# SOCIAL STUDIES

**All of the summer reading is posted on the district website:**
**http://www.paulding.k12.ga.us/News/22508**

This includes Honors World Geography and AP Human Geography who have **specific assignments**. If a student is taking one of those course they need to check the website to get the assignments. The following is also posted, but it is more general list:

**East Paulding High School**
**Social Studies Summer Reading**

| | |
|---|---|
| *Honors World Geography | *Where Am I Wearing: A Global Tour to the Countries, Factories, and People that Make Our Clothes* by Kelsey Timmerman |
| *AP Human Geography | *Summer reading assignment can be found at www.paulding.k12.ga.us |
| Honors World History | *A History of the World in 6 Glasses* by Tom Standage |
| AP World History | *A History of the World in 6 Glasses* by Tom Standage |
| Honors US History | *Founding Brothers* by James Ellis AND *10 Days That Unexpectantly Changed America* by Steven Gillon |
| AP US History | *Founding Brothers* by James Ellis AND *10 Days That Unexpectantly Changed America* by Steven Gillon |
| Honors Government | *America's Constitution: A Biography* by Akhil Reed Amar |
| AP Government | *Gideon's Trumpet* by Anthony Lewis |
| Honors Economics | *Rich Dad Poor* Dad by Kiyosaki |
| AP Economics | *Rich Dad Poor* Dad by Kiyosaki |
| AP Psychology | *The Man Who Mistook His Wife for a Hat…* by Oliver Sacks |

# ENGLISH

EPHS 2015-2016 Summer Reading is as follows:

**Honors 9th Literature**: For your first formative grade... Read either The Chosen, by Chaim Potak or A Tree Grows in Brooklyn, by Betty Smith: As you are reading, make note of 12-15 passages (with page numbers) worth remembering (Must come from the beginning, middle, and end of the novel). Answer the following questions in separate paragraphs for each passage: What is going on in the story when the passage appears? How is the selected passage related to one of the novel's possible themes? Why is the selected passage worth remembering [relate it to your own life or experiences]? See EPHS teacher website Edward Sheehan for an exemplar related to the formative and summative assignment. Save this to a USB as there will be a good deal of editing before it will be accepted as a summative product.

**10th Honors World Literature**, please read The Count of Monte Cristo by Alexander Dumas.

**11th Honors American Lit**, everyone read The Great Gatsby by F. Scott Fitzgerald.

**11th AP Language**
Choose one of the following:
1. Michael Moss, Salt Sugar Fat
2. Michael Pollan, The Omnivore's Dilemma 3. Eric Schlosser, Fast Food Nation 12th AP Literature, please read Things Fall Apart by Chinua Achebe, and Brave New World by Aldous Huxley.

**12th Honors**, please read Hamlet by William Shakespeare and view Kenneth Branagh's Hamlet. They must watch it.—Folger edition and 2 editions of The Economist, a British magazine publication.

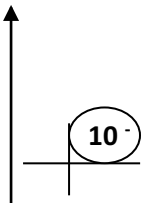
# SCIENCE

**Welcome to Honors Chemistry!**

This class has 3 units that are more in-depth than the regular level: Solutions, Acid/Bases and VSEPR. Because we have those units, we have to move faster than the regular class pace. Students that know the metrics and the Elements and Ions generally have higher scores.

In order to give yourself the best start possible, please learn the metrics below and the Elements and Ions on the back of this page. http://quizlet.com/ is a wonderful resource- you can create your own or use someone else's (make sure they are correct, first!)

| Prefix | Means | In math | How to use | | | Saying |
|---|---|---|---|---|---|---|
| Giga- | Billion | 1,000,000,000 | 1 Gs= $10^9$ **s** | | | Gertrude |
| Mega- | Million | 1,000,000 | 1Ms= $10^6$ **s** | | | Makes |
| kilo- | Thousand | 1,000 | 1 ks= $10^3$ **s** | | | kangaroos |
| Hecta- | Hundred | 100 | 1Hs =$10^2$ **s** | | | Hop |
| Deca- | Ten | 10 | 1Ds=$10^1$ **s** | | | Down |
| | | | | | | |
| BASE UNIT | One | 1 | s $10^0$ | | | Mountains |
| | | | | | | |
| deci- | Tenth | 0.1 | 1 s = $10^1$**ds** | | | drinking |
| centi- | Hundredth | 0.01 | 1 s = $10^2$ **cs** | | | chocolate |
| milli- | Thousandth | 0.001 | 1 s = $10^3$**ms** | | | milk |
| micro- | Millionth | 0.000001 | 1 s = $10^6$ **us** | | | monday |
| nano- | Billionth | 0.000000001 | 1 s = $10^9$ **ns** | | | nights |
| pico- | Trillionth | 0.000000000001 | 1 s = $10^{12}$ **ps** | | | particularly |



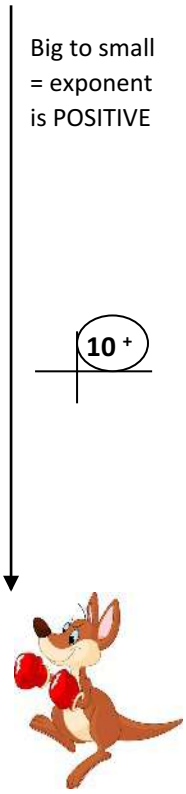




Chart credit to J. Dunton

Note: This base unit is seconds (s), but it could also be meters (m), moles (mol), Kelvin (K), amps (A) or candela (cd).

Saying credit to K. Wimpy


I look forward to working with you! For this class you will need a 3 ring binder, notebook paper, something to write with and a calculator that will do exponents and log functions, like the Texas TI-30X IIS Scientific calculator or Casio® fx-300ES Plus Scientific Calculator.

***During the summer*** sign up for emails and texts:

**To sign up for class emails and or texts for Dunton's Honors Chemistry:** To receive messages via text, text **@hchemdun** to **(301) 710-0506** or 81010
Or to receive messages via email, send an email to **hchemdun@mail.remind.com** ***leave subject area blank***
**To Sign up for edmodo: go to https://edmo.do/j/fgshff class code: d7596g**

## Honors Chemistry - Element & Ion Quiz/Test List

You will be given an element/ion quiz each week on FRIDAY for 7 weeks. Your teacher reserves the right to move any quiz date. Each quiz can be cumulative. This means elements from Week 1 could appear on a Week 2 Quiz, etc. For each quiz you will be expected to learn the symbol/formula and the spelling for each element/ion. Each symbol is worth 1 point and the correct spelling/capitalization is worth 1 point. (*ALWAYS capitalize the first letter of the symbol. NEVER capitalize the first letter of the word unless it is the first word of a sentence*.) Quizzes are non-recoverable. On Week 8, you will be given a 100-point summative test consisting of the elements & ions learned. The Element/Ion Test can be recovered for a max of 80% after writing the ones missed (name and symbol) fifteen times each.

Below is a list of elements. The symbols of the elements are given so YOU must look up the element's name and spelling. The polyatomic ions are given; you must know the correct formula (w/subscripts & superscripts) & spelling.

| Week 1 | Week 2 | Week 3 | Week 4 | Week 5 | Week 6 | Week 7 |
|---|---|---|---|---|---|---|
| N | Fe | Al | Cs | Pt | Nb | Br |
| O | Cu | Sb | As | P | Be | Cd |
| F | Ni | Sn | At | K | Fr | Ge |
| Cl | Zn | W | Ba | Ra | Co | Pd |
| H | Li | U | Bi | Rn | Pu | Os |

| | | | | | | |
|---|---|---|---|---|---|---|
| He | Na | V | Cr | Ag | Ti | Rb |
| Ne | Mg | I | Ga | S | Sr | Sc |
| Ar | Ca | Pb | Au | Te | Ir | Y |
| Kr | B | Mn | Si | Zr | Hf | Lr |
| Xe | C | Hg | Se | Pr | Ta | Th |
| acetate $C_2H_3O_2^-$ | nitrate $NO_3^-$ | ammonium $NH_4^+$ | phosphite $PO_3^{3-}$ | mercury I $Hg_2^{2+}$ | thiocyanate $SCN^-$ | silicate $SiO_3^{2-}$ |
| bicarbonate or hydrogen carbonate $HCO_3^{1-}$ | nitrite $NO_2^-$ | dichromate $Cr_2O_7^{2-}$ | phosphate $PO_4^{3-}$ | perchlorate $ClO_4^-$ | peroxide $O_2^{2-}$ | fluorate $FO_3^-$ |
| carbonate $CO_3^{2-}$ | sulfate $SO_4^{2-}$ | permanganate $MnO_4^-$ | hydroxide $OH^-$ | chlorate $ClO_3^-$ | iodate $IO_3^-$ | fluorite $FO_2^-$ |
| oxalate $C_2O_4^{2-}$ | sulfite $SO_3^{2-}$ | chromate $CrO_4^{2-}$ | cyanide $CN^-$ | chlorite $ClO_2^-$ | iodite $IO_2^-$ | bromate $BrO_3^-$ |
| | borate $BO_3^{3-}$ | | | hypochlorite $ClO^-$ | | |

**Honors Physics**

You are signed up for Honors Physics for the 2015-2016 school year! I am excited about seeing you in August, but before that happens I need you to be thinking about physics—to do that you have a few summer activities! While you are already playing outside and watching movies, let's tie physics to that! These 4 items will be due Monday, August 3rd, 2015. Make sure they are typed or neatly written... you will be doing a lot of writing and projects this year! See you after a while! C. Raymond

2015-2016 Honors Physics Summer Assignment

1. Throw a baseball/tennis ball into the air as high as you can. Make sure it does not hit you on the way down. In seconds, what is the total time it is in the air? Throw an un-crumpled piece of paper into the air as high as you can. In seconds, what is the total

time that it is in the air? Is there a difference between your times for questions 1 and 2? Explain your answer in a well written and well justified paragraph.

2. You cannot master physics if you only think about it in the classroom. To encourage physics thinking in everyday life, review 3 Hollywood movie scenes for physics content. The review will contain the following:

1. The movie's title and main stars, release date.
2. A summary of the scene (one good paragraph)
3. A summary of the scene's physics (one good paragraph), include whether it was portrayed scientifically accurate or inaccurate.
4. At least one calculation related to the scene's physics. Include steps and process.

To analyze movies you will have to estimate many of the parameters used in your calculation, often based on the size of the objects in the movie. Estimating is a real world skill which is often required for major engineering projects.

3. Find a physics concept that interests you and write a one page summary describing/explaining the concept and why it you find it pretty cool!

5. Draw a cartoon strip explaining Newton's 3 laws. Tell a story in the process while touching on the major concepts of: inertia, mass, force, acceleration, action force, reaction force, equal.

**Honors Anatomy; Summer Assignment** **Name** _____

Many terms used in the biological sciences are compound words; that is, words made up of one or more word roots and appropriate prefixes and/or suffixes. Less than 400 roots, prefixes, and suffixes make up more than 90% of the medical vocabulary. These combining forms are most often derived from the ancient Latin or Greek. Prefixes are placed before the root term and suffixes are added after. The following list includes the most common forms used in anatomy, physiology and medicine and an example for each. This list, and the word origin information found throughout your anatomy text book, is intended to facilitate the learning of this

important vocabulary. If you know these you will find your progress in learning anatomy and physiology to be **swift**, **steady**, and **strong**. Fill in the chart below and study them—a quiz will be on the horizon when we get back to school.

| Prefix or Suffix | Meaning | Anatomical Example Term & its Meaning |
|---|---|---|
| a- | | |
| ab- | | |
| -ac | | |
| ad- | | |
| aden- | | |
| albi- | | |
| -algia | | |
| an- | | |
| andro- | | |
| angio- | | |
| ante- | | |
| arthro- | | |
| -asis | | |
| auto- | | |
| bi- | | |
| -blast | | |
| brachi- | | |
| Brady- | | |
| bucc- | | |
| cardio- | | |
| cephal- | | |
| cerebro- | | |
| circum- | | |
| co-, com- | | |

| | | |
|---|---|---|
| contra- | | |
| cost- | | |
| crani- | | |
| cuti- | | |
| cysto- | | |
| -cyte | | |
| di-, diplo- | | |
| duct-, -duct | | |
| dur- | | |
| dys- | | |
| e-, ec-, ef-, ex- | | |
| -ectomy | | |
| ede- | | |
| endo- | | |
| epi- | | |
| ex-, exo- | | |
| extra- | | |
| -ferent | | |
| gastro- | | |
| -genesis | | |
| glosso- | | |
| glycol- | | |
| gyn- | | |
| hemato- | | |
| hepato- | | |
| hetero- | | |
| histo- | | |
| homo- | | |
| hydro- | | |

| | | |
|---|---|---|
| hyper- | | |
| hypo- | | |
| inter- | | |
| intra- | | |
| -issimus | | |
| iso- | | |
| -itis | | |
| labi- | | |
| lacto- | | |
| leuko- | | |
| lip- | | |
| -ology | | |
| -lysis | | |
| mamm- | | |
| medi- | | |
| melano- | | |
| meta- | | |
| mono- | | |
| morph- | | |
| myo- | | |
| necro- | | |
| neo- | | |
| nephro- | | |
| neuro- | | |
| oculo- | | |
| -ole | | |
| -oma | | |
| oo- | | |
| -osis | | |

| | | |
|---|---|---|
| osteo- | | |
| oto- | | |
| para- | | |
| -pathy | | |
| pelv- | | |
| peri- | | |
| phag- | | |
| phil- | | |
| pneumo- | | |
| -poiesis | | |
| poly- | | |
| post- | | |
| pre- | | |
| pro- | | |
| pseudo- | | |
| quad- | | |
| rect- | | |
| reno- | | |
| sclera- | | |
| steno- | | |
| sterno- | | |
| stria- | | |
| sub- | | |
| super-, supra- | | |
| sym-, syn- | | |
| tachy- | | |
| therm- | | |
| thorac- | | |
| thrombo- | | |

| | | |
|---|---|---|
| -tomy | | |
| topo- | | |
| trans- | | |
| -tropic | | |
| ultra- | | |
| -uria | | |
| vas- | | |
| vetebra- | | |
| villo- | | |
| viscer- | | |
| zyg- | | |

| SYSTEM | FUNCTION(S) | MAIN STRUCTURES | DISORDERS |
|---|---|---|---|
| Integumentary | | | |
| Skeletal | | | |

| | | | |
|---|---|---|---|
| Muscular | | | |
| Nervous | | | |
| Endocrine | | | |
| Cardiopulmonary | | | |

| | | | |
|---|---|---|---|
| Urinary | | | |
| Digestive | | | |
| Lymphatic | | | |
| Reproductive | | | |

**AP CHEMISTRY**

**East Paulding High School Summer Assignment**

**Join the Edmodo group at https://edmo.do/j/kxgbtd Code: uc9njq**

**Join the Remind101: text @apchemdun to 81010**

Welcome to Advanced Placement Chemistry! I am so excited you decided to join us!! Some of you have taken an Advanced Placement course before, while for others, this will be your first experience with AP. This course requires much hard work and sacrifices of personal time. Therefore, now and in the future, it is important to keep focused on the advantages offered in this course. A few advantages are listed below.

1. One of the most important benefits of this course is that if you take and pass the AP exam given in May, you will be able to receive college credit at most universities and colleges in the United Sates. Over 80% of those students enrolled in AP Chemistry have passed the national exam. **ALL STUDENTS ENROLLED IN ADVANCED PLACMENT CHEMISTRY ARE ENCOURAGED TO TAKE THE AP EXAM IN MAY!**

2. Whether or not a student passes the national exam, he/she may choose to take freshman chemistry in college anyway. Students who have done this have found that they have a **tremendous** advantage over others who have not taken AP Chemistry. Most of the material covered in a college general chemistry course will be review and students who have taken AP Chemistry tend to do well on exams! There are several reasons for this:

    a. High School classes are generally smaller than college classes. The opportunity for individual help is much greater. It is not unusual for a freshman chemistry class to have 200 students. In this situation it is nearly impossible to ask questions.
    b. Teaching is the number one priority at the high school level.
    c. At times freshman chemistry is used to "weed out" students to prevent large numbers of students moving into upper division classes. Many times only the most outstanding students move on.

3. Truthfully, AP Chemistry looks great on your transcript. Many universities are looking for ways to distinguish the thousands of students that apply for admission from each other. The number of difficult courses on a student's transcript helps.

4. AP Chemistry will teach you to think at higher levels. You will be forced to think and apply concepts to new situations. This is excellent preparation for the higher level thinking required at the college level.

Students need to be realistic about the expectations for this course. Many students think they are ready for college level work, but really do not know what this means or the commitment it requires. In order to get a more realistic view of this course, I have included some perceptions entering students have, and the reality of the situation.

1. PERCEPTION: I have always been a straight A student and always will be.

   REALITY: If your main purpose in taking this class is to collect one more A, you are taking the class for the wrong reason and may be disappointed. There are easier classes to get an A in. Hopefully, you are taking the class to challenge yourself academically and to increase your knowledge of chemistry.

2. PERCEPTION: I can miss class and catch up on my own. I always have before.

   REALITY: YOU CAN'T!!! In AP Chemistry, you have to give up a lot to get a lot. You can't be gone for three days and expect to get caught up with a ten-minute tutoring session. Think carefully about activities that will take you out of school. Learn to say no and make good choices.

3. PERCEPTION: Like all teachers, I'm exaggerating about how much work there is and the difficulty of the class.

   REALITY: I'm not exaggerating!! Talk to students who have taken the class before.

4. PERCEPTION: I'm making the class tougher than it really needs to be.

   REALITY: This is a college level course, not an advanced high school course. After completing this course, students should learn as much as they would taking any freshman chemistry course in any college or university in the United States.

5. PERCEPTION: If the majority of the class is falling behind, I will slow down.

   REALITY: I can't! As much as I would like to and some students may need it, I can't slow down for the students who are having difficulty keeping up. There is a body of knowledge that needs to be covered before mid-May when the AP exam is given.

6. PERCEPTION: I probably won't have to work as hard as other students.

   REALITY: Not true. ALL students who are successful in this course put in many hours of studying outside of class time. Help will be available before and after school. If you are extremely busy with work and/or school and community activities, think carefully about the time and energy commitment you will be able to make for this class.

7. PERCEPTION: Mrs. Dunton doesn't **really** expect us to do the summer assignment, and she isn't **really** going to give us a test during the first week of school.

   REALITY: I'm **really** serious about this. The summer assignment is mainly review of Chemistry I. The test will give you a head start on the memorization of ion charges and solubility rules. This early work will allow us to spend more time later on more difficult topics.

You will find the summer assignment and information regarding the first week's test at the end of this sheet. Hopefully this letter will clarify the expectations of this class. There is fun to be had in this class, as well as the satisfaction of challenging yourself in an upper level science course.

You are allowed to contact me if you have questions at 770 363-5987 (cell) and I will offer at least one study session during the summer. Sign up at Edmodo and Remind101 to get the details.

I hope you have a safe and wonderful summer. Don't forget your summer assignment & early test. This is the only test that is completely within your control- think of it as a gift!!! Take advantage of it!! Make sure you know your metrics.

You will need a 3 ring binder, notebook paper and a calculator that will do exponents and log functions. In the Fall, you will have the option to purchase a carbon copy lab notebook and lab book.

I'll see you soon!

Ouida Dunton

odunton@paulding.k12.ga.us

**AP Chemistry – Summer Assignment**

The text book is online at:


http://wtsd.schoolwires.net/cms/lib07/NJ01913008/Centricity/Domain/646/Chemistry_Z.pdf

**This is a required assignment – not extra credit.**

Read Chapters 1 – 3 (pages 1 – 115)

Problem Assignment (Answers are found in the back of the book)

***Do only odd problems unless otherwise specified and show your work!**

7th edition problems:

Chapter One, pages 30-37, #25-29, 31-35, 41, 53, 57-71, 81.
(Note: Answers to questions with blue numbers are in the back of the book. Be in charge of your own learning. Check your own answers and come to school on the first day with any questions you may have for those items.)

Chapter Two, pages 69-75, #17, 21, 33, 43-69, 75, 83, 89

Chapter Three, pages 115-125, #10-13 (all), 16, 20-22 (all), 27, 29, 33-37 (odd) , 53, 56, 57, 59, 69, 73, 81-91(odd), 97-105 (odd)

**A test covering the first three chapters will be given during the first two weeks of class. We will spend the majority of our class time on Chapter 3.**

**If you get stuck, you can text me (770) 363-5987. I will text or call you when I get the message. We will be out of town at some point, so be patient.**

Additional resources:

Course description and outline: https://secure-media.collegeboard.org/digitalServices/pdf/ap/ap-chemistry-course-and-exam-description.pdf

http://www.chemteam.info/ChemTeamIndex.html

http://www.adriandingleschemistrypages.com/ap-worksheets/

https://cougarchemistry.wikispaces.com/

http://www.gpb.org/chemistry-physics/students/all


**AP CHEMISTRY – "FIRST WEEK EXAM"**

1. Memorize the sheets entitled "Positive Ions – Cations", "Negative Ions – Anions", and "Polyatomic Elements", and "Acids". This sheet is included in this packet. Spelling,
   superscripts, and subscripts count. Use flashcards!
2. Memorize the sheet entitled "The Solubility Rules". This sheet is included in this packet.
3. For the test, you will be given a list of compounds and be asked to predict the solubility in
   water, cold water, hot water, or an acid.

**Positive Ions – Cations**

| 1+ | 2+ | 3+ | 4+ |
|---|---|---|---|
| Group 1 Elements | Group 2 Elements | Aluminum $Al^{3+}$ | Carbon $C^{4+}$ |
| Ammonium $NH_4^{1+}$ | Cadmium (II) $Cd^{2+}$ | Antimony (III) $Sb^{3+}$ | Lead(IV) $Pb^{4+}$ |
| Silver $Ag^{1+}$ | Chromium (II) $Cr^{2+}$ | Chromium (III) $Cr^{3+}$ | Silicon $Si^{4+}$ |
| Copper (I) $Cu^{1+}$ | Cobalt (II) $Co^{2+}$ | Cobalt (III) $Co^{3+}$ | Tin (IV) $Sn^{4+}$ |
| Gold (I) $Au^{1+}$ | Copper (II) $Cu^{2+}$ | Gold (III) $Au^{3+}$ | |
| | Iron (II) $Fe^{2+}$ | Manganese (III) $Mn^{3+}$ | |
| | Lead (II) $Pb^{2+}$ | Nickel (III) $Ni^{3+}$ | |
| | Manganese (II) $Mn^{2+}$ | Iron (III) $Fe^{3+}$ | |
| | Mercury (I) $Hg_2^{2+}$ | | |
| | Mercury (II) $Hg^{2+}$ | | |
| | Nickel (II) $Ni^{2+}$ | | |
| | Tin (II) $Sn^{2+}$ | | |
| | Zinc $Zn^{2+}$ | | |

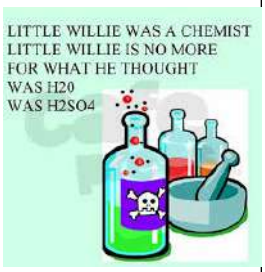
**Negative Ions- Anions**

| -1 | -2 | -3 | -4 |
|---|---|---|---|
| Group 17 Elements | Carbonate $CO_3^{2-}$ | Nitride $N^{3-}$ | Carbide $C^{4-}$ |
| Acetate $CH_3COO^-$ | Chromate $CrO_4^{2-}$ | Phosphate $PO_4^{3-}$ | |
| Chlorate $ClO_3^{1-}$ | Dichromate $Cr_2O_7^{2-}$ | Phosphite $PO_3^{3-}$ | |
| Chlorite $ClO_2^{1-}$ | Monohydrogen Phosphate $HPO_4^{2-}$ | Phosphide $P^{3-}$ | |

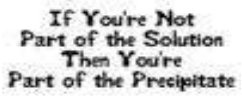
| | | | |
|---|---|---|---|
| Cyanide $CN^{-}$ | Peroxide $O_2^{2-}$ | | |
| Dihydrogen Phosphate $H_2PO_4^{-}$ | Oxalate $C_2O_4^{2-}$ | | |
| Hydride $H^{1-}$ | Oxide $O^{2-}$ | | |
| Hydrogen Carbonate $HCO_3^{1-}$ | Silicate $SiO_3^{2-}$ | | |
| Hydrogen Sulfate $HSO_4^{1-}$ | Sulfate $SO_4^{2-}$ | | |
| Hydrogen Sulfide $HS^{1-}$ | Sulfite $SO_3^{2-}$ | | |
| Hydrogen Sulfite $HSO_3^{1-}$ | Sulfide $S^{2-}$ | | |
| Hydroxide $OH^{1-}$ | Thiosulfate $S_2O_3^{2-}$ | | |
| Hypochlorite $OCl^{1-}$ | | | |
| Iodate $IO_3^{1-}$ | | | |
| Iodite $IO_2^{1-}$ | | | |
| Nitrate $NO_3^{1-}$ | | | |
| Nitrite $NO_2^{1-}$ | | | |
| Perchlorate $ClO_4^{1-}$ | | | |
| Permanganate $MnO_4^{1-}$ | | | |
| Thiocyanate $SCN^{1-}$ | | | |

| **Polyatomic Elements** | **Acids** |
|---|---|
| $Br_2$ Bromine | $CH_3COOH$ Acetic (vinegar) |
| $Cl_2$ Chlorine | $C_{18}H_{34}O_2$ Oleic |
| $F_2$ Fluorine | $H_3BO_3$ Boric |
| $H_2$ Hydrogen | HBr Hydrobromic |
| $I_2$ Iodine | HCOOH Formic |
| $N_2$ Nitrogen | $H_2CO_3$ Carbonic |

| | |
|---|---|
| $O_2$ Oxygen | $H_2C_2O_4$ Oxalic |
| $P_4$ Phosphorus | HCl Hydrochloric |
| $S_8$ Sulfur | HClO Hypochlorous |
| $Sb_4$ Antimony | $HClO_3$ Chloric |
| $Se_8$ Selenium | $HClO_4$ Perchloric |
| | HF Hydrofluoric |
| | HI Hydroiodic |
| | $HNO_2$ Nitrous |
| | $HNO_3$ Nitric |
| | $H_2SO_3$ Sulfurous |
| | $H_2SO_4$ Sulfuric |




**THE SOLUBILITY RULES**




1. The nitrates, chlorates, and acetates of **all** metals are soluble in water. Silver acetate, silver nitrite, and potassium perchlorate are sparingly soluble.

2. **All** sodium, potassium, and ammonium salts are soluble in water.

3. The chlorides, bromides, and iodides of all metals except lead, silver, and mercury (I) are soluble in water. $HgBr_2$ is moderately soluble. $PbCl_2$, $PbBr_2$, and $PbI_2$ are soluble in hot water. The water insoluble chlorides, bromides, and iodides are also insoluble in dilute acids.

4. The sulfates of all metals except lead, strontium, mercury (I), and barium are soluble in water. Silver sulfate and calcium sulfate are slightly soluble. The water insoluble sulfates are also insoluble in dilute acids.

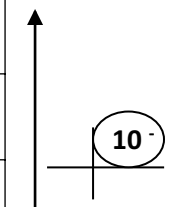
5. The carbonates, phosphates, borates, sulfites, chromates, and arsenates of all metals except sodium, potassium, and ammonium are insoluble in water, but soluble in dilute acids. $MgCrO_4$ is soluble in water; $MgSO_3$ is slightly soluble in water.

6. The sulfides of all metals except lithium, sodium, potassium, and ammonium are insoluble in water. BaS, CaS, and MgS are sparingly soluble.

7. The hydroxides of lithium, sodium, potassium, and ammonium are very soluble in water. The oxides and hydroxides of calcium, strontium, and barium are moderately soluble. The oxides and hydroxides of all other metals are insoluble.

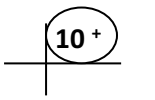
If you don't already, make sure you know your metrics!! Backwards and forwards!

| Prefix | Means | In math | How to use | | | Saying |
|---|---|---|---|---|---|---|
| Giga- | Billion | 1,000,000,000 | 1 Gs= $10^9$ **s** | | | Gertrude |
| Mega- | Million | 1,000,000 | 1Ms= $10^6$ **s** | | | Makes |
| kilo- | Thousand | 1,000 | 1 ks= $10^3$ **s** | | | kangaroos |
| Hecta- | Hundred | 100 | 1Hs =$10^2$ **s** | | | Hop |
| Deca- | Ten | 10 | 1Ds=$10^1$ **s** | | | Down |
| | | | | | | |
| BASE UNIT | One | 1 | s $10^0$ | | | Mountains |
| | | | | | | |
| deci- | Tenth | 0.1 | 1 s = $10^1$**ds** | | | drinking |
| centi- | Hundredth | 0.01 | 1 s = $10^2$ **cs** | | | chocolate |

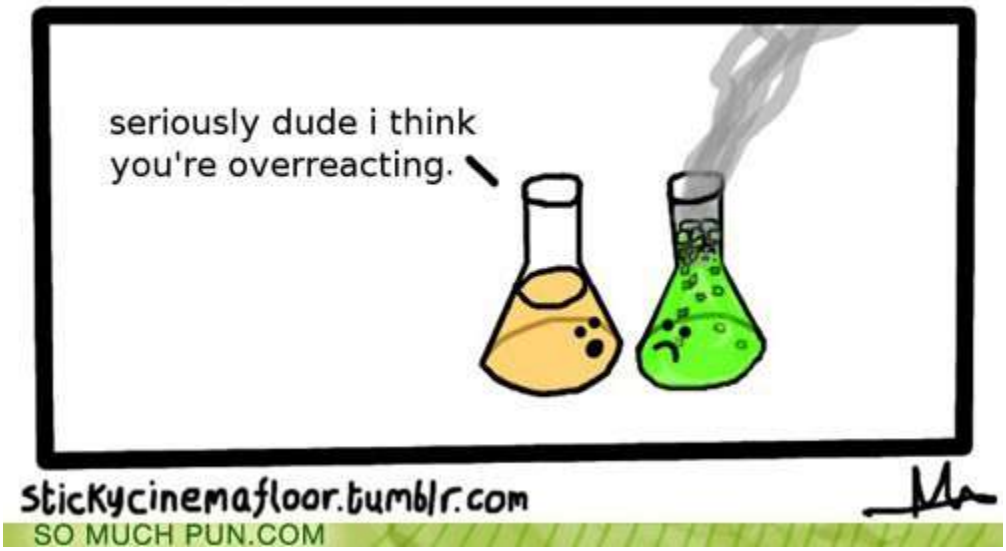



Small to big = exponent is NEGATIVE

Big to small = exponent is POSITIVE




| | | | | | | |
|---|---|---|---|---|---|---|
| milli- | Thousandth | 0.001 | 1 s = $10^3$ **ms** | | | milk |
| micro- | Millionth | 0.000001 | 1 s = $10^6$ **us** | | | monday |
| nano- | Billionth | 0.000000001 | 1 s = $10^9$ **ns** | | | nights |
| pico- | Trillionth | 0.000000000001 | 1 s = $10^{12}$ **ps** | | | particularly |
| Chart credit to J. Dunton<br><br>Note: This base unit is seconds (s), but it could also be meters (m), moles (mol), Kelvin (K), amps (A) or candela (cd). | | | | Saying credit to K. Wimpy | | |



# Honors Forensic Science

**Visit Ms. Arnold's website for more information.**

**http://www.myteacherpages.com/webpages/JAllen3/index.cfm?subpage=1915737**

# WELCOME TO HONORS FORENSIC SCIENCE!!!

**Please sign up for a court case on the link below for the 2015 Summer Assignment:

http://www.signupgenius.com/go/20f084aa8af2ba1fe3-summer

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