

Newton's Laws Internet Lab

Directions: Answer all questions, solve all problems and take notes in your journal. Do not write on this handout. You must document everything you do at each web site in writing!

Stop 1: Learn Physics Today at

<http://library.advanced.org/10796/ch4/ch4.htm>

Maintained by Colegio Franklin Delano Roosevelt

- Read through sections 1-4 of chapter 4 at this online physics tutorial.
- Summarize each section of text in your own words using complete sentences.
- Answer and record each question in sections 1-4 of chapter 4 and check your answers.
- This stop should take about 15 minutes.
- If you finish early and are comfortable with your level of understanding of Newton's Laws surf this site for about 5 minutes. Find another page with interesting information and write a summary that you could share with the class.

Stop 2: The Physics Classroom at

<http://www.glenbrook.k12.il.us/gbssci/phys/Class/newtlaws/u211a.html>

Created by Tom Henderson

- Read lesson 1 "Newton's First Law" and summarize the text in your own words
- Be sure to click on the "cool animations" – Write a paragraph describing how each animation illustrates Newton's laws.
- Go to lesson three at
<http://www.glenbrook.k12.il.us/gbssci/phys/Class/newtlaws/u213a.html>
- **Notice that we skipped lesson 2. We will cover this material another time.**
- Repeat the reading, summarizing, and cool animation describing for lesson three as discussed above for lesson 1
- Try the practice problems here and check your work. Remember to document the work you do in your journal.
- Go to lesson four at
<http://www.glenbrook.k12.il.us/gbssci/phys/Class/newtlaws/u214a.html>
- Repeat the reading, summarizing, and cool animation describing for lesson four as discussed above for lessons 1 and 3
- Try the practice problems here and check your work.

Stop 3: The Multimedia Physics Studio at
<http://www.glenbrook.k12.il.us/gbssci/phys/mmedia/index.html#forces>
Created by Tom Henderson

- Visit each of the animated gifs for Newton's laws if you did not hit them at stop 2.
- Summarize the text accompanying each new gif in your own words using complete sentences.
- Describe how each new gif illustrates one of Newton's Laws
- This stop should take about 20 minutes.
- If you finish early and are comfortable with your level of understanding of Newton's Laws surf this site for about 10 minutes. Find your favorite animated gif and write a paragraph describing it that you will share with the class.

Stop 4: The Visualize Science free fall lab
<http://www.explorescience.com/freefall.htm>
Created by Raman Pfaff

- Play with the lab to investigate the relationship between mass and acceleration
 - How does the acceleration change as mass increases?
 - Using your observation from the above question describe how the force on the ball changes as its mass increases.
- Change the settings and run the experiment several times using different variables.
- Describe how this web site illustrates Newton's 2nd law