

Answers

1. What happens to the soft parts of dead animals?

   They decompose.

2. Look at the second paragraph.
   Find and **copy** a word that means **dangerous.**

   treacherous

3. Why do you think Mary Anning is thought of **as one of the greatest fossil hunters to have ever lived.**

   Pupil's own response, such as: I think that Mary Anning is thought of as one of the greatest fossil hunters because it says in the text that she discovered the ichthyosaur at the young age of 12 and that she made many incredible discoveries in her life. She put herself in danger in search of fossils which shows that she was passionate about what she did.

4. Fill in the **missing** words in this sentence:

   They take safety **precautions** such as wearing hard hats, using sophisticated **equipment** and checking the times of tides so that they don't become **isolated** in remote locations.

5. How many years ago did were dinosaurs alive? Tick **one.**

   - ○ thousands
   - ○ billions
   - ✓ **millions**
   - ○ hundreds

6. Why do scientists believe that an asteroid hit Earth? Use evidence from the text to support your answer.

   Pupil's own responses, such as: Scientists believe that an asteroid hit Earth because there is a thin layer of sedimentary rock around the Earth that contains iridium. This is not a metal that is found on Earth usually but it is common on asteroids which would suggest that it is there because of the collision.

7. What did palaeontologists learn about the T-Rex's legs? Tick **one.**

   - ○ They were long.
   - ○ They were heavy.
   - ○ They were hairy.
   - ✓ **They were hollow.**

8. Would you like to be a palaeontologist? Give reasons from the text to support your answer.

Pupil's own response, such as: Yes, I would like to be a palaeontologist because you get to discover things about what Earth used to be like which I would find fascinating. I would also enjoy working outdoors and digging up fossils from the ground.

No, I would not like to be a palaeontologist because it says in the text that it can be dangerous and that they have to wear protective clothing such as hard hats. I would not like to work outdoors digging up fossils as I do not like to get dirty.