

Velocity Challenge

In pairs, come up with a plan for how to determine how fast a person runs. In Physics we will call this velocity. (International units for velocity are meters per second).

We have video cameras with time stamps, stop watches, measuring tapes (meters on one side, feet on the other), and cones and a radar gun. The radar gun seems easy, but as arms and legs move, these will give false readings. The stop watches are easy, but try having two people time the same runner and see how much variation you get. So, since we only have 3 video cameras, we may need to share. You can get your distances set up first.

Do you want to have the person already up to speed when they pass the first cone?

Go up on the practice football field and each team will take some measurements using the strategies they came up with.

We will come back to the room and use computers to calculate our data (I suggest EXCEL. It seems easier to use a calculator now, but as labs get more complex, excel can be a very powerful tool, so it makes sense to learn excel when the labs are simple).

Each team will write up a report in a word processor with spell check. Email this report as an attachment to sshumway@sjsd.org. Please include a subject line on all e-mails to me. When I reply, the subject you use will be on my reply. This makes it easier to look for lab reports and replies as time goes on.

Required Elements for a report before points for a lab will be entered in the grade book:

- Description of procedures so that a student that was not present could repeat what you did.
- Data collected, include units.
- Equations used, and how your data was used to make calculations, include units. (the equation editor in word)
- Presentation of results.
- Conclusion of what you learned and modifications you recommend for next year.