Amy Donohue

## STEM Leadership Seminar Proposal

What is the title of your STEM professional development?

The title of my STEM professional development is: Exploring My NASA Data With Data Literacy Cubes.

Why did you select the topic?

I chose this topic because I think My NASA Data is a valuable tool for teachers to enhance their students' learning.  By using current, real-world data from satellites, teachers and students can engage in authentic, phenomena-based lessons.  The Data Cubes are a great way to promote data literacy skills and can easily be incorporated into most lessons.

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

My PD directly integrates content from NASA and my Endeavor courses.  It was through Endeavor that I first learned about the My NASA Data website.  The real-world data comes from NASA missions is the driving force of the My NASA Data website.

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

My proposed audience will be my colleagues in the science department at my school.   I teach in a middle school that grades 6th-8th.  There are two teachers per grade level so there would be approximately 5 science teachers and 3 special education teachers who support the science classes.

What STEM concepts or learning goals will you and your materials address which can potentially replace other classroom activities?

We are currently using a program called Amplify which uses a phenomena-based approach to learning.  By using the Data Literacy Cubes, I feel that this can support our curriculum well by digging deeper into real-world science data while also incorporating some crosscutting math concepts as well such as patterns, scale, proportion and quantity.

List NGSS and CCSS or your state standards.

NGSS Science and Engineering Practices:

Asking Questions, Using Models, Analyzing and Interpreting Data, Using Mathematics and Computational Thinking, Constructing Explanations, Engaging in Argument from Evidence, and Obtaining, Evaluating, and Communicating Information

MS-ESS2-5. Collect data to provide evidence for how the motions and complex interactions of air masses result in changes in weather conditions.

MS-ESS2-6: Develop and use a model to describe how unequal heating and rotation of the Earth cause patterns of atmospheric and oceanic circulation that determine regional climates.

How long will the session be?

This session will be approximately an hour with the hope of having a follow up session at our next professional development day or department meeting.

How will you recruit your audience?

I plan on speaking to my principal and science supervisor and requesting time during our next professional development session to meet with our science teachers to present my PD.

Where will you advertise your PD session?

After gaining approval from my principal and science supervisor, I plan on advertising my PD to our science department at our next staff meeting.

To demonstrate that teachers have learned something new, you will generate a pre- and  post-survey. What, in general, will your pre-survey and post-survey ask?

For my pre-survey, I would like to know if my colleagues have any experience using My NASA Data and/or Data Literacy Cubes.  For my post-survey, I would want to know if they had any questions, if they found the workshop useful, and if they plan on incorporating anything they learned into their classroom.

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

I would love to see my colleagues using the Data Literacy Cubes with their students.  I think this would be a neat idea for an SGO to see how students' skills in reading and analyzing scientific data can improve throughout the year by incorporating lessons from My NASA Data.

How will you follow up with the teachers in attendance?

I would like to follow up with my colleagues at our next department meeting and open the floor to any questions or comments.

What data collection methods (e.g. surveys, interviews) will you use to analyze thePD's success?

I plan on using surveys, interviews and if possible observations of students using the Data Literacy Cubes.  I would like to maybe informally interview the students as well and ask them their thoughts on what they think of the activities.