

Phenomena Videos to Encourage Questioning: Kids Should See This

Methods of STEM Education-Elementary

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Data Source and Rationale

The data source I will be discussing is “Kids Should See This.” The website is: <https://thekidshouldseethis.com/post/74316267948>. This is a great data source for my particular age group, primary grades (K-2). Now I do recognize this site is not hard data like you would see in high school, but it does align with the performance expectations for first grade. This site is constantly updating with relevant videos to spark interest in all categories of science for the primary grades especially. I know it is updating as one of the videos is about social distancing with the COVID-19 virus. Also, the videos do not give answers for students, they spark questions. Such as one video under the “Music” category that simply shows someone creating vibrations and sounds with metal wrenches. The video does not explain “the why” but it shows “the what” that is occurring.

My rationale for choosing this site is that it ties so closely into the performance expectations for first grade. The expectations state “....students are expected to demonstrate grade-appropriate proficiency in **planning and carrying out investigations, analyzing and interpreting data**, constructing **explanations and designing solutions**, and obtaining, evaluating, and communicating information.” Now how do our young students collect data? They collect it through inquiry, observation, and hands on investigation. Students can analyze these videos and to formulate scientific questions around how and what is happening. Then they can do even more research though hands-on activities and investigating to find out why. For example, there is an entire video of the animal, Feather Star which ties in nicely with the 3D task lesson on animal survival. (<https://thekidshouldseethis.com/post/feather-stars-infestors-crinoids>)

This shows an extremely interesting animal and how it survives in the wild and how other animals survive with it. This video can spark student interest in camouflage and animal survival. Then they can take information on coexistence between animals and apply it to how they co-exist in a school/classroom community or family.

Using Data, Lesson Enhancement, and Interdisciplinary STEM

Using data in a classroom is vital to understanding and monitoring learning, for the students and the teachers. As teachers, we use data to monitor student learning, to plan future student activities, and to understand if what we are teaching is actually working. Students use data in a parallel manner. Students use data to understand phenomena, to recreate phenomena, and explore patterns in their world. They use data to make sense of what is occurring in their learning and their world.

This can be seen in lessons. Currently (well before school closures) I was developing a three part lesson series integrating the Arts with Science instruction. It was more of a SAe (Science, Art, Engineering) unit. The first lesson in the series was music for the sake of music, the second lesson was science and music integrated, and the third was music and arts integrated. We started with music. We used technology in exploring the web to see how music is played and created in three musical families (string, wind, and percussion). Then students explored with random objects to create any instrument with any of these families. They had to collaborate, be patient with failure to create sounds (it happens), and persevere. This type of lesson focuses primarily on music, but the exploration focuses on engineering a creation, working in buddy pairs (collaboration and speaking and listening skills), then culminates into writing where

students needed to write how the sound was created. It also played into ELD (English Language Development) as we revisited the families we created and wrote about our favorites using sentence frames. Then it extended into math as students started to chart what instrument was their favorite on a community bar graph for math. I intentionally avoided the word vibration as to not influence their discovery. (I have photo releases for my entire class so that is why I can include photos).

I would have loved to use this data resource to start off the lesson. Specifically I would have used the wrench video: <https://thekidshouldseethis.com/post/jingle-wrenches> in each lesson. For the creating sound segment, the video would have served as an introduction to making sound. He is striking the floor to make a sound. He is loosely holding the wrench as he strikes the floor. For the second lesson of analyzing sound, I would have students count how many times he hits the floor. I would have them observe when each wrench noise sounds different and how he holds his hands to do this. What causes vibrations and what makes it stop? Then for dance and music, we would use the video to see beat and rhythm. I could have a metronome playing and we can count meters of music and how many times he hits or rests the wrenches on the beat. Other resources for these lessons include the videos in the orchestra portion of the site:

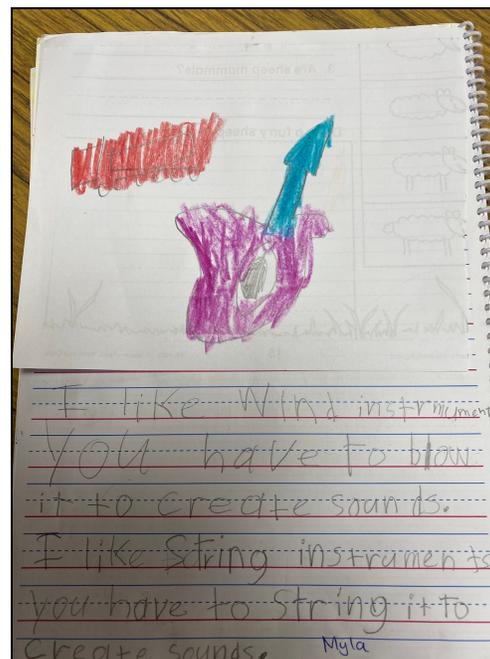
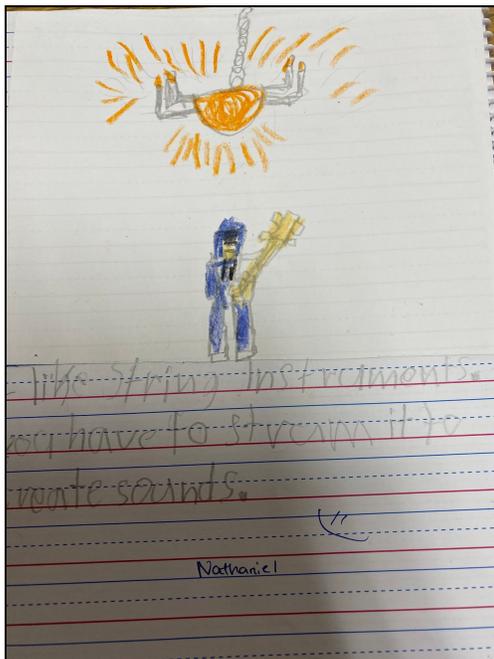
<https://thekidshouldseethis.com/tagged/orchestra>.

All of these resources relate to STEM education and interdisciplinary lessons. The videos help with engaging students in phenomena, and analysis of multiple subject areas related to the interdisciplinary lessons of STEM education. The subcategories of videos include: Science, Technology, Space, Animals, Music, NAture, Food, DIY, Animation, and current information

such as COVID-19. These videos work well with a lot of resources we shared throughout the semester.



In the above photos students are showing off work they created together, and watching different videos of different instruments in various families.



The above photos show writing from two ELD students about their favorite instrument families and how sound is created in each family.