

I hope you and your family enjoy a pleasant holiday. I provided several optional puzzles for students to share with families (Tree in Box, 3- & 5-Piece Fish Puzzles). Onward, into 2020!

All 3s?:

Question: Should I expect my child to get all 3s on all tasks in science?

Answer: Simple-sounding question; not so simple answer.

For many students, it's easy to recite **definitions**. It's much harder, however, to **demonstrate** definitions. For example, this unit students learned that energy is "*the ability to move something some distance or to produce a change*". During interviews, they were then given a prop (paperclip, pencil, stapler) and asked to **give** the prop energy. Most students simply moved the prop and said it had energy because it was moving. The prop didn't move itself, though. The student moved it. This means **the student** had energy. The moving prop could move **other things**, however (air or other light-weight things).

It's not surprising that **explaining** ideas is difficult for students. Much of school has been memorizing what teachers say, and then parroting back these facts. It's one reason I've left my traditional system behind. We need to give students practice **using** definitions and ideas. We all must recognize that true, **deep understanding** takes much longer than rote memorization. In addition, there are many layers to any big idea. Students who complete more activities in a given unit tend to gain more layers to their understanding. Students who progress more slowly **could complete** more activities at home, so they, too, may deepen their knowledge base.

So, to expect **all students** to show a 3 level of understanding (demonstrates understanding consistently and independently) on **all tasks** is unrealistic. On the other hand, we should not settle for a 1 level of understanding (shows little or no understanding) on content.

Reading Science Aspen Clearly:

Remember, here's how to make science results clear on Aspen. Go to **Science**, and then click on "**assignments**" (the first science screen doesn't give you useful

information). Near the upper right are two drop-down menus. One is for **trimester**. I suggest keeping trimesters on “**all**”.

The other drop-down is for **standard**. SD (self direction) is the work habits (non-academic) standard. The academic standards, in the order we are working on them, are Science Process Skills, Properties of Matter, Cells & Genetics, Properties of Energy, and Forces & Motion.

Properties of Energy:

We have nearly wrapped up our Properties of Energy unit. This unit had three content goals. The **first** and **third** required no product--students were simply interviewed on these. Students were asked to make an energy transfer flow chart during the **second goal** interview. Here were the three goals:

1. *Define* energy and demonstrate *what energy is* with a variety of objects.
2. *Create* and *explain* an energy transfer flow chart.
3. *State* the Law of Conservation of Energy and *explain* what happens to a device's energy as the device stops moving.

Scores on Aspen:

Here is a description of the tasks you will see in Aspen for **Properties of Energy**.

Self Direction (SD):

POE Week 1, 2, 3...: These weekly scores describe how well students did their jobs in class (followed directions, handled equipment properly, brought materials to class, remained on task) during our unit.

Water Reducer or Producer complete and on time: This was our third Engineering Project of the year. All that was required to receive a 3 was to bring one in on time--students had one week to compete it. Even if the project doesn't work, if it's apparent that thought went into it, it's still a 3. Last time I told you that **18 students** failed to complete the Pop-Up Greeting on time. I assumed that was an anomaly, and that we would never see that many late Engineering Assignments again. I was wrong. **24 failed**

to bring their in Water Reducers! (7 left them at home and brought them the next day, but **17** brought nothing.) Failure to complete work is hardly unique to Londonderry--my son sees similar results in art college! But, I hope you agree it is most alarming. A parent from last year popped in to say hello and I gave her these stats. She can't understand it either. I explained how I was writing this news for the Properties of Energy report card. She nodded, but then said something I already knew. "Most of the parents who read your report cards carefully are **not** the parents of kids who don't regularly do their work." Although I agree, I don't know what more I can do than be honest and transparent with both students and parents.

Properties of Energy Socrative Assessment on time and directions followed: Each unit, as you know, the Socrative Assessment serves as one summative assessment. Many students should be doing the quizzes **sooner** than they are (I give them 2 weeks to complete the assessments). Students will be in a better position to interview on their products if they've already completed the Socrative assessments. The Properties of Energy assessment is due on January 7, so it will be listed on Aspen after that date.

Academic Standards:

Here are the four product goal scores for Properties of Energy:

1. **Interview:** *Define* energy and demonstrate *what energy is* with a variety of objects.
- 2 & 3. **Product *and* Interview:** *Create* and *explain* an energy transfer flow chart.
4. **Interview:** State the Law of Conservation of Energy **and** explain what happens to a device's energy as the device stops moving.

Properties of Energy Socrative Assessment: This is the final academic task in Aspen.

Guest Presenters:

As I indicated in the last report card, we had two guest speakers who shared information with us related to Cells & Genetics. First, was a geneticist--the mother of one of my eighth grade assistants. She helped students carry out a series of activities, including removing DNA from strawberries and conducting bacteria checks around the school. I'm pleased that one parent was able to join us for Dr. Fonseca's presentation.

Second, Mr. Sutherland, one of our assistant principals, helped students understand how his daughter developed a genetic condition (Glycogen Storage Disease, or GSD) that neither he nor his wife have. Since GSD is so rare, it doesn't receive government funding for its treatment. Each year the Monsoon Team donates money to the GSD fund. My suggestion is for each student, if possible, to bring in 50 cents. That would mean we would donate more than \$50 to the fund. I feel it is best if students donate money **they** earned babysitting or shoveling snow. We will ask Mr. Sutherland to come up the the pod in late January to receive our gift.

Next Up--Magnetism:

We will be moving on to Magnetism next. Here are product goals for Magnetism:

1. Define "magnetic field".
2. Name and explain at least two different factors that affect a magnet's ability to move an object. [i.e. distance from magnet, mass of object, type of magnet used]
3. Demonstrate the existence of magnetic fields. [Make toy. Paragraph explanation.]

Family Science and Monsoon Science Evening:

I was impressed by the large number of Monsoon families who attended my Monsoon Parent and Student Evening back in October. This evening was primarily **informational**, and thus was not much **fun**, since the focus was on why my class was **standards-based**. But I plan to have a Monsoon Family Science Evening where the focus **is** on fun. We will conduct a series of science activities designed to make families think. I will send out a note once I select a date. The problem is, I must limit the number of families who can attend due to space concerns. (Last year I did this and I got exactly the maximum number of families. I had said if I had to turn many away, I would consider doing a second evening. The same applies this year.) Stay tuned after the holidays for an email blast with details.

The next **Family Science project** will be assigned in late January. I already know which one it will be--Get Behind the Line! This one is brand new.

Questions? Visit?

Let me know if you have any questions. Feel free to visit our classroom any time.