• What is the title of your STEM professional development?

Integrating the Arts in STEM: Constructing musical instruments from household materials.

• Why did you select the topic?

This was one of my favorite projects of the Endeavor STEM experience to date, and I believe this would be both an engaging PD for the teachers, as well as a feasible activity for their immediate implementation. This activity can cross many disciplines, depending on exactly how the teacher decides to formulate the process.

• How does your PD integrate NASA assets and/or content from the Endeavor courses?

This concept is directly linked from an Endeavor class, The Arts in STEM. It will demonstrate how the arts, and art standards, are very easily integrated into most STEM activities, while using the musical instrument as a concrete example. I don't believe there are NASA assets to be used in this PD, but through my research, I may discover something!

• Who is your proposed audience (minimum 12)? Which teachers will you serve with your PD and activities? What grades, subjects, and how many students do they teach?

My proposed audience are general education and special education teachers in our elementary school in NYC. I will offer this PD to any teacher in our school (grades K-5), as I believe this STEM learning experience can translate to any grade. Most teachers have between 18 to 25 students in their classrooms.

• What STEM concepts or learning goals will you and your materials address which can potentially replace other classroom activities? List NGSS and CCSS or your state standards. U.S. Satellite Laboratory, Inc. 8

This PD will cover both science, math, and arts' standards. Additionally, teachers will be shown various ways that ELA standards can very easily be integrated into this project, depending on the process and final product. Here are a few science standards that will be covered for any grade.

3-5-ETS1-1. Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.

3-5-ETS1-2. Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.

• How and where do you intend to carry out your PD? How long will the session be? When will it be held? Will teachers have access to computers?

I intend to carry out the PD session in my personal classroom at our elementary school. There is ample room for teachers to sit and participate in activities. In addition, there is a Smart Board to display my Power Point presentation.

• What, in general, will your pre-survey and post-survey ask?

My pre-survey will ask what experience the teachers have with STEM integration in the classroom, and if they consider the arts integration a key feature of STEM, along with other pre-assessment STEM questions. The post-survey will ask them how and if the PD was engaging for them, if they felt the information was clearly laid out and if they felt the concepts and activities were easily usable in their classroom.

• What outcomes or expectation do you hope to see for your educators?

I hope to offer a professional learning experience that will not only engage the teachers, but will offer them ideas, activities and resources that they can immediately implement into their classrooms, with a small amount of legwork.

• How will you follow up with the teachers in attendance?

Approximately two weeks after the PD, I will send the teachers, via email, a “check-in” survey. The survey will be an anonymous Google Forms survey asking the teachers about how and if they have implemented any of the PD learnings.

• What data collection methods (e.g. surveys, interviews) will you use to analyze the PD’s success?

As stated above, I will use surveys approximately 2 weeks after the PD to see how the implementation of new learnings is going. These surveys will be anonymous and offer data collection for the group. Additionally, I will ask teachers to volunteer for a brief interview to ask their opinion of both the PD experience, their interest level of implementation immediately after the PD, the reality of implementation afterwards, and any feedback on how the implementation went. This final piece of implementation feedback will offer strong evidence of feasibility for this PD to offer teachers easy activities and resources for classroom implementation, even if they have limited STEM experience.