



24218 Garner St. Southfield, MI, 48033 (248) 351-0000

*Where excellence in education and character is the expectation.*

Dear Students and Families,

Welcome to Chemistry! I'm excited about the opportunity to get to know you, and I'm looking forward to a happy and productive school year. Hello, My name is Mr. Kwesi Matthews. I am your student's Chemistry teacher for this semester. I am a graduate from Savannah State University and Cambridge College. I am certified and highly qualified by the State of Michigan to teach chemistry. I have received my broad field certification in science by the state of Michigan. I have worked with college students, high school students, and middle grade students. I am prepared to handle all, and willing to accept the challenge of any student that comes my way, as long as they are willing to work hard. I want parents to understand that it is my hope to prepare them for life after high school. My goal is that every student will have a positive experience with my class and learn life lessons that can positively impact their life.

Some Curriculum areas we will focus on this year will include the scientific method as it is used to study matter and students will be given the mathematical tools you will need for the remainder of the course. Students will learn how matter is classified according to its properties and composition. Students will study the atom and trace the development of the atomic theory and the periodic table of elements. Students will learn how elements form compounds, and learn to name and write formulas for compounds and to write equations representing chemical reactions.

Students are asked to bring the following supplies to school before September 12, 2011.

Supplies:

Blue or Black Erasable Pens  
Pencil & Sharpener  
1 composition book  
1 spiral notebook  
1 folder  
Calculator(basic or Scientific)  
Dictionary  
Metric ruler



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If you have any questions or concerns or if you would like to visit our classroom, schedule a conference, or volunteer to help out, you can contact me at **(248) 351-0000 ext 13202** or email me at **[kwesimatthews@choiceschools.com](mailto:kwesimatthews@choiceschools.com)**. The best times to reach me via phone are [9:45am-11:00am].  
**<http://bahschemistry.weebly.com>**

Once again, welcome to 10th Grade Chemistry Class. Let's work together to make this the best year ever!

Sincerely,

Kwesi Matthews

# Chemistry Summer Packet

Dear Students and Parents,

Welcome to a new, exciting, and challenging year at Bradford Academy High School! We will cover a tremendous amount of material in the Chemistry I this year. This year will be full of exciting things to learn. To make sure you are ready, there are some things to review over the summer. We will move quickly and it is extremely important for you to keep up with the subject matter by reading and studying on a nightly basis. The chemistry text is an essential tool for study along with your notes, class activities and outside resources.

## Review of Graphing

Create a graph for the data in the chart below. The graph must be done on graph paper. Graph paper can be printed free off the web (visit [www.chemcool.com](http://www.chemcool.com)) or purchased at a local office supply store. **Your final product needs to be turned in with the rest of the packet.** For a review of proper graphing techniques, visit the following website:  
<http://www.chem.uic.edu/marek/apintropage/graphingfolder/graph1ibm.htm>

Temperature (°F)	Temperature (°C)
32	0
52	10
68	20
86	30
212	100

**Note:** When following the proper graphing techniques outlined in the website given above, assume temperature (°F) is the dependent variable and temperature (°C) is the independent variable.

## Review of Math

Math is an essential component of chemistry. There are a few topics you have learned in previous classes that you may need to review. Those topics are as follows:

1. Review the metric system base units and their symbols for mass, volume, and temperature.
2. Know the metric prefixes, their values, and their symbols for kilo to milli.
3. Be able to use dimensional analysis (a.k.a. factor label method) to complete conversion problems.
4. Be able to solve basic algebraic equations.

In order to review these topics, you need to answer the questions that follow. If you have difficulty completing any of the questions, you may use the following websites as references.

**Websites:** [www.chemtutor.com](http://www.chemtutor.com)  
[www.chemcool.com](http://www.chemcool.com)  
[www.alysion.org](http://www.alysion.org) (scroll down to "Fun with Dimensional Analysis")

### Questions:

1. List the metric system base units and their symbols for mass, volume, and temperature.
2. List the metric prefixes along with their values in descending order from kilo to milli.
3. Complete the following dimensional analysis problems **SHOWING ALL WORK AND CANCELING ALL UNITS!!!** Use the equalities given in the table below to complete problems A through J.

1 hour = 60 min	24 hrs = 1 day	365 days = 1 year	10 mg = 1 cg
60 sec = 1 min	1 kg = 2.2 lbs	1 yd = 3 ft	1 ft = 12 in
1 mole = 22.4 liters	1000 ml = 1 L	1 ml = 1 cm <sup>3</sup>	5 fleebers = 8 zaxx

- a) How many seconds are in 3 hours?
- b) How many centigrams is 0.035 milligrams?
- c) 5.5 kg is how many pounds?

- d) 2.5 yards is how many inches?
- e) 1.3 years is how many hours?
- f) 3 moles of hydrogen occupies how many liters?
- g) 111ml of xenon gas is how many moles?
- h) 56 ml is how many liters?
- i)  $9888 \text{ cm}^3$  is equal to how many liters?
- j) How many fleebbers can I trade for 17 zaxx?

4. Solve the following algebraic equations **SHOWING ALL WORK!!!**

a) Solve for x:  $14x + 12 = 40$

b) Solve for m:  $56/m = 22$

c) Solve for x:  $5/x + 8 = 11$

d) Solve for k:  $kx = a + by$

e) Solve for w:  $2r + 2w = 38$

f) Solve for z:  $y/4z = x/w$

g) Solve for  $x_1$ :  $3x_1 + 5y_1 = 2x_2 - 8y_2$

h) Solve for  $v_2$ :  $y_1v_2 - k_2v_1 = 0$

## **Review of Lab Safety**

Lab safety needs to be reviewed before starting any science class. Being prepared is the best way to reduce the chances of accidents occurring during a lab. It will also help you handle an accident as quickly as possible in order to prevent the most damage. You need to review the safety information found on the following two websites. **This information will be covered on one of your first quizzes. Therefore, you may want to take notes on the information found in the two websites!!!!**

Websites: [http://nobel.scas.bcit.ca/debeck\\_pt/science/safety.htm](http://nobel.scas.bcit.ca/debeck_pt/science/safety.htm)  
<http://www.chem.unl.edu/safety/hslabcon.html>

### Answers to Questions

1. 10800 seconds
2. 0.0035 milligrams
3. 12.12 pounds
4. 90 inches
5. 11395.5 hours
6. 67.2
7. 344.1
8. .056
9.  $9111/125$
10. 3.4