**Force, Relative Motion, Velocity**

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**See** [**https://www.learningctronline.com/courses**](https://www.learningctronline.com/courses) **for Materials and Resources.**

**Topics:**

1. Force & Linear Motion

**Objectives:**

* Describe how motion is produced.
* Explain what is meant by relative motion and factors involved.
* Distinguish between speed and velocity and know how to calculate both. Describe the types of speed and velocity.

TAKE NOTE

1. Reading (Hewitt Text)

1. Worksheets: Position vs Time & Velocity vs Time
2. Problem Set Velocity (1 week)
3. Activity Nature of Forces

1. Lab: Speed (Lab Report due in 16 days) … procedures, calculations / data
2. Extra Credit: Film Review October Sky
3. Week 5 Devotional (<https://www.learningctronline.com/devotional>)

**Text**: Chapter 2: Linear Motion 2.1 – 2.3 (Hewitt)

**Class Notes: Force & Motion Document**

**Homework**:

* Nature of Forces Activity
* Position-Time Worksheet
* Velocity-Time Worksheet
* Problem Set Velocity (1 week)

**Lab**: Speed

This will represent your first formal lab report of the year and will count 50 points (normally, formal lab reports will be 100 points).

* Perform the "Speed" lab using the Lab Worksheet provided. This would include doing the procedures and collecting data for the calculations section.
* The calculations give you practice in determining speeds and in graphing various speed parameters.
* You will write up a Formal Lab Report following the guidelines in the Lab Report Format Document within 16 days. However, you can wait to do the Formal Lab Report until AFTER you take the tests for this unit.
* Give units for all measurements.
* Be sure to SHOW WORK for the speed calculations in the Calculations and Data section.
* Include at least THREE PICTURES or IMAGES of your observations and/or objects that you used to calculate the speed (e.g. show the speed at different heights). Explain the relevance of the image to the lab. Images must be 600 pixels or less.
* There are questions that you need to include in the Conclusion Section of the lab report which are in the Speed Lab Worksheet. Do NOT the actual questions, but label their number and make statements. Make sure you answer them in complete sentences that convey a complete thought, giving evidence from the lab experiment to support your answers.
* Save the documents into your LAB folder in the Physics folder on your desktop.

**TEST:** No Quiz this week

Supplemental Resources (Optional)

1. The Great Balloon Race Lab
2. Speed Velocity Problems (Basic)
3. Quiz Force & Speed (Basic)

[**http://somup.com/cFXhD1n144**](http://somup.com/cFXhD1n144) **Relative Motion (0:32) Car in a snow storm**

[**http://somup.com/cFXhDQn14A**](http://somup.com/cFXhDQn14A) **Relative Motion (0:55) Boy on Train platform**

<http://somup.com/cFXhoMn14r> Relative Motion Bugs and Daffy (fun) (6:53)