

OAKLAND CUSD #5

CHEMISTRY
MAY 4 - 8, 2020

WILLIAM SEWELL

Week: May 4 -May 8, 2020

Teacher: William Sewell

Communication: email: william.sewell@oakland5.org or Google Hangout-Meet

Office hours: Monday and Wednesday: 12:00 to 2:00 p.m., Tuesday and Thursday: 12:00 to 1:00 p.m.

Due Date: All assignments are due 5/11/2020 either by sending a picture of it and turning it into Google Classroom or turning it into the office.

Assignments: All assignments will be in "Google Classroom" and a paper copy will be provided from the Oakland main office. I will have office hours as listed above which we can review the assignments given and I will help you as much as needed. However, the expectation is the same as it was before. I expect you to have made a serious effort to complete the assignment, before asking for help. You will not learn anything with me just giving you the answers.

Class	Choice 1	Choice 2	Choice 3 (Enrichment)
Earth Science	<p>Weather: For 5 straight days, do the following:</p> <ol style="list-style-type: none">1. Watch the news for the weather report.2. Record their prediction.3. Write what actually happened.4. Were they correct?5. Watch the weather report in the evening and what was their recap of the day's forecast.	<p>Take pictures of the moon and record the cycle that it is in from Monday through Friday. Repeat this activity for this week and make a comparison to last week, if you did this activity or wait until next week and compare it then. Please use the given table to complete. Please refer to page 779 in your book.</p>	<p>Human Impact On Resources Please answer and respond to the following questions and statements. Make a list of five ways humans impact Earth by doing the following for each.</p> <ol style="list-style-type: none">1. State the human impact.2. Determine whether or not it is positive or negative.3. State the things which determine the degree of this impact.4. Is this impact permanent or temporary?

Class	Choice 1	Choice 2	Choice 3 (Enrichment)
Physical Science	Reflection on Water Usage Write a paragraph about the following: 1. Do you think you used too much water? 2. What are some ways that you can reduce your water usage? 3. Will this change make you less clean or less hydrated? How will these changes effect you?	Graph your data of distance versus time. With distance on the vertical axis and time on the horizontal axis, using the given graph paper. Draw a best fit line by drawing a straight line between those points.	Calculate the speed of your distance ran, walked, hopped, and skipped by taking your distance and dividing it by your time.
Chemistry	Unit 5: Relative Mass Lab video and write-up	Unit 5: Quiz 1	Do Empirical Formula Lab WS by watching video and pictures of lab.
Pre-calculus	Sinusoidal Equations WS #1	Sinusoidal Equations WS #2	Watch videos on sinusoidal equations and do problems. They will be assigned in Khan academy.

Chemistry—Unit 5 Relative Mass Lab

Purpose

The purpose of this lab is to determine the relative mass of different items and to recognize the connection between such an activity and the information on the periodic table.

Data

Object Measured	Mass (g)	Adjusted Mass (g)	Relative Mass (imu or <i>item mass units</i>)
Empty vial			
Vial + Item #1			
Vial + Item #2			
Vial + Item #3			
Vial + Item #4			
Vial + Item #5			
Vial + Item #6			

Calculations and Discussion Questions

- Each vial contains the same number of pieces. From each mass, subtract the mass of the empty vial to determine the adjusted mass. (Do you think the empty vial will have an adjusted mass?) To find the relative mass, divide the mass of each item by the mass of the smallest item. (What will the relative mass of the smallest item be?) Don't forget units and significant figures. Show all work for **one item** below.

Chemistry Unit 5 - Empirical Formula Lab

Introduction

In this experiment, a measured amount of zinc will be allowed to react with hydrochloric acid, HCl. One of the reaction products will be zinc chloride. You will obtain data that will enable you to determine the empirical formula of zinc chloride, Zn_xCl_y . Empirical means "based on experimental evidence".

Procedure - Day 1

1. Find the mass of a clean, dry, labeled beaker (to the nearest 0.01g)
2. Add the number of zinc pieces as instructed by your teacher. Find the mass of the beaker and zinc to the nearest 0.01g.
3. Add 50 mL of 3M HCl. Record your observations.
4. Place your labeled beaker on one of the hot plates in the fume hood.

Procedure - Day 2

5. Set up a bunsen burner, ring stand, ring and wire screen so you can heat the beaker.
6. Zinc chloride absorbs water readily from the air. In order to remove the water, heat the beaker and contents for a minute or two. As long as the contents appear to bubble, water is evaporating. However, when the contents begin to smoke, stop heating *immediately*. Remove the beaker (use tongs, it's hot) and allow it to cool on the metal base of the ring stand. Note how the zinc chloride solidifies from the molten state.
7. When the beaker is cool enough to handle, find the mass of the beaker and zinc chloride. (1)
8. Repeat steps 6 and 7. (2)
 - a. If this second mass is more than 0.02g lighter than the previous mass, repeat steps 6 and 7 once more. (3, if needed)
 - b. If the mass is unchanged, wash out the contents of the beaker as instructed by your teacher.

Data

Mass of labeled beaker _____ g

Mass of beaker + zinc _____ g

Mass of beaker + zinc chloride (1) _____ g

Mass of beaker + zinc chloride (2) _____ g

Mass of beaker + zinc chloride (3, if needed) _____ g

Observations _____

Calculations

1. Determine the mass of zinc reacted.
2. Determine the mass of zinc chloride (guess which one you should use).
3. Determine the mass of chlorine in the zinc chloride.
4. Determine the number of moles of zinc, then the number of moles of chlorine.
5. Determine the ratio: $\frac{\text{moles Cl}}{\text{moles Zn}}$

Conclusion

1. Since you believe that atoms combine in simple, whole-number ratios, what do you think is the likely ratio: $\frac{\text{atoms Cl}}{\text{atoms Zn}}$?
2. Based on your findings, what is the empirical formula of zinc chloride?
3. Suppose that you had not driven off all the water from the zinc chloride. How would this error have affected the ratio in calculation 5? Show evidence for your prediction by repeating calculations 2 – 5 using the next to the last value for the mass of the beaker and zinc chloride.