

Where We Are:

We just completed our unit on Magnetism. Before moving on to Electricity, we are taking a week and a half to work on ***Student-Designed Investigations***. The focus of this mini-unit is not science content. Instead it is science process skills and practices. Here are the goals:

Science Process Skills & Practices:

Students can recognize scientifically testable questions and make plausible predictions. Students can carry out safe investigations, control variables, recognize controls, measure accurately, and record data in a table that they can design themselves. Students can analyze data, graph results, draw conclusions based on evidence, and communicate these results. (All above based on Appendix H of NGSS--Nature of Science.)

These skills are more challenging than science content for most students simply because they have so little experience with practicing them.

The final product for this unit will be individual graphs. Unlike most units, students are placed in assigned groups move at the pace of their group. Each group in a class works on a different problem.

Magnetism:

This unit had three content goals.

1. Define “magnetic field”.
2. Demonstrate the existence of magnetic fields.
3. 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]

The **first** and **third** goals required no product--students were simply interviewed on these. Students were asked to make a magnetic toy for the **second goal**. For the interview students were asked to explain how their toy proved magnetic fields exist. **Many created very thoughtful toys**--perhaps you have a future entrepreneur in your midst!

Interestingly, **few students** had trouble creating a proper toy. **Most** could also explain how their toy proved fields exist, but **many** had trouble defining magnetic field in words. This shows the complexity of truly learning concepts, and highlights why I have moved away from **a single method** of assessing my students.

Scores on Aspen:

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

POP:

P of E POP 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.

One-Way Machine complete and on time: This was our first Engineering Project of the second trimester. All that's required to receive a 3 is to bring in a device on time that shows legitimate effort (students had a week to compete it.) The project doesn't need to work perfectly. Last time I mentioned **19 students** failed to bring a Gravity Reducer to class by the due date. This time around it was no better (**18 late**). $\frac{1}{3}$ of these 18 were late last time as well. [Remember, Monsoon teachers notify you of late work by initialling your child's assignment notebook on the particular day something is late. This way you

have a daily report of their work completion.] **Most students** do not need you to monitor this so closely, but a **handful certainly do!**

Socratic Magnetism Assessment on time and directions followed: [This is not due until **February 8**, so check back after that.] As you know by now, the Socratic Assessment serves as **one** summative assessment for the unit.

Academic Standards:

Here are the four product goal scores for Magnetism.

1. **Interview:** *Define* magnetic field.
2. 3. **Product and Interview:** *Create* toy and *explain* how proves magnetic fields exist.
4. **Interview:** Explain two factors that affect a magnet's ability to move an object.

Magnetism Socratic Assessment: This is the final academic task in Aspen, but will not show up until after February 8. ***If you have time it would be great for a parent to take the assessment with their child.*** There are only 10 questions, but you would get a great idea of its value.

Mr Sutherland Presentation:

Generous Monsoons raised more than \$250 for the GSD, or Glycogen Storage Disease, fund. Six students presented this money to him last week and thanked him for his presentation. Mr. Sutherland was very appreciative of our support. He also reported that initial results of gene therapy on three adults who have GSD are very promising!

Family Science:

The next Family Science project will be assigned later in February. [I've not decided which project to do yet.]

Questions? Visit?

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