



Mary Anning

HIDDEN HERO OF HISTORY

Listen to the story: <https://jonincharacter.com/mary-anning/>

Mary Anning, an English fossil collector, dealer and paleontologist, was an unsung hero of early fossil discovery.

Fossils are the remains of prehistoric plants or animals, typically older than 10,000 years, that have been buried and mineralized in rock. They can be anything from bones and shells to footprints or burrows. Fossils provide evidence of past life and help scientists understand Earth's history. Lyme Regis, where Mary grew up, was a treasure trove of fossils just waiting for Mary to discover them!

Mary grew up to be an inquisitive and smart child. Mary didn't go to school, like many children do today. During the time in which she lived, it was unusual for girls to attend school. Only girls from wealthier families had any chance to get an education. Mary learned to read and write because she attended Sunday school.

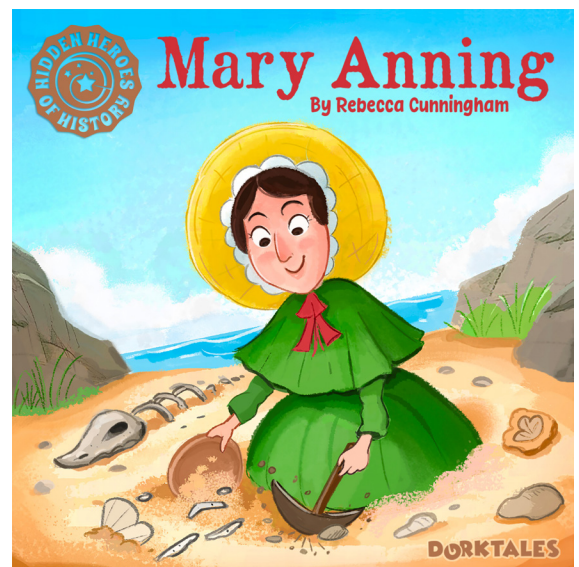
Mary's dad was a cabinet maker, but he couldn't fully support his family on that income alone. He realized that he could dig for fossils in the cliffs and sell them at a table in front of his house to tourists. He would break open a clay rock with a chisel and it would reveal fossils called ammonites. Back then, they didn't have a scientific term for fossils. He called them 'snake stones' because the fossils looked like a coiled snake.

Every day, Mary's dad would wake up early in the morning, dig for fossils, clean them up, and make little cabinets to display them in. He taught Mary and her brother Joseph how to do the same thing. He even gave Mary her own little pick-axe to dig for fossils. Both she and her brother learned to work hard and be scrappy.

When Mary was 8 years old, her dad had an accident and passed away. It was a very sad and hard time for the family. Both children became responsible for earning money. Joseph got a job and Mary started cleaning other people's houses.

One day, a storm passed through Lyme Regis and, after it broke, Mary visited the cliffs to remember happy days with her father. When she arrived, she saw that the storm washed away the sand, rock and stone to reveal all sorts of fossils. She decided to go to the shore and collect some, just like she did when her dad was alive. That's when she found a beautiful ammonite or snake stone.

When a well-dressed, fancy-looking woman saw Mary's ammonite, she came right up to her and offered to buy it. It was enough money to feed Mary's family for the week and pay the rent Mary quit cleaning then and there to restart her family's business selling fossils from a table outside their cottage.



Joseph started to help Mary hunt and dig for fossils. There was one morning when he found a fossil in the shape of what looked like a crocodile skull. It was four feet long but didn't have a body. Mary spent an entire year looking for it. Eventually she found the creature's different body parts. When she put the fossils together, it was 17 feet long.

Someone purchased the crocodile-like curiosity for 23 pounds. That was enough to pay for six months of food and rent. The purchaser donated it to William Bullock's Museum in Liverpool, England which displayed art, fossils and curiosities galore.

You could say that Mary's fossil findings went viral. Thousands and thousands of people went to visit the museum, but Mary had no idea of its popularity. She just worked and worked, trying to find more fossils so she and her family could survive.

Meanwhile, people all over the world were arguing about what to call it. The word 'dinosaur' hadn't been invented yet. Most people at the time thought the Earth had only existed for 4,000 years, but they were looking at something that could be 250 million years old. It really upset a lot of people that Mary's discovery went against everything they believed in.

Finally, they decided to call it an ichthyosaur, also known as 'Fish-Lizard.' Before Mary, no one had ever seen a creature like this. But Mary rarely got credit for her discoveries.

Over the next few years, Mary met people who had more money and resources to help her. Henry de la Beche, who also lived in Lyme Regis, met Mary and Joseph when they were teenagers. Henry would go dig for fossils with them and grew up to become a world-renowned paleontologist.

Henry was admitted into the Geological Society of London, which didn't admit women. And ultimately, he got to present a paper about Ichthyosauruses for which Mary was given no credit. There was little Mary could do about it, so she just kept working.

At 23 she found several fossils and, when put together, they looked like a giant strange-looking sea turtle. You couldn't snap pictures of things at the time, so Mary learned to draw the fossils she found. She drew this creature and her drawing made its way to the Geological Society. Members thought she made the whole thing up because it looked so weird—a very long neck and a 5-inch head. Over time, people started to accept it was real, naming it a plesiosaur. The scientific paper written on the plesiosaur never mentioned Mary's work.

Mary persisted in her efforts and continued to find other fossils, including pterosaurs, or 'flying lizards.' She also found tiny fossil rocks inside the pelvises of bigger creatures which turned out to be fossilized poop. This was a big deal because studying poop helps scientists learn more about what prehistoric creatures ate.

Mary's name began to become known as her work showed up in museums. But Mary never even stepped foot in one and never saw her discoveries on display. By the time Mary was in her 40s, scientists finally started to accept the idea that creatures could go extinct and that they existed hundreds of millions of years ago. And a big reason they believed it was because of Mary's findings.

The scientific community finally invented the word dinosaur—which means 'terrible lizard'—to describe these extinct creatures. Dinosaurs changed the course of Mary Anning's life and she changed the world. Today, she's remembered as one of the most important fossil hunters of all time.

Give it Some Thought

- What words would you use to describe Mary Anning?
- What do you think made Mary so curious about the fossils in the cliffs?
- Have you ever discovered something that you wanted to learn more about? What was it?
- Mary kept working, even when things were tough. What does that tell you about her?
- What's something hard that you've had to do, and how did you keep going like Mary did?
- Mary didn't always get credit for the amazing things she found. Do you think that was fair? Why or why not?
- How can we make sure everyone's ideas and work are noticed and respected today?
- If you could discover a new type of creature like Mary did, what would it look like and what would you name it?

Glossary

Paleontologist – A scientist who studies fossils to learn about animals and plants from the past.

Fossil – The remains or impressions of plants or animals that lived a very long time ago. Fossils are often found in rocks and can be bones, shells, footprints, or even poop!

Mineralized – When something turns into stone over time. This happens to fossils when minerals replace the original material of the plant or animal.

Prehistoric – A time long, long ago—before people wrote things down or kept records.

Ammonite – A type of fossil that looks like a coiled-up shell. People long ago called them “snake stones” because they looked like little stone snakes.

Chisel – A tool with a sharp edge used to break or shape hard materials like rock or wood.

Cabinet maker – A person who builds furniture like cabinets, tables, and shelves out of wood.

Pick-axe – A tool used for digging into hard ground or rock. It has a sharp point on one side and a flat edge on the other.

Ichthyosaur – A long, fish-shaped marine reptile that lived millions of years ago. The name means “fish lizard.”

Geographical Society of London – A group of scientists in the 1800s who studied rocks and Earth’s history. Back then, they didn’t let women join.

Plesiosaur – A marine reptile with a small head, a long neck, and flippers. It lived in the ocean during the time of the dinosaurs.

Scientific Paper – A report written by scientists to share discoveries and research with others.

Pterosaur – A flying reptile from the time of the dinosaurs. It’s sometimes called a “flying lizard.”

Fossilized poop – Also called “coprolite.” It’s the ancient, hardened remains of animal poop. Scientists study it to learn what prehistoric creatures ate.

Extinct – When a kind of animal or plant no longer exists anywhere on Earth.

Dinosaur – A name scientists came up with to describe big, ancient reptiles that lived millions of years ago. The word means “terrible lizard.”

Use Your Imagination

Choose one or all of these activities to explore Mary Anning's story.

Make Your Own Fossils

- What you need: Clay or salt dough, small toys or shells, and a pencil or stick.
- Flatten a piece of dough and press a small object into it to leave an imprint—like Mary might have found on the cliffs. Let it dry and pretend you've discovered a prehistoric creature.
- What kind of animal do you think left this mark? What would you name it?

Make A Mary Anning Motto Banner

- What you need: Paper or felt, string, markers.
- What do you think Mary's personal motto would be? Examples: "Keep digging," "Stay curious!"
- Create a banner or flag with your chosen phrase. Hang it up to remind you to be brave and curious too.

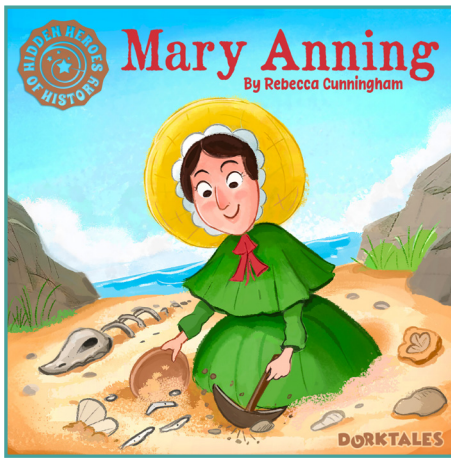
Draw Your Own Unknown Creature

- What you need: Paper, pencil, crayons/markers.
- Mary found creatures no one had ever seen before. Imagine you found a fossil and try to draw what you think it looked like when it was alive. Label its parts and write a name for it. (Use the worksheet on the next page)

Fossil Fact vs. Fossil Fiction

After listening to the story about Mary Anning, complete the worksheet in this guide to see if you know what statements about Mary and fossils are true or false.

DON'T PEEK! Check the answers by finding the key at the bottom of this page.



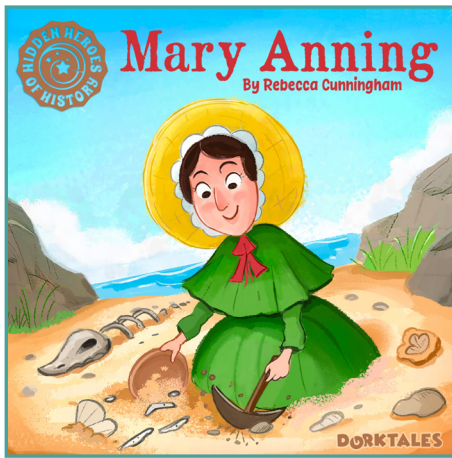
My Unknown Creature!

Mary Anning discovered creatures no one had seen before. Imagine YOU found a mysterious fossil. What do you think the creature looked like when it was alive? Draw a picture of it in the space below. Label its body parts (like eyes, tail, teeth). Give it a name and tell one fun fact about it.

Name of my creature

Here's one fun fact about my creature

Here's what it looks like (Use the back if you need more space.)



Fossil Fact or Fiction?

Mary Anning made real scientific discoveries, but let's see if you can tell what's real or what's made up. Read each sentence below and circle FACT if it is true or FICTION if it is false.

1. Mary Anning discovered a dinosaur called the unicornasaurus.

ANSWER: _____

2. Fossils are the remains or impressions of ancient living things.

ANSWER: _____

3. Mary Anning was often given credit for her discoveries during her lifetime.

ANSWER: _____

4. An ammonite looks like a spiral shell.

ANSWER: _____

5. You can find real fossils made of chocolate in your backyard.

ANSWER: _____

6. Paleontologists study fossils to learn about the past.

ANSWER: _____

7. The word 'dinosaur' didn't exist when Mary Anning was a child.

ANSWER: _____

8. Mary Anning sold fossils from a table outside her cottage.

ANSWER: _____

9. Mary Anning used a camera to take photos of her fossil finds.

ANSWER: _____

10. The fossils Mary found helped scientists learn that creatures could go extinct.

ANSWER: _____