

COMPILATION: Do unit 2 before unit 1?

Date: Wed, 1 Aug 2001

From: Art Woodruff <woodruff_a@POPMAIL.FIRN.EDU>

To save time, I'm thinking about skipping the measurement unit and going straight to unit two. I've used unit one mainly to introduce how we do things in class, but wonder if I could accomplish the same thing with velocity. Has anyone tried this?

Date: Wed, 1 Aug 2001

From: Gene Newman <emnewman@TOAD.NET>

As to dropping unit 1 and incorporating material in unit 2, I consider it every summer, then I realize that unit one is in many ways the heart of science and modeling. We teach the process of scientific investigation and the tools of modeling unencumbered by content.

I know it seems like a lot of time could be saved, but I don't consider this a "measurement" unit but rather a "scientific process" unit. It makes me feel better when I "fall behind".

Date: Thu, 2 Aug 2001

From: Tim Burgess <tburgess@JAGUAR1.USOUTHAL.EDU>

Art: I have actually followed this pattern. The way we do things in class has to do with what we are faced with in the physics units. The pendulum lab works well in the unit involving pendulums. In addition: One of the strengths of modeling is how physics is connected and continuous and coherent. I think that a separate measurement unit actually detracts from this.

Date: Thu, 2 Aug 2001

From: Kathleen Andre Harper

I tried this with an 8-day high school workshop I did this summer. I'd say the results were mixed, but basically good. For one thing, the prelab discussion was fabulous - more student-driven than I expected for the first unit, and I think the constant-velocity car really had a lot to do with this. (No evidence, of course, just a guess.) They did a really nice job in the lab, too - I simply asked them to do their investigation and come up with as many ways of representing the car's motion as they could - half of the students spontaneously thought of x vs. t graphs. The class seemed to get the idea for how we were doing things very easily. The only drawback I saw was that when I had a group doing an investigation later that resulted in a non-linear graph, they tried treating it like a straight line anyway, and I had an extremely difficult time leading them to the idea that this might not be a good thing.

Date: Thu, 2 Aug 2001

From: Richard Spitzer <rspitzer@CO.APACHE.AZ.US>

I use Unit 1 to review algebra concepts, also. I think I lose fewer kids by spending more time on math and graphing in the beginning. I always have them do the five different curve labs (pop gun, rubber band car, inertial balance, cart on ramp, ball on curved track) as a "rotate through the stations" lab. This also gives them more white boarding practice. This makes unit 1 more time consuming than I like, but I find they are more competent in future units. They do tend to find Unit 2 - Velocity fairly easy and are disappointed about a dull linear relationship. Later on, of course, they hope for linear relationships.
