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Practicum in STEM Leadership
Leadership Proposal Submission

Article Title: Got cabin fever? Travel through space in search of habitable alien worlds.

I would like to write an article for submission to NSTA's The Science Teacher (Option 3) for my leadership professional development project. This option makes the most sense for me because I designed and implemented a project for my students in the fall semester around the NASA Exoplanet Catalog. This school year, I have been facilitating a variety of professional development sessions for teachers at my school focused on Equity and for STEM teachers from around New York City focused on Mastery Based Learning best practices so I think Option 3 would be an opportunity to share my pedagogical knowledge with a different audience in a new medium for me. My audience for the article would be high school science teachers who teach either Earth and Space Science or an Astronomy course and read the practitioner journal. This article would be submitted for publication to NSTA's The Science Teacher which is geared toward high school science teachers. The project and corresponding instruction I will describe in the article will focus on my use of multiple instructional tools and platforms to support students in a remote/hybrid learning setting with developing their background knowledge related to stars, planets, orbits, and what makes an exoplanet habitable (could easily be modified for in person instruction as well). The project integrates the use of many of the resources found on NASA's Exoplanet site (Exoplanet Travel Bureau, 5 Ways to Find a Planet, Eyes on Exoplanets) as well as relevant videos (found on YouTube, EdPuzzle, TedEd), simulations (Star in a Box), and relevant articles about promising exoplanets (modified by Newsela). The final project (performance task) for students is centered around exploring the NASA Exoplanet Catalog to identify an exoplanet that has a high probability of being habitable based on the concepts learned in class, collecting and organizing the available data for their chosen exoplanet, interpreting and explaining the data to support their claim that their identified exoplanet could be habitable, and creating a slide to communicate their findings. I hope the article will provide an example for teachers of how they can use NASA exoplanet resources to create authentic learning experiences and assessments for their students.