

Name: _____ Block: _____ Date _____

CHEMISTRY/HONORS CHEMISTRY SUMMER ASSIGNMENT

We hope you are excited to take chemistry next year, as we are very excited to teach you! Chemistry is a fascinating subject where you will learn about the building blocks of the universe and how they combine and change to form all we see around us. In order to be fully prepared for this rigorous and exciting course you will need to complete this summer assignment. It must be submitted **on your first day of school in a ziplock bag or page protector**. This will count as your first grade for the year so make sure you start off the year strong! If you have any problems with this assignment please do not hesitate to contact either of us. We are excited to hear from you. Good luck with your packet and we can't wait to share the incredible journey that will be your next year in chemistry!

Ms. Cuttino-Crawford & Ms. Adaeze Ihuoma
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Your summer assignment has multiple parts so make sure to complete them all!

PART 1: Flashcards

Directions: You should not only make these sets of flashcards but prepared to be tested on them during your first week of school. Studying them regularly throughout the summer will ensure that you pass your first test in chemistry with flying colors! Bring these flash cards to be checked on the first day.

Set 1: Element names and symbols – Page 2 of packet

Set 2: Metric Unit Flashcards – Page 2 of packet

Set 3: Metric Prefixes and Conversion Factors – Page 3 of packet

Set 4: Multiplication tables through 12 – These are not included in the packet. You have many options when making these flashcards.

- You can buy a set at almost any bookstore, dollar store, Target, Walmart, etc.
- You can print them from <http://www.multiplication.com/resources/flash-cards> or a similar web site
- You can make them by hand as you will the first three sets of flashcards

PART 2: Safety Poster

*Directions: Read the list of safety rules on Page 4 of this packet and create a Safety poster that is **8.5"x11"** (that's regular paper!). This poster must be the correct size, in color, contain a picture and the safety rule that it shows. These can be done by hand or on a computer. Have fun and be creative!*

PART 3: What is Chemistry? Worksheet

You will watch a series of YouTube videos and answer corresponding questions about what is chemistry. See Page 5 of this packet. If you do not have internet access at home you can go to Newark Public Library at 5 Washington Street or one of their branch locations. Library hours as of June 2016 are listed below.

You can contact the main library by calling 973-733-7784.

	Main Library	Branches
Monday	9am-5:30pm	Closed
Tuesday	9am-5:30pm	9am-5:30pm
Wednesday	9am-8:30pm	1pm – 8pm
Thursday	9am-5:30pm	9am-5:30pm
Friday	9am-5:30pm	9am-5:30pm
Saturday	10am – 3pm	11am – 3pm
Sunday	Closed	Closed



Set 1: ELEMENT NAMES AND SYMBOLS

Directions: Write the element symbol on one side of your card and the element name on the other side. Spelling counts so be careful!!!

Example Flashcard:

Name	Symbol	Name	Symbol
Aluminum	Al	Lithium	Li
Argon	Ar	Magnesium	Mg
Barium	Ba	Manganese	Mn
Beryllium	Be	Mercury	Hg
Bismuth	Bi	Neon	Ne
Boron	B	Nickel	Ni
Bromine	Br	Nitrogen	N
Calcium	Ca	Oxygen	O
Carbon	C	Phosphorus	P
Cesium	Cs	Platinum	Pt
Chlorine	Cl	Potassium	K
Chromium	Cr	Radon	Rn
Cobalt	Co	Rubidium	Rb
Copper	Cu	Scandium	Sc
Fluorine	F	Silicon	Si
Gallium	Ga	Silver	Ag
Germanium	Ge	Sodium	Na
Gold	Au	Strontium	Sr
Helium	He	Sulfur	S
Hydrogen	H	Titanium	Ti
Iodine	I	Tin	Sn
Iron	Fe	Uranium	U
Lead	Pb	Xenon	Xe
		Zinc	Zn

Set 2: Metric Unit Flashcards

Directions: Write the unit name and quantity on one side and the symbol on the other.

Example Flashcard:

Quantity	Unit	Symbol
Length	Meter	m

Mass	Gram	g
Volume	Liter	L
Temperature	Degrees Celsius	°C
Time	Seconds	s
Energy	Joule	J
Amount of a Substance	Mole	mol

Set 3: Metric Prefixes and Conversion Factor Flashcards

Directions: Write the unit name and quantity on one side and the symbol on the other.

Example Flashcard:

Prefix	Conversion Factor
Kilo (k)	1 base unit = 0.001 kilo
Base Unit	The base unit can be meter(m), liter (L), gram(g), etc
Deci (d)	1 base unit = 10 deci
Centi (c)	1 base unit = 100 centi
Milli (m)	1 base unit = 1000 milli
Micro (μ)	1 base unit = 10 ⁶ or 1000000 micro
Nano (n)	1 base unit = 10 ⁹ or 1000000000 nano

Set 3: Multiplication Flash Cards

Directions: You need to make multiplication flash cards for 1 through 12. An example flash card would look like the one below.

Example Flashcard:

You have many options when making these flashcards.

- You can buy a set at almost any bookstore, dollar store, Target, Walmart, etc.
- You can print them from <http://www.multiplication.com/resources/flash-cards> or a similar web site
- You can make them by hand as you will the first three sets of flashcards

PART 2: Safety Poster

*Directions: Read the list of safety rules below. **PICK ONE RULE** and create a Safety poster that is 8.5"x11". This poster must be the correct size, in color, contain a picture and the safety rule that it shows. These can be done by hand or on a computer. Have fun and be creative!*

1. Always think about safety before the lab. Take careful notes during the pre-lab lecture and think about the assignment before starting.
2. Follow all procedures EXACTLY AS WRITTEN. If you do not know what to do or why you are doing it ASK.
3. Goggles and closed toed shoes must be worn at all times while students are working in the lab.
4. Roll up long sleeves and tie back loose hair.
5. Know the location of the safety shower, eye wash, fire extinguishers, fire blanket and emergency exits.
6. Never taste laboratory materials and avoid touching chemicals with bare hands. Smell chemicals only by wafting them (fan vapors towards your nose).
7. No eating or drinking in the classroom (bottled water allowed except during labs)
8. Never leave a fire unattended.
9. Check chemical labels twice to make sure you are using the right substance.
10. If there is a chemical spill on your skin or clothes, rinse the area with plenty of water. Minor skin burns should also be placed under cold, running water.
11. Fire blankets can be used to put out any fire on someone's clothing or hair.
12. Report all chemical spills to the teacher and clean up immediately.
13. Report all broken glass to the teacher and follow proper clean up instructions. Do not dispose any solids down the sink.
14. Report any accidents immediately.
15. Every time you are in the lab you need to be ON TASK and FOCUSED. Absolutely no horseplay is permitted.

PART 3: What is Chemistry? Worksheet

You will watch a series of YouTube videos and answer corresponding questions about what is chemistry.

Video # 1 "A Day Without Chemistry" by: [BytesizeScience](#)

Link: http://www.youtube.com/watch?v=AbfW_CMMe48

1. Based on the video have you used chemistry today? Name three ways:

Video # 2 "What is Chemistry?" by [CerebellumCorp](#)

Link: <http://www.youtube.com/watch?v=l-3DEFwHEzs&feature=related> – *This one is a little corny so get excited!*

2. Based on the video what is a definition of chemistry?
3. Chemistry looks and sounds different because its written like a whole new language. According to the video what is the first step in understanding chemistry?

Video #3 "These Are The Elements (Periodic Table Song, in order)" by bookbusband

Link: <http://www.youtube.com/watch?v=xQu2eSeM66o&feature=fvwrel> – *Bonus Pts to anyone who can sing this song entirely on the first day without looking at the screen!*

4. List five elements you've heard of in daily life before starting this summer assignment.

Video #4 "Bill Nye the Science Guy S05E08 Atoms & Molecules -

Link: [Bill Nye Atoms & Molecules](#)

– *You are only required to watch the beginning to 6:33 but watch the whole thing if you'd like!*

5. The word 'atom' comes from a Greek word meaning what?

6. What are the charges and locations of the proton and neutron in an atom?

7. What is the charge and location of an electron in an atom?

Video #5 "Chemical Reactions – Periodic Table of Videos" by periodicvideos

Link: <http://www.youtube.com/watch?v=UkBhW8Kj3r8>

8. This video was assigned to get you excited about some of the demonstrations and experiments you will see this year (we cannot do all of them but you will see some!) Tell me one experiment or part of the video that you found exciting and would like to do in class. You can also tell me about some experiment that you've seen on TV or heard about from other people.

Name _____ Date _____ Block _____

Summer Assignment Rubric

	Beginning Many of the required components are missing; the presentation of material demonstrates poor effort on the part of the student. Responses lack completion of sentences or were omitted entirely / assignment is several days late.	Developing Most required components of each assignment are present. The presentation is neat and orderly, but could have demonstrated more effort or creativity where applicable. Complete sentences were used in responses where applicable. Assignment may be 1-2 days late.	Distinguished All required components of the assignment are present. (In plastic bag or page protector as requested) The presentation is neat, orderly or creative where applicable. Complete sentences are used in responses where applicable. Assignment submitted on time.
Part 1 Flash Cards (50 pts) Part 2 Poster (25) Part 3 Worksheet (25) Part 4 Timeliness (-10)			
Element and symbols (15 pts) 5,10,15			
Metric Units (10 pts) 3,6,10			
Metric Prefixes and Conversion Factors (10 pts) 3,6,10			
Multiplication Tables (1-12) (15 pts) 5,10,15			
Safety Poster (25 pts) 10, 15, 25			
What is Chemistry Worksheet (25 pts) 10,15,25			
Timeliness	-10 from total	-5 from total pts	-0 from total

Total Points _____/100 Grade _____