



DEEP WATER
Lyme Regis, where Mary Anning lived, lay under the ocean 200 million years ago. That's why there are so many fossils there.

Fossil ammonites (extinct marine animals) from beaches in Dorset.



Mary Anning with her dog, Tray, who went fossil hunting with her.

Mary Anning



Sketch of an ichthyosaur skull.

Meet the trailblazing fossil hunter who was an unsung hero of science.

Mary Anning was a towering figure in the early years of palaeontology (the study of fossils). At a time when science was something that only rich men did, she led the way with some of the biggest and most spectacular fossil discoveries ever. When she was young, Anning was a natural at finding the remains of ancient life in the rocks. Little did she know that following her early interests would make her the world's most famous fossil hunter.

The early years

Born in Lyme Regis, Dorset, in 1799, Mary Anning was a person with an outsized sense of curiosity. She grew up surrounded by fossils – the nearby cliffs of the Dorset coast are full of the remains of long-dead animals and, worn loose by the action of the waves on the rocks, they turn up constantly on the beach. Anning's family was poor and collected fossils to sell in their shop. Her father taught her where to look and how to clean up the relics they found.

Anning later said that she thought fossils were mere trinkets – it wasn't until later that she realised just how important they really were. Most of the specimens Anning and her family found were ammonites, a prehistoric shellfish with a spiral shell. However, in 1811, Anning's older brother Joseph stumbled across a strange skull in the cliffs of Lyme Regis. The bony head looked a bit like a crocodile's, but belonged to a long-extinct marine reptile that had never been seen before – an *Ichthyosaurus*. Just a few months after this remarkable discovery, Anning made another, unearthing the rest of the skeleton.

Famous discoveries

In the years that followed, Anning became increasingly famous for her talents. She found more important fossils, including her most famous discovery in 1824 – the first ever complete skeleton of a long-necked marine reptile called a *Plesiosaurus*. The remains were huge and were still in a good condition, but lots of people, including the famous French zoologist (someone who studies animals), Georges Cuvier, said the skeleton couldn't possibly be real. Many in the

scientific community and wider society still did not accept the idea that animals could change type and even become extinct. It wasn't until an eminent geologist (someone who studies rocks), William Daniel Conybeare, said he thought the skeleton was genuine that Cuvier and other critics began to take notice of the discoveries. Anning's next big find was in 1828 when she unearthed a pterosaur (a flying dinosaur) – the first to be found outside Germany.

A natural talent

She spent so much time looking for fossils that Anning became an expert at what to look for. Her family didn't have enough money to send her to school, but Anning learned to read and then taught herself geology and anatomy (the study of the structure of human and animal bodies). She also learned how to illustrate her finds so she could put them in books and share them with other scientists. The humble girl from Lyme Regis became well known in scientific circles. Anning's inside knowledge of her local area meant she was great at leading expeditions, and often guided famous palaeontologists to the best fossil sites in Dorset. Among the scientists who spent time with Anning was Richard Owen, who came up with the term "dinosaur" in 1842.

DID YOU KNOW?
It is thought that Anning was the inspiration for the tongue-twister "she sells seashells on the sea shore".

Little recognition

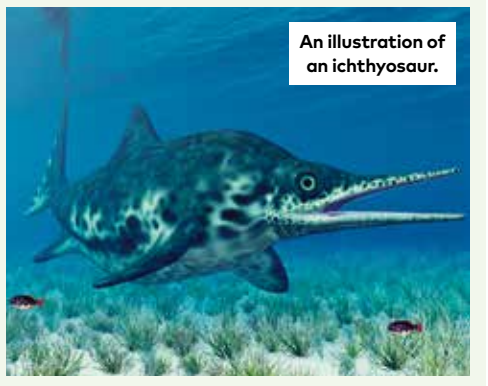
In Anning's time, women were not supposed to be interested in science and, despite her expertise, Anning was never given the proper credit she deserved for her hard work. It was more often the people who bought fossils from her who were celebrated. According to her friends, Anning found this frustrating. She knew more about dinosaurs than many of the palaeontologists of the time. As her reputation grew, some very famous scientists made sure that Anning's role in finding and extracting such important fossils was recognised. Although she was excluded from the scientific community for much of her life, after she died in 1847, Anning was praised at the Geological Society's annual conference.

In 2010, as part of the Royal Society's (the UK's oldest scientific society) 350th anniversary, a panel of experts voted Mary Anning one of the 10 most influential women scientists in British history.

All about ichthyosaurs

The *Ichthyosaurus* that Mary Anning helped to discover in 1811 was one of a group of marine reptiles that thrived in the oceans for more than 185 million years. They appeared 251 million years ago, during the Triassic Period, and became extinct about 10 million years before the dinosaurs were wiped out. These marine beasts looked and behaved like modern-day dolphins, but were more closely related to lizards and snakes. Since Anning's discovery,

many fossils have been dug up that show their bodies in remarkable detail. Some have even been found with baby ichthyosaurs inside their skeletons. Palaeontologists say the creatures were well adapted to life in the oceans. They were streamlined to move through the water quickly, chasing after fish and smaller animals. Their large eyes allowed them to spot predators like pliosaurs (large carnivorous marine reptiles).



An illustration of an ichthyosaur.