

Marin completed the telescope during her senior exhibition last spring (right and next page), and did the much of the creation work during Project Weeks her previous two years (next page, works in progress).



I BUILT THIS

The stars are as old as time. Our reach for them, however, is arguably one of our most innovative and brave endeavors. Outer space captivates us, from Isaac Newton's creation of the first reflecting telescope in 1668, to the infrared astronomy of the James Webb Space Telescope, which was launched in 2021 and is able to see 13 billion light-years into the past.

Marin Higgins '23 entered college at age 14 and spent two years "at maximum intensity" as an applied math major. She spent her nights intensely studying in the library, and dropped out after two years, three courses shy of a bachelor's degree. Marin first visited Putney in the spring of 2021, tagging along on her sister's tour of the school. On this visit, she met science teacher Glenn Littledale. "In this first time meeting Glenn, he called me a racehorse who was blazing in the fast lane, and had never had a chance to go frolic in the meadow, and I sobbed. I had never had the chance to explore, to learn by doing, to just be a kid. Glenn saw me, and he understood." She enrolled.

In that first meeting, Glenn also promised Marin she could build a telescope. Many students over the years have built a telescope with Glenn. It's hardly new news. But that itself is part of the story—year in, year out, students dig into these projects, starting from scratch. The story isn't new, but their successes and failures are their own; growth is an individual experience.

Last spring, for her senior exhibition, Marin finished her telescope, having built it from the ground up, over the course of her two years at Putney. Knowing nothing about telescopes, tools, hardware optics, or construction, she learned it all by doing it: adjustable tilt, collimation, primary and secondary mirrors, handmade L-shaped brass holders, epoxy, lasers, saber saw, bearings, mounts, and more. "It was the first time I was able to put my math and physics background into real-world practice. I combined my love for the stars with my mathematical mind, while getting my hands a little bit dirty," she said with a triumphant smile.

Marin plans to study mechanical engineering on her next college endeavor. She appreciates how her Putney experience balances the old and the new: "The stars are old. Telescopes are old. The Newtonian telescope has been around since the 1600s. But it's also me building it at a progressive boarding school, putting my visions into action using my hands and tools. The juxtaposition is interesting. I came into the exhibition with a passion for astronomy and the stars themselves, and through the project veered toward the mechanical and optical side of it."

Marin peered into the eyepiece. Perched outside of the Main Building, looking out toward Monadnock, her hand-built telescope stood as both a window to the stars and a window to the soul.

