

EXCELLENCE *in* TEACHING CONFERENCE

Making STEM a Force for Good

Session 2: Break-out Session Task Card

Task Instructions

1. Read the first vignette individually. (*You may want to mute your video and audio momentarily*)
2. Record **either** a noticing or wondering about the vignette related to each of the three elements of our theme.
Example: "I notice that the lesson directly addresses important math concepts of ratio and proportion when students are asked to scale-up the blueprint drawings."
Example: "I wonder if embedding the science in the context of food desserts would begin to surface issues of equity?"
3. When you are finished with #1 and #2 for the vignette, unmute your video to indicate that you are ready.
4. You will then have the opportunity to talk as a group about improving each vignette.
5. You will repeat steps #1 - #4 for each of the three vignettes before having a closing discussion.

Vignette 1: Mr. Perez's Canned Food Drive

Students in Mr. Perez's class are working on a service learning project in which they are collecting canned food and non-perishable items for the local food pantry. The class reads about child hunger in the United States and in their community. Mr. Perez divides students up into groups of four and assigns each group to make a brief presentation to another grade level in the school about the issue of child hunger and how everyone can help by bringing in non-perishable food items. Groups are given guiding questions for thinking about how they might want to structure their presentation and they practice their presentations with other groups before presenting to their assigned grade level. The following week, the class picks up the canned goods, organizes them, and takes a trip to the food pantry where they help fill boxes for the community members.

Analysis

STEM

I notice/I wonder...

A Force

I notice/I wonder...

For Good

I notice/I wonder...

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Center *for* STEM Education

<https://stemeducation.nd.edu>

Vignette 2: Ms. Raymond's Weather Unit

Ms. Raymond's class is starting a unit on weather and climate. Students learn about different aspects of their local weather including temperature, humidity, wind speed, precipitation, and barometric pressure. Ms. Raymond has acquired different weather instruments that can be used to collect weather data for a month long period. Students are assigned to collect different pieces of data and graph it for the month. At the end of the month, students jigsaw to share their data with other groups and the class has a discussion about their local weather and how that may or may not reflect their local climate.

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Vignette 3: Mrs. Thompson's Parachutes

Mrs. Thompson is adapting an *Engineering is Elementary* unit in which students are asked to design and test different types of parachutes that are connected to rescue packages for victims who are isolated due to a recent tsunami. During several classes, students learn about aerodynamics and drag forces, having the opportunity to try out different parachute structures to see which results in the longest hang-time and straightest drop. For homework over the weekend, Mrs. Thompson has students design and build their parachutes based on their findings from the test drops. On Monday, students drop their packages and parachutes from the second floor railing with Mrs. Thompson timing their falls and students measuring their landing distance from a target. The three students with the top three hang-times receive A's for the unit.

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