



Impact Statement

Leah Lanman, Grade 8

Geographical Genius, 2026

Acrylic, colored pencil, graphite, charcoal, clay, cardboard on paper, 12 x 9 x 3 inches

Young Masters Art Program, Kensington, MD

Unsung Hero: Marie Tharp

In my art piece, I wanted to recognize Marie Tharp for all the amazing work she accomplished in her life, especially becoming one of the first women in science. Her work is renowned worldwide, and without it, technology would not be the same.

Tharp was born in Ypsilanti, Michigan, in 1920, where she was introduced to mapmaking at an early age by her father, who was a soil surveyor. Tharp proceeded to attend the University of Michigan to get her master's degree in geology in 1944. Afterwards, she became one of the first women to join Columbia University's Lamont Geological Observatory.

I chose Tharp as my Unsung Hero because as a young woman, I admire and strive to achieve the impact she had on society. My first encounter with her work was in 2022 in 5th grade, when Google released a beautiful biographical 'Google Doodle' of her. I didn't think much of it then, but in science next year, we learned a lot more about her while studying continental drift. When I saw her in the Unsung Heroes directory, I knew I had to draw her. While working on my art tribute to her, I became immersed in her work and completely in awe of her research. The maps she made helped utilize the new technology of sonar and changed how naval operations and offshore drilling worked forever. After the maps were drawn, the Navy was able to use them during the Vietnam war, so that submarines and ships could sail easier through the water and hide better. Offshore drilling was impacted as well because by using the maps, companies could figure out the best places to find oil, helping to stimulate a key engine of the economy.

In my artwork, I depicted Marie Tharp twice: as an older adult, and as a young woman working on her map. I composed it this way to represent how she made breakthroughs in her field her whole life. Both portraits are inspired by photographs owned by the Lamont-Doherty Earth Observatory and the estate of Marie Tharp. One of them was taken when she was 80, and the other when she was much younger. For the color photo, I recreated it with color pencil, and slightly lightened and saturated the colors more to highlight it. In the background, I drew lines that resemble sonar waves, because she used sonar calculations to draw her maps, I decided to keep the black-and-white image in black-and-white, and drew it with graphite pencil and charcoal. In the photograph, Tharp is working on a map, which I wanted to recreate with an innovative twist. I am not accustomed to sculpting, but I wanted to do it here. On a cardboard cereal box, I modeled mountains and ridges with air-dry clay to create the effect of her map coming to life, as well as modeling her hand and pen to better connect the 3D to the 2D. I painted over it with acrylic paint, with colors inspired by a version of her world map painted by

Heinrich Berann in 1977, from the Library of Congress Geography and Map Division. I also colored the part closer to her in white, so that while it's becoming 3D, it's also gaining color.

Marie Tharp's impact revolutionized the way we see the world. Thanks to her, we know the ocean isn't flat and that the continents weren't always shaped like what we see today. She broke into the male-dominated field of science for future women to accomplish great things like she did. With her maps, many oceanic explorers and navies could work in many more ways. In all, her work has impacted every one of us when it comes to geography and the science community, in an amazing way.

I'd like to thank my parents for supporting me, my amazing art teachers Ms. Angel and Mr. Andrew for pushing me to achieve my goals, and myself, for never giving up on this project despite many other commitments in life.