

Off to Mars with Transitional Kindergarten

By Joanie Craddock

_____ To say this has been a strange year is a gross understatement! One of the positives to come out of the pandemic for me is the extra time I have saved cutting my commute down to the time it takes to walk to my kitchen table. This has allowed me to finally pursue my Masters degree in STEM. On the not-so-positive side, I have very limited contact with students and I am unable to test-drive a lesson in someone else's class. Our district STEM program has had to adapt and we have split up our duties. Most of my responsibilities this year involve teaching K-6th grade computer science at seven different school sites through Google Meets. The one creative STEM responsibility I have is to make weekly STEM lessons for our Transitional Kindergarteners to complete asynchronously from home. For our astronomy lesson assignment, this felt like the perfect opportunity to ignite the curiosity of young learners to build a foundation for space exploration.

To build the lesson, I used our district learning plan format and tried to be sure the 5E's were utilized. I usually start with a story and Veronica, an astronomy classmate, suggested using one of the stories read by the astronauts on the international space station. I looked through many stories and finally chose Hey-Ho! To Mars We'll Go! read by Christina Cook. It was fascinating to me so my hope is the students will find it engaging. Watching her float while reading the story was an extra bonus! Next, I needed a hands-on activity that five year olds would be able to complete mostly on their own. After much searching, I landed on the straw rocket from "Buggy and Buddy". I had to make a few tweaks but it gave me a good starting point. The students also needed to record some data so I created a couple options for them to record their results. Finally, I always need a "Go Beyond" activity for my students that want to stretch and learn more. This seemed like a great opportunity to add the Google Earth link. With their parents help, students can explore and look at different places with a "view from the rocket". I shared the lesson with my TK teachers and they are excited to try it out with their classes.

For my trial run, I had to borrow my nephew and tell him he was helping me become a better teacher. He was not happy about doing "schoolwork" on the weekend but he really enjoyed the lesson and helped me see what improvements needed to be made. The straw and pipette combo for rocket power was not as easy as it looked online. We had to stuff some play

dough into the end of the straw to start. Squeezing the pipette was no where near enough pressure to push the paper rocket. We ended up cutting the end and blowing through the pipette. I am not sure if they will be able to do this safely back at school. They aren't actually blowing germs because the straw is blocked but I didn't ask the nurse. It was the only way we could get it to work. Originally, I wanted them to test the angle of launch but we decided to aim for a target (bowl) and record whether or not he was able to get it in the bowl with each launch. We also had some conversation about his wonderings of space exploration but I think the class discussion would be much better than my one on one time with my nephew. I hope to make improvements in the lesson after the teachers get feedback from their classes. Even if the rockets don't work as well as I'd hoped, I know the story is inspiring.