

## Aspirin Titration Lab

### Data Analysis - Calculations

Results: Low Dose Aspirin	Work	Answer
Number of mL required to reach endpoint	From experiment	
Number of moles NaOH titrated. ***Remember it was 0.10M NaOH and M=mol/1L		
Using your mole to mole ratio, determine the moles of aspirin neutralized by this amount of NaOH		
Calculate the grams (using molar mass) of aspirin neutralized in this trial of the experiment		*grams effective for use in later calculation
Calculate the mg of aspirin neutralized in this trial of the experiment. (convert from g to mg)		

Results: Regular Strength Aspirin	Work	Answer
Number of mL required to reach endpoint	From experiment	
Number of moles NaOH titrated. Remember it was 0.10M NaOH and $M = \text{mol/L}$		
Using your mole ratio, determine the moles of aspirin neutralized by this amount of NaOH		
Calculate the grams of aspirin neutralized in this trial of the experiment		*grams effective for use in later calculation
Calculate the mg of aspirin neutralized in this trial of the experiment.		

## Conclusions

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1. Compare your predicted volumes of NaOH with your found volumes of NaOH using the data table below.  $\% \text{ error} = \frac{\text{actual amount used}}{\text{predicted amount (from pre-lab)}} \times 100$

	Low Dose Aspirin	Regular Strength Aspirin
Predicted theoretical volume of NaOH needed		
Actual volume of NaOH needed		
Percent error * See calculation above (show your work)		

2. Using the following data table, calculate the cost effectiveness of each type of aspirin:

	Low Dose Aspirin	Regular Strength
Cost per bottle	\$11.98	\$9.47
Pills per bottle	300	200
Cost per pill		
Grams Effective *from your calculations		
Cost effectiveness_  $\frac{\text{Cost per pill}}{\text{grams effective}} = \text{cost effectiveness}$		

## **Career Spotlight – Pharmacist**

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A pharmacist has a doctoral degree, and understands the use of the medications they deliver as well as their interactions. They are medication experts and may also help doctors to select the right combination of medications for patients with complications. They must also take into account all medications a patient takes and advise them if there are any conflicts between these medications. Some pharmacists can also prescribe basic medications.

A pharmacy technician helps the pharmacist to dispense medication using immense precision and detail. There are many week to week changes with new medications or the understanding of generic vs brand name drugs that the technician must keep up with. Technicians do not advise patients, but may assist in filling the prescription.

### **Median Annual Salary:**

Pharmacist: \$117,000 per year, \$56 per hour (2012 data)

Pharmacy Technician: \$29,000 per year, \$14.10 per hour

### **Education Requirements:**

Pharmacists complete a bachelors and doctoral degree

Pharmacy Technicians need less than 1 year of post-high school training in many areas and can obtain this through community colleges or vocational schools.

### **More information:**

<http://www.bls.gov/ooh/healthcare/pharmacists.htm>

<http://explorehealthcareers.org/en/Career/14/Pharmacist>

<http://money.usnews.com/careers/best-jobs/pharmacy-technician>

<http://careers.walgreens.com/career-areas/pharmacy/pharmacy-technician/#.VWYDUGSrQy4>

## **Resources and References**

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[http://www.ijpsonline.com/article.asp?](http://www.ijpsonline.com/article.asp?issn=0250-474X;year=2010;volume=72;issue=5;spage=649;epage=651;aulast=Maheshwari)

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<http://www.bostonglobe.com/lifestyle/health-wellness/2014/02/24/aspirin-may-cut-cancer-risk-but-its-benefits-outweigh-possible-side-effects/dghiZ7q6Da17HyOIp11KiI/story.html>

<http://health.howstuffworks.com/medicine/medication/aspirin2.htm>

<http://theunnecesarean.com/blog/2010/8/25/aspirin-in-early-pregnancy-may-prevent-preeclampsia.html#sthash.3Whjm8fk.dpbs>

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