Phox Valley Physical Science/Physics Share Group Meeting

May 3, 2017 (5:30 Meet n Greet, 6:00-8:45 Meeting Time)
Neenah HS

Kurt (Kewaunee HS)
Sound resonance in a tube. A 2" PVC pipe about 4 foot high, with a ½" PVC pipe on the inside of it. Hold the tuning fork over the smaller pipe, and move it up and down to get it to resonate. The larger tube is half-ish full of water.
They can record the data of the frequency and the length of the tube above the water (gives the wavelength) and from that gives the students the speed of sound. Could glue a tape measure to the side to make measuring the

Gary (GB East HS)
AAPT Summer Meeting: Working on a new pamphlet on why Physics is a good thing for kids to take. Its for Parents.

Shared an article on "Grading Homework to Emphasize Problem-Solving Skills." Gary shared how he uses the method for grading experiments with his Physics kids.

Beth (New Holstein HS)
Fidget Spinner! What lab is in there? Angular momentum?

Ann (Appleton West HS)
Shared her packet of Direct Measurement Videos WS. She had some new modifications to her previously shared WS, due to the updated videos.

Greg (Kaukauna HS)
Physical Science Lab: Vernier Lab 14: Conductivity Lab. Graphing conductivity versus number of drops of 1M NaCl, $CaCl_2$, and $AlCl_3$. The ratio of slopes come out to 1, 1.5, 2 (2, 3, 4) which accounts for the relative number of ionic particles in solution as a result of the dissociation of the ionic particles.

Turned it into a Lab challenge. Given solutions A, B, C, and D (3 of them are the original solutions, and the 4th is a non-ionic solution, that does not conduct electricity).

Cristina (Appleton West HS)
Hammerklavier (Beethoven's #29) and the Reuben's Tube. Produces some really nice waves!

Mark (Little Chute HS)
Project RADAR (Reminding all Drives About Responsibilities) The goal is to create an awareness for young drivers by analyzing data about drivers.
http://www.wbay.com/content/news/Little-Chute-Students-Participate-in-Project-RADAR-416652393.html

Dr. Lattery (UW-Oshkosh)
Shared some information from the WI Physics, Chemistry, and Physical Science Teacher Survey
75% of those teachers have Master's Degrees.
74% have 11+ years of experience (20+ are 43%)
Nearly 40% have 11+ years of Physics experience (data is under representative of younger teacher)

Peter Bohacek (Pivot Interactives, Direct Measurement Videos)
Check out "Teaching Students to Think Like Scientists by Eugenia Etkina" and "Teaching Critical Thinking by Natasha Holmes and Carl Weiman."

The outcomes of this research motivated Peter and Matt Vonk (UW-River Falls) to start Direct Measurement Videos.

Has created a new product, Pivot Interactions, where students can engage in full on experiments. All of the videos are like the Direct Measurement Videos. The instructions are ready to use, but are 100% editable, so the teacher can modify to fit what they need. Also has a feature to input data and make graphs, right on the same page. You are able to manipulate the data too (YES!) so you can linearize the graph and do a full analysis.

You could do Flip-Labs, or challenge activities, Physics Face Off, replace labs that have given you fits/bad results. Peter emphasizes the fact that this is NOT a replacement for the handson labs, or experience, but rather something that you can implement how you needed it or want it.

There is an activity that introduces to students how to use the interface. However, it has been tested in front of real students, just cutting them loose. They always are able to figure out what to do.

Each student gets an account, so once they are done, they hit save, so the teacher can grade it, comment on it, etc. The teacher account allows you to add your own notes to the "Teacher Notes" that are there for each activity.

If you are interested. In June they will announce free trial time launch period. You will be able to do anything you want, except assign work to students. The pay subscription won’t start until August.