

1. What is the title of your STEM professional development?

What is STEM? How can I incorporate multiple subjects into a STEM activity?
NASA and its resources

2. Why did you select this topic?

I sent a survey out to the staff asking where they would like professional development based on STEM. After reading responses of what my staff wanted to see as a professional development, I realized that many of them do not know what STEM actually is. I got many responses asking for experiments to go along with only Science standards, not anything about how to integrate multiple subject. It became clear that my first professional development needed to be a clear explanation as to what STEM includes and does not include.

3. 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 is the entire teaching staff at my site who would like to attend. Out of 22 teachers, 20 said they would be interested in attending a professional development on STEM. We teach from K-5th grade and represent about 500 students. All subjects are taught by all teachers, we do not have specialized or departmentalized teachers.

4. What STEM concepts or learning goals will you and your materials address which can potentially replace other classroom activities? List NGSS and CCSS or state standards.

I would like to show teachers how to incorporate multiple subjects into STEM activities. From the survey I sent out, most responded that they would like to know more about any resources that NASA has to offer. Since most grades tough on Earth Science and Space, I thought this may be an easy way to show them how to address literacy, writing, science and art standards. For the first presentation I will be addressing the importance of STEM and how it benefits students, so specific standards will not be addressed. I feel that understanding STEM is the first step towards being a successful implementor. For the second session, I would like to address any and all ESS standards. Since the presentation will; be for grades K-5, selecting a specific standard to address may be challenging. Possibly I could choose an activity for each grade level?

5. 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?

My principal has been very supportive and said that I can use some staff meeting time to carry out my professional development. I would like to complete 2-30 minutes courses with the first being to define STEM and provide examples of how teachers can incorporate multiple subjects into one STEM based learning activity. Teachers will have access to chromebooks during the presentations so that they can find the NGSS and CCSS standards that they would like to incorporate. I can go between grade levels and assist as needed to find activities provided by NASA to help with STEM implementation.

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

My pre-survey asked what teachers would like to learn more about during a STEM professional development. Their options were, 5 E Lesson plans, Claim Evidence Reasoning, NASA Resources, 21st Century Learning, and Integrating Multiple Subjects. I also asked if there were any other topics that they would like addressed or explained. Those responses gave me the idea for my proposal. They included, but are not limited to, Earth Science, earthquakes, sparking interest, robotics, and engineering.

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

A greater comfort level in understanding STEM and its importance. Then, I would like to see the staff utilize the NASA resources provided in order to implement a successful STEM lesson. I would also like to see them gain confidence in their ability to incorporate multiple subjects into their projects. Many teachers are comfortable incorporating one or two subjects, but I would like to see them challenge themselves and incorporate all, if not most, subjects.

8. How will you follow up with the teachers in attendance?

I will send a follow-up email to all attendees asking if they have questions or if I can be of assistance in setting up their STEM lessons. My staff is not shy, so many of them will be honest and relay important and informative information regarding the PD.

9. What data collection methods (surveys, interviews, etc) will you use to analyze the PD's success?

Teacher satisfaction survey of professional development will be sent. Like I stated previously, the staff is not shy and will not sugar coat or give false feedback. They will be honest and direct about my presentation which will help

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me further grow my leadership skills. I will also ask my principal to observe the PD and criticize my presentation.