

Proposal: Virtual Professional Development - Content Focus

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1. Project Title: <i>Using Anchoring Phenomena to Advance Science Teaching in the Elementary Grades</i>	
2. To Be Taught: Highlands School	3. Intended Audience: 9 Educators, (K - 3rd Lead Teachers)
4. Justification: I want to share this topic with educators because Endeavor demonstrated to me the power a strong anchoring phenomenon can have. During my first Endeavor course (Methods of STEM) when I was initially presented with the idea of using an anchoring phenomenon, my immediate reaction was, "Of course - I already do this with my students." As a former IB teacher and as a current project-based learning educator, I was accustomed to utilizing provocations to spark children's interests. However, upon further exposure to what sets an "anchoring phenomenon" apart from a simple provocation, I found the difference to be astounding. When used well, anchoring phenomenon increases student engagement, encourages students to build their own learning, and leads to more authentic assessment and higher-level thinking.	
5. Brief Summary of Project: During my professional development, I plan on presenting the audience with an example of an anchoring phenomenon and having them brainstorm the topics it could be used to teach and how they think it would enhance their teaching. (We will come back to these ideas at the end and, hopefully, be able to expand on them). Then, I intend to guide the discussion to highlight the ways anchoring phenomenon can be used and what sets it apart from a typical provocation. I intend to share an example lesson to illustrate how it can be used throughout each phase of a "5E" lesson structure, and how it lends itself to more authentic assessment. I also plan on sharing resources with them and giving them time to identify ones they find helpful.	
6. How This Project Integrates NASA Assets and Endeavor Content: Some of the NASA/Endeavor resources I plan on including are: <ul style="list-style-type: none">→ My NASA Data (an expansive cite with links to real world data, lessons, and interactive graphs): https://mynasadata.larc.nasa.gov/→ NASA Earth Observatory (a cite that provides real footage of Earth and data for analysis): https://earthobservatory.nasa.gov/→ Exploratorium Science Snacks (a cite with ready-to-go activities that can serve as phenomenon): https://www.exploratorium.edu/snacks→ "Qualities of a Good Anchor Phenomenon" (an informative article from the Methods of STEM Endeavor course): http://stemteachingtools.org/assets/landscapes/STEM-Teaching-Tool-28-Qualities-of-Anchor-Phenomena.pdf	
7. Foreseen Obstacles: One obstacle I foresee is attendees writing off the use of phenomenon as something they already do (as I initially did) by viewing it as simply incorporating visualizations which spur conversation or as one-time unit provocations. To help combat this, I intend to stress the word "anchoring" and to highlight how it is meant to play an integral role throughout the unit. Another obstacle I foresee, is attendees thinking that the phenomenon is something that is experienced and then immediately explained. Oftentimes, as teachers, we want to provide explanations to our students' questions right away, but I want to stress how much more powerful it is to draw the experience out and have the students be able to build the explanation for themselves over time.	