

The life of Mary Anning - set one

A rainstorm. Three people and a 15-month-old baby took shelter under a tree. Lightning struck them. Only the baby survived. The baby's parents said that it was the reason that their sickly baby became alert and lively. This baby was Mary Anning. She was one of the most influential people in history and instrumental in changing the way we see the world. Mary Anning was a fossil hunter!

Mary was born on 21 May 1799 in the small coastal town of Lyme Regis. Her family was very poor and her parents had ten children. However, only two, Mary and her brother Joseph, survived.

Mary's father, Richard, was a cabinet maker and fossil hunter.

Richard called the fossils he found 'curiosities'. Richard and Mary would search along the coastline, looking for curiosities and would sell the ones they found to earn extra income. Sadly, in 1810 Richard died from tuberculosis leaving the family in debt. They needed to rely on their fossil hunting skills for survival.

Fossils are the preserved remains of a plant or animal that existed in a past geological age. After an animal dies, its body decomposes leaving harder parts like the skeleton behind. This becomes buried by small particles of rock called sediment. As more layers of sediment build, the skeleton starts to compact and turn to rock. The bones start to dissolve by water seeping through the rock and are replaced by minerals to leave a rock replica.

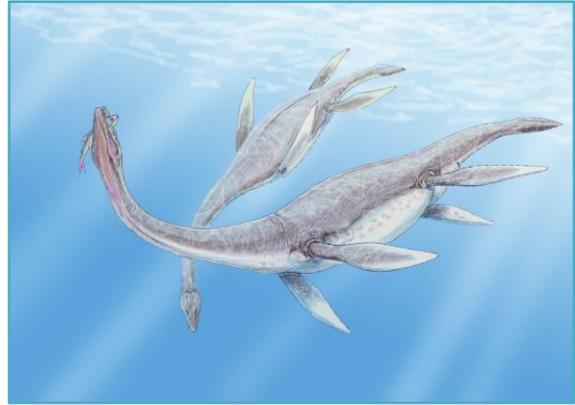
Lyme Regis is a coastal village known as the Jurassic Coast due to all the fossil remains that have been found, and continue to be discovered to this day. Fossils are revealed when the coastline is eroded by waves and rain causing the cliffs to collapse and rocks to break up.

Mary Anning spent most of her time searching the coastline for curiosities. It was dangerous work and she would often narrowly escape rockfalls during her searches.

Her brother discovered the skull of an ichthyosaur dinosaur in 1811 and Mary, at the age of twelve, unearthed the rest of it - all five metres of it! They sold it and in 1819 it was displayed at the British Museum in London.



In 1824 Mary discovered the first completed plesiosaur. It had a very long neck and a small head, and most people didn't believe her discovery. Georges Cuvier, a famous French palaeontologist, initially said it was a fake. After he had examined it he declared: "It is the most amazing creature ever discovered!" The discovery of the plesiosaur made her famous. Scientists came to Lyme Regis eager to meet and talk with her.



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One of these visitors, Lady Harriet Silvester wrote in her diary "*the extraordinary thing in this young woman is that she has made herself so thoroughly acquainted with the science that the moment she finds any bones she knows to what tribe they belong. She fixes the bones on a frame with cement and then makes drawings and has them engraved... It is certainly a wonderful instance of divine favour - that this poor, ignorant girl should be so blessed, for by reading and application she has arrived to that degree of knowledge as to be in the habit of writing and talking with professors and other clever men on the subject, and they all acknowledge that she understands more of the science than anyone else in this kingdom.*"



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Mary Anning was the leading expert on the fossils found along Lyme Regis even though she had no formal education. She self-taught herself anatomy and geology and used these skills to help with her fossil discoveries. In 1828 she discovered the first pterosaur on British soil.

In her lifetime, she was never properly acknowledged for her discoveries or for her impact on geology and palaeontology. Unbelievably, she was not permitted to join the London Geological Society as she was a woman and it was only for men. Furthermore, in Victorian times, her discoveries were never fully attributed to her as payment for a fossil was often seen as enough of an acknowledgement. Sadly, after her death in 1847, her discoveries were all but forgotten largely because she was a woman in a man's England.

However, this changed when in 1929 she was mentioned, by name, in a paper by William Buckland for her research of coprolite. Coprolite is the scientific name for fossilised poo! Also, in 2010 the Royal Society recognised her as one of the ten British women who have most influenced the development of science and the Natural History Museum recently opened the Anning Rooms a new suite of rooms for the use of members and patrons in honour of her.

Fortunately, people now recognise Mary Anning as a trailblazer for both women and for those who came from humble backgrounds.

Name: Date:.....

Comprehension questions - set one

Learning objectives:

I am able to retrieve, record and present information from non-fiction.

I am able to provide reasoned justifications for my views.

I am able to show I understand what I have read by summarising the main ideas drawn from more than one paragraph and identifying key details that support the main ideas.

Read the biography of Mary Anning carefully and answer the following questions.

1. When was Mary Anning born?

.....
.....

2. Find at least two tragedies that occurred during her life.

.....
.....

3. What do you think ‘she was a woman in a man’s England’ means?

.....
.....

4. What is a fossil?

.....
.....

5. How did Mary find these fossils?

.....
.....

6. What, in your opinion, is Mary Anning’s greatest discovery?

.....
.....

7. Why would the discovery of coprolite be so important to our understanding of dinosaurs?

.....
.....

Add key events to the timeline of Mary Anning’s life. The first one is done for you.

Mary Anning’s timeline
1799 - Mary Anning was born in the small coastal town of Lyme Regis.
1810
1811
1819
1824
1828
1847
1929

8. Give a title that fits this biography - something that makes you want to read it!

.....
.....

It is said that Mary Anning is the person in the famous tongue twister:

‘She sells seashells on the seashore.’

Why do you think this tongue twister is about her?

.....
.....
.....

Comprehension - set one answers

1. **When was Mary Anning born?**

Mary Anning was born in 1799.

2. **Find at least two tragedies that occurred during her life.**

Any of the options below:

She was struck by lightning when she was a baby.

Her father died when she was very young.

She was never properly acknowledged for her scientific discoveries.

3. **What do you think 'she was a woman in a man's England' means?**

Accept any justified answer. Something along these lines: During the 1800s, women did not have a voice. They could not be part of societies and often their discoveries were not acknowledged. They could not vote.

4. **What is a fossil?**

A fossil is the remains of a plant or animal that lived a long time ago.

5. **How did Mary find these fossils?**

Mary would search the coastline for fossils. Places where cliffs had collapsed, revealing fossils, were a good place to find fossils.

6. **What, in your opinion, is Mary Anning's greatest discovery?**

Accept any justified answer.

7. **Why would the discovery of coprolite be so important to our understanding of dinosaurs?**

They would be able to show you what the dinosaur ate.

8. **Add key events to the timeline of Mary Anning's life.**

1799 Mary Anning was born in the small coastal town of Lyme Regis.

1810 Her father died.

1811 Joseph discovered the skull of the ichthyosaur and Mary unearthed the rest of it.

1819 They sold the ichthyosaur to the British Museum in London.

1824 Mary discovered the first completed plesiosaur.

1828 Mary discovered the first pterodactyl on Great British soil.

1847 Mary died.

1929 she was mentioned, by name, in a paper by William Buckland for her research of coprolite. Coprolite is a scientific name for fossilised poo.

9. Give a title that fits this biography. Something that makes you want to read it!

Accept any fitting title.

10. It is said that Mary Anning is the person in the famous tongue twister, “She sells seashells on the seashore.” Why, do you think, this tongue twister is about her?

Mary walked the beach (seashore) looking for fossils and then selling them to make a living.

The life of Mary Anning - set two

A rainstorm. Three people and a 15-month-old baby took shelter under a tree. Lightning struck them. Only the baby survived. The baby's parents said that it was the reason that their sickly baby became alert and lively. This baby was Mary Anning. She was one of the most influential people in history and instrumental in changing the way we see the world. Mary Anning was a fossil hunter!

Mary was born on 21 May 1799 in the small coastal town of Lyme Regis. Her family was very poor and her parents had ten children. However, only two, Mary and her brother Joseph, survived.

Mary's father, Richard, was a cabinet maker and fossil hunter.

He called the fossils he found 'curiosities'. Richard and Mary would also search along the coastline, looking for curiosities and would sell the ones they found to earn extra income.

Fossils are the preserved remains of a plant or animal that existed in a past geological age. After an animal dies, its body decomposes leaving harder parts like the skeleton behind. This becomes buried by small particles of rock called sediment. As more layers of sediment build, the skeleton starts to compact and turn to rock. The bones start to dissolve by water seeping through the rock and are replaced by minerals to leave a rock replica.

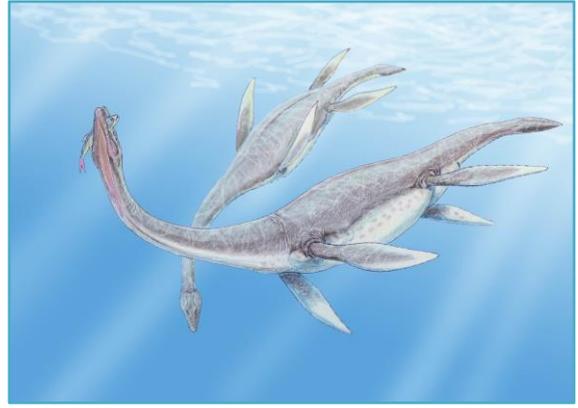
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Mary Anning spent most of her time searching the coastline for curiosities. It was dangerous work and she would often narrowly escape rockfalls during her searches.

Her brother discovered the skull of an ichthyosaur dinosaur in 1811 and Mary, at the age of twelve, unearthed the rest of it - all five metres of it! They sold it and in 1819 it was displayed at the British Museum in London.



In 1824 Mary discovered the first completed plesiosaur. It had a very long neck and a small head, and most people didn't believe her discovery. Georges Cuvier, a famous French palaeontologist, initially said it was a fake. After he had examined it he declared: "It is the most amazing creature ever discovered!"



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Mary Anning was the leading expert on the fossils found along Lyme Regis even though she had no formal education. She self-taught herself anatomy and geology and used these skills to help with her fossil discoveries. In 1828 she discovered the first pterodactyl on British soil.

In her lifetime, she was never properly acknowledged for her discoveries or for her impact on geology and palaeontology.

Unbelievably, she was not permitted to join the London Geological Society as she was a woman and it was only for men. Furthermore, in Victorian times, her discoveries were never fully attributed to her as payment for a fossil was often seen as enough of an acknowledgement. Sadly, after her death in 1847, her discoveries were all but forgotten largely because she was a woman in a man's England.

However, this changed when in 1929 she was mentioned, by name, in a paper by William Buckland for her research of coprolite. Coprolite is the scientific name for fossilised poo! Also, in 2010 the Royal Society recognised her as one of the ten British women who have most influenced the development of science and the Natural History Museum recently opened the Anning Rooms a new suite of rooms for the use of members and patrons in honour of her.

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Comprehension questions - set two

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Read the biography of Mary Anning carefully and answer the following questions.

1. When was Mary Anning born?

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2. Name one sad thing that happened in her life.

.....
.....

3. What is the name of Mary's brother?

.....
.....

4. What is a fossil?

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.....

5. How did Mary find these fossils?

.....
.....

6. What, do you think, is Mary Anning's greatest discovery?

.....
.....

The life of Mary Anning – biography and comprehension

7. Mary Anning discovered fossilised dinosaur poo. What is its scientific name?

.....

8. Correctly number the following events in Mary Anning’s life. The first one is done for you.

Event	Order
Joseph discovered the skull of the ichthyosaur and Mary unearthed the rest of it.	
Mary discovered the first pterodactyl on Great British soil.	
Mary was born on 21 May 1799.	1
Her father died.	
Joseph and Mary sold the ichthyosaur in 1819 and it was displayed in the British Museum in London.	
Mary died.	
Mary was mentioned by name in a paper by William Buckland with their research of coprolite. Coprolite is the scientific name for fossilised poo.	
Mary discovered the first completed plesiosaur.	

9. Give a title that fits this biography - something that makes you want to read it!

.....

10. It is said that Mary Anning is the person in the famous tongue twister:

‘She sells seashells on the seashore.’

Why do you think this tongue twister is about her?

.....

Comprehension - set two answers

1. When was Mary Anning born?

Mary Anning was born in 1799.

2. Name one sad thing that happened in her life.

Any of the options below:

- a. She was struck by lightning when she was a baby.
- b. Her father died when she was very young.
- c. She was never properly acknowledged for her scientific discoveries.

3. What is the name of Mary's brother?

Joseph.

4. What is a fossil?

A fossil is the remains of a plant or animal that lived a long time ago.

5. How did Mary find these fossils?

Mary would search the coastline for fossils. Places where cliffs had collapsed, were a good place to find fossils.

6. What, do you think, is Mary Anning's greatest discovery?

Accept any justified answer.

7. Mary Anning discovered fossilised dinosaur poo. What is its scientific name?

Coprolite.

8. Correctly number the following events in Mary Anning's life. The first one is done for you.

Event	Order
Joseph discovered the skull of the ichthyosaur and Mary unearthed the rest of it.	3
Mary discovered the first pterodactyl on British soil.	6
Mary was born on 21 May 1799.	1
Her father died.	2
Joseph and Mary sold the ichthyosaur in 1819 and it was displayed in the British Museum in London.	4
Mary died.	7
Mary was mentioned by name in a paper by William Buckland with their research of coprolite. Coprolite is the scientific name for fossilised poo.	8
Mary discovered the first completed plesiosaur.	5

9. Give a title that fits this biography - something that makes you want to read it!

Anything fitting.

10. It is said that Mary Anning is the person in the famous tongue twister, “She sells seashells on the seashore.” Why, do you think, this tongue twister is about her?

Mary walked the beach (seashore) looking for fossils and then selling them to make a living.

Name: Date:.....

Create a fossil picture

It is said that Mary Anning ‘fixes the bones on a frame with cement...’. You are going to be a palaeontologist and glue your bones onto a frame to create your own dinosaur fossil.

You will need: a pencil, glue and uncooked pasta

1. Firstly, draw your dinosaur fossil on this page. You may use examples of other dinosaur skeletons for inspiration.
2. Stick the uncooked pasta onto the drawn diagram.
3. Create a name and description for your creature.
4. Share your discovery with your group.



Name of my dinosaur:

A description of my dinosaur:

.....

.....

.....

Teaching notes

The following are additional ideas on how to introduce the above materials.

Session one:

1. Put a picture of a domestic animal skeleton on the board. Let the class guess which animal skeleton it is. Around this picture write down everything you know about it e.g. what it eats, how it moves, what it looks like, what it has on its skin, its facial features etc. Explain how you look for clues in the skeleton to gather information.
2. Explain to the class that today they will be palaeontologists and that a palaeontologist is a person who studies dinosaur fossils. Give each group the diagram of Mary Anning's plesiosaur (see the **Dinosaur fossil** resource).
3. Around this diagram, the children need to write down everything that they can surmise about this dinosaur and how a palaeontologist uses clues to work out more about the dinosaur.

Once this task is complete, explain that this is a plesiosaur and was discovered by Mary Anning. Using clues, she managed to gather information about this reptile that inhabited the Earth millions of years ago.

Key facts:

It has a long neck and a small head.

It was a marine reptile.

It may have laid eggs, like a turtle, in the sand.

This particular one, that Mary Anning found, was five metres long.

It had a short tail and flippers to swim.

It breathed air.

4. Get each group to give an artistic impression of what they believed the plesiosaur would have looked like when it roamed the Earth. Share everyone's pictures with the class in an art gallery.

Session two (linking to session one):

1. Give each child fossil diagrams of an ichthyosaur and pterodactyl.
2. Each pupil has already drawn their artistic impression of a plesiosaur (part one). They will now need to create an art piece for an ichthyosaur and a pterodactyl.
3. Paleoart is an art form using fossil evidence to reconstruct the past. The children will now be placing their three dinosaurs into a painting, thereby creating their own Paleoart. Explain that all three of these dinosaurs were discovered near the sea and, therefore, water would need to be an important part of the painting.
4. Mary Anning was a brilliant palaeontologist. She lived in Lyme Regis (it is also known as the Jurassic Coast). Amongst other discoveries, she discovered the fossils of three types of dinosaurs: ichthyosaurs, plesiosaurs and the first pterosaur to be found in Great Britain.
5. Henry De la Beche (a friend of Mary Anning) painted 'Duria Antiquior - A More Ancient Dorset' in 1830. It is said that he painted this to raise money to help her financially.



As a class, discuss this paleoart. Each pupil can now compare it to their own artwork. How is it the same/different?

Useful websites:

www.nhm.ac.uk/discover/mary-anning-unsung-hero.html

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Name:

Date:.....

Dinosaur fossil

