

Professional Development Plan:

This Professional Development is focused around the concept of how water affects the Earth in its different states including fresh water and salt water. The focus of my Professional Development is to give teachers in different grades an opportunity to show the importance of the water on Earth with easy connection from grade to grade. I will be giving the teachers some different resources that allow them to easily introduce the concepts that can be easy for students to understand as they move on. We will start by introducing the standards that are involved. We will then go into an activity that can be adapted to the different grade levels kindergarten-5th grade. This will help show the different between fresh water and salt water effects on the Earth. I will then show them how the different types of water can be seen to affect the Earth through a simulation. After I will show some NASA resources that they will be able to use that connect to each grade level. I will then give some time to ask questions and look at the resources that were provided.

Grade Levels:

I will be allowed to have three teachers from each grade kindergarten through 5th grade. Each teacher does have a different amount of experience with teaching and degrees.

NASA Assets:

Information: <https://earthobservatory.nasa.gov/features/Water/page1.php>

Information: <https://earthobservatory.nasa.gov/images/46472/the-gravity-of-water>

Experiment: <https://earthobservatory.nasa.gov/images/46472/the-gravity-of-water>

Ocean Video: <https://www.jpl.nasa.gov/video/details.php?id=1383>

Sea Level Video: <https://www.jpl.nasa.gov/edu/teach/activity/the-science-of-earths-rising-seas/>

How Long:

I have been allowed an hour and 15 minutes for my professional development. Because I am a new teacher I have not been give a great amount of time. This is due to me being new to the district and my knowledge of professional development. Time is precious with the extra time. For my presentation time I will give 5 minutes to the introduction of the standards that connect K-2 and 3-5. I will then give the opportunity for the teachers to do an activity that will get them thinking about how much water is on Earth, how much water is fresh versus salt, and how much of this water is in different states. They will also have to figure out how this different water impacts us and Earth. They will get 15 minutes for this. I will then provide teachers with the different experiments that they can do with their different grade levels. I will give them the different materials needed for the experiment. I will allow them to look at the materials and exploration time for 20 minutes to do this. At this point they can ask questions about how there can be adjustments to fit the needs of their

children. For the next 10 minutes I will show them the NASA Website and all the different materials that can be found on this website. I will make sure to share that there are different opportunities to differentiate while on this website including videos, experiments, and topics including past and present events. I will then give the next 10 minutes for overall questions. This will give me the full hour and fifteen minutes to introduce the topic and explain how it connects to standards.

How many people:

I will have three teachers from each grade level. This will include teachers from kindergarten through 5th grade. My administration will also be at the professional development. This will be a total of 21 people that will be attending the professional development.

Pre-survey:

1. How much of the Earth is water?
2. How much of the Earth's water is frozen?
3. How can we, as teachers, effectively teach about the majority of the Earth's water when we don't live near it?
4. What resources are available to effectively teach about Earth's water?
5. Do the academic standards align from grade to grade?

Post-Survey:

1. Do you have any new resources that can be used effectively?
2. Does this professional development give you the opportunity to have a better understanding about how the standards transition from grade to grade?
3. Do you think that STEM can be incorporated from grade to grade effectively?
4. Will you use the NASA resource for future lessons?
5. Would you be interested in learning how to incorporate STEM's into general education classes?

Standards and why:

I chose this professional development because a lot of teachers do not have appropriate resources to bring STEM into general education classrooms. I will be using the topic of water and the standards 2-ESS2-3. obtain information to identify where water is found on Earth and that it can be solid or liquid for kindergarten through 2nd grade, and 5-ESS2-2 describe and graph the amounts of salt water and fresh water in various reservoirs to provide evidence about the distribution of water on Earth for 3rd grade through 5th grade. Water is a resource that we learn about at a very young age. This topic can be applied as students get older and different in complex ways. If we don't get students excited about exploring and engaged then we cannot expect them to be innovators. As a teacher in an elementary school, I want to take the opportunity to share resources and techniques from STEM and the

general education classes. I am hoping that this professional development will spark the interest of teachers to include STEM into their classes.