

The Woman Who Mapped the Ocean Floor

Name: _____

Read the passage all the way through before you start.

In 1948 Marie Tharp took a job at a laboratory in New York. She had degrees in geology and mathematics, which was unusual for a woman then, and she was given work that matched what the men there thought a woman should do: she was not allowed on the research ships.

So she stayed on land and worked with what the ships sent back — long rolls of paper recording how deep the water was, ping by ping, along each line the ship had sailed. Thousands of numbers. Nobody had ever turned them into a picture.

Tharp did. Line by line, she drew the shape of the Atlantic sea floor, and what appeared was not the flat plain everyone expected. There was a mountain range running down the middle of the ocean, longer than the Andes. And splitting that range, all the way along it, was a deep valley.

A rift like that suggested the sea floor was pulling apart. That, in turn, suggested the continents had moved. When she showed her colleague Bruce Heezen, he told her it was "girl talk" and asked her to check it again. She checked it again. It was still there.

It took years for the idea to be accepted, and when the maps were published her name was not always on them. But the rift was real, and it became one of the strongest pieces of evidence for plate tectonics — the theory that explains earthquakes, volcanoes and the shape of every coastline on Earth.

Biography • 252 words

Before you turn over

1. Underline any word you are not sure of. Work out what you can from the sentence around it.

2. In one sentence, what is this passage about?

3. Write down one question you still have.

The questions are on the next page. →

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Answer in complete sentences. Look back at the passage as often as you need to.

1. Why did Tharp work from paper records instead of going to sea?

2. What did she find that nobody expected?

3. Why did her discovery matter beyond mapping?

4. What does the response "girl talk" tell you about the time she worked in?

5. The writer repeats "She checked it again. It was still there." What is the effect?

The Woman Who Mapped the Ocean Floor — Answer Key

1. Women were not allowed on the research ships at that time. *(Recall)*
2. A mountain range running down the middle of the Atlantic, with a deep rift valley splitting it along its length. *(Recall)*
3. A rift meant the sea floor was pulling apart, which supported the idea that continents move — the theory that explains earthquakes, volcanoes and coastlines. *(Cause and effect)*
4. Answers will vary. Her work was dismissed because of her sex rather than judged on the evidence — she had to prove the same finding twice. *(Inference)*
5. Answers will vary. The short flat sentences show her steadiness — she answers doubt with evidence rather than argument. *(Author's craft)*