Literally, Hitting the Ground Running (or Walking – Your Choice)

Whoa… did you see that X-Wing passed us like we were standing still? How fast going were they?

* Yoda

I was late to class because I got stuck behind a slow AT-AT vehicle.

* Princess Leia

It’s the ship that made the Kessel Run in 12 parsecs\*.

* Han Solo

In each of the above examples, the Star Wars characters are talking about *speed*. In your own words, not the words of a website you’ve enlisted, what is *speed*? What are some common units for *speed*? List at least three:

Today, you are going to design a simple experiment to determine the speed of **you** and a **two** of your classmates/lab partners as they move within the halls of Austin High. In the space provided below, write out your equipment list (I may not be able to accommodate you if your experiment is overly complicated), and then outline your procedure. Once you have completed this task, share your plans with me for approval or revision. This shouldn’t take you longer than 15 minutes… we’re aiming for simplicity.

Equipment (this should be a list of all the equipment essential to your conducting the experiment):

Procedure (this should be numbered steps detailing what you are doing in your experiment):

APPROVED Yes❑ No❑

With Revisions?

Data Collection (in the space provided below, you should show your raw data):

Data Analysis (in this step, you should show how you used your data to determine the speed of each of your lab partners):

Questions:

Were the speeds that you found *constant* throughout the time intervals you used to determine the speeds? How could you tell?

If not, how could you change your procedure to improve your data so that you could be more certain of whether or not your speeds were constant, or fairly so?

**EXTRA CREDIT**: Research and report back about how speed is measured in ONE of the following scenarios. Your report should be typed complete sentences:

How does a radar gun measure speed?

How does your car “measure” your instantaneous speed (what is reported on your speedometer)?

How did Olaus Roemer “measure” the speed of light, quite accidentally?

How does video analysis of motion work to determine the speed of an object?