



## Dixie M. Hollins High School / Summer 2015

### Summer Assignments for Students in our Cambridge / AP courses.

**Students are required to complete the assignments per the instructions and deadlines provided. The assignments below are in addition to the required Dixie Summer Reading List that is tied to each student's English class. Please review that list on our school's website and make sure those assignments are completed as well.**

#### AICE Thinking Skills

**AS Level** - Students must read the Arthur Conan Doyle novel [A Study in Scarlet](#) and compose a one-page paper analyzing the method Holmes uses when solving crimes. Also, they should be ready to take a quiz on the setting, plot, characters and themes of the novel. Both assignments are due the first week of class.

**A Level** - Students must read the Arthur Conan Doyle novel [The Hound of the Baskervilles](#) and compose a one-page paper analyzing the crime-solving method used by Holmes in the story. Also, they should be ready to take a quiz on the setting, plot, characters and themes of the novel. Both assignments are due the first week of class.

#### Pre-AICE Chemistry

Pre-AICE Chemistry is an advanced Chemistry class designed to give you a solid foundation in inorganic chemistry. As part of the curriculum, you will be conducting laboratory exercises for which you will need to have mastered basic measurement skills, including the mathematics that go along with them. In this summer assignment you will practice these skills via a computer program called *Braingenie*.

#### Braingenie:

URL - <http://braingenie.ck12.org>



#### Dominate math and science.

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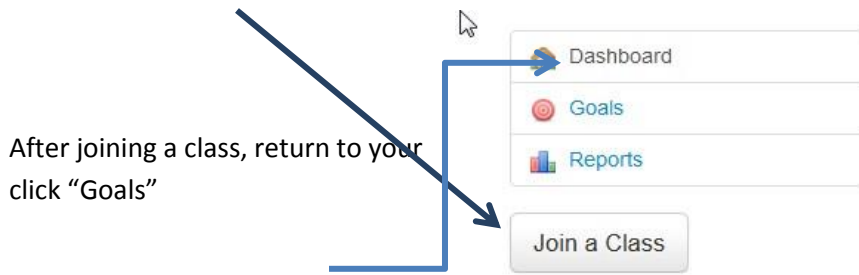
[Learn and practice](#)

[Sign up now \(it's free!\)](#)

Click on the green button to create an account – it's free.

**Your user name should be your last name and first initial/first name.** If you need to add numbers after it to create a unique username for the program feel free to do so. I need your last name as part of your user name or I will not be able to identify you in my roster. If I don't know who you are I cannot give you a grade.

Once you have created an account, you will be given a chance to join a class. Click that button and enter the class code **prgqqi6i**. The class you are joining is called Summer 2015.



### Goals

Name	Created	Teacher	Progress
<a href="#">Summer Practice</a>	Aug 12, 2013	L La More	0%

The new page will have one goal listed – Summer Practice. Click this link.

### Goals » Summer Practice DUE ON AUG 12, 2013

Skill	Completion
<a href="#">Converting standard notation to scientific notation</a>	0%
<a href="#">Adding/Subtracting with scientific notation</a>	0%
<a href="#">Determining accuracy of values</a>	0%
<a href="#">Counting Significant Digits</a>	0%
<a href="#">Rounding to appropriate significant digits</a>	0%

Click on the skill link to complete each skill. All skills should be completed by the first day of school. When you have mastered a skill, the program will ask if you wish to go to the next set of practices. For most of the skills you will find that you will be able to master them in a relatively short time. The skills are divided into groups. You will be graded on skill completion and a quiz when you return to school.



- Home
- Play Multiplayer
- Unit Challenge

STANDARD NOTATION AND SCIENTIFIC NOTATION

Overview

- [Converting standard notation to scientific notation](#)
- [Converting scientific notation](#)

#### Standard Notation and Scientific Notation

0/0 00:07

[Practice](#) [Watch Video](#)

Convert the following to scientific notation

0.00289 =

Also for Pre-AICE Chemistry...

Using A Balance

<http://www.ohaus.com/input/tutorials/tbb/tbbentry.swf>

This is an interactive site to practice reading a balance (not a scale).

Again, the DUE DATE is the first day of school. If you have any questions, please feel free to e-mail me at [lamorel@pcsb.org](mailto:lamorel@pcsb.org)

## **AP Human Geography**

Students must learn all of the countries of Europe. There will be a test the second week of school.

## **AICE Biology**

This course is designed to help you to pass The AICE AS level Biology test. This is a college level course and as a result you will be expected to study both inside and outside of the classroom. Your first learning opportunity begins over the summer.

If you look at the Cambridge website, they have provided a learner's guide which can be found here:

<http://www.cie.org.uk/images/150289-cambridge-learner-guide-for-as-and-a-level-biology.pdf>

This guide explains the outline of the test and the syllabus for the class. You may want to look at this guide so that you can see what the test will be like. This guide is for both the AS and A level test, so we will only be covering the AS level material. For example, you will take tests (they call them papers) 1-3. Papers 4 and 5 are for the A level test. We will be covering this all year but you may want to look at the learners guide to get a head start.

Biology contains many vocabulary words and as a result, knowing common prefixes and suffixes can help you to learn vocabulary more quickly and easily. I have provided a list of the most common prefixes and suffixes and you need to memorize these by the first day of school. I suggest making flashcards.

The first unit is about cells and using the microscope. In Pre-AICE Biology you learned about cells and their organelles. You need to review the following information over the summer and come back to school ready to be tested. You should be able to:

A) **Recognize** on a diagram the following cell structures and **outline their functions**:

- 1) cell membrane
- 2) nucleus, nuclear envelope and nucleolus
- 3) rough endoplasmic reticulum
- 4) smooth endoplasmic reticulum
- 5) Golgi body (Golgi apparatus or Golgi complex)
- 6) mitochondria
- 7) ribosomes
- 8) lysosomes
- 9) centrioles and microtubules
- 10) chloroplasts
- 11) cell wall

- 12) plasmodesmata
- 13) large permanent vacuole and tonoplast of plant cells

B) Explain the differences between plant and animal cells.

There are many websites that can help you with this material. Here are a couple of suggestions:

<http://www.cellsalive.com/sitemap.htm>

<https://nevelbiology.wordpress.com/biology-units/unit-cells/>

C) Be able to compare and contrast Prokaryotes and Eukaryotes

The following site has two charts at the bottom that summarizes the needed information.

<https://14solvr.wordpress.com/2012/08/29/2-2-3-prokaryotic-and-eukaryotic-cells/>

In summary, be ready to be tested on the prefixes/suffixes, the organelles of the cells, the differences between plant/animal cells, and prokaryotes/eukaryotes.

If you have any questions please email Meghan Diskey at [diskeym@pcsb.org](mailto:diskeym@pcsb.org).

### **AICE Environmental Management**

Mr. Scheuer ([scheuerg@pcsb.org](mailto:scheuerg@pcsb.org))

Four items will help you prepare for your course work in the AS Environmental Management Course:

- 1) Please research the needs of, effects on, and dangers to humans in long term space travel. Please bring a list summarizing these considerations and proposed solutions to each to the first day of class.
- 2) Construct a list of current environmental issues the World is dealing with. Bring this to the first day of class.
- 3) Please read and understand the two resources on writing a scientific research paper. Consider an environmental issue you are interested in, and would like to learn more about, then begin to think about how you would design an experiment and write about your research in the paper format?

The two resources on writing a scientific research paper:

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3178846/> How to Write Your First Research Paper, Elena D. Kallestinova, Yale Journal of Biology and Medicine, 2011

<http://www.columbia.edu/cu/biology/ug//research/paper.html> Writing A Scientific Research Article, Columbia University, 2014

4) **Optional:** I am going to read this summer-

[\*Collapse: How Societies Choose to Fail or Succeed\*](#), Jared Diamond, published in 2005, examines a range of past societies in an attempt to identify why they either collapsed or continued to thrive and considers what contemporary societies can learn from these historical examples. As in *Guns, Germs, and Steel*, he argues against explanations for the failure of

past societies based primarily on cultural factors, instead focusing on ecology. Among the societies mentioned in the book are the [Norse](#) and [Inuit](#) of [Greenland](#), the [Maya](#), the [Anasazi](#), the indigenous people of [Rapa Nui](#) (Easter Island), Japan, Haiti, the [Dominican Republic](#), and modern [Montana](#). The book concludes by asking why some societies make disastrous decisions, how big businesses affect the environment, what our principal environmental problems are today, and what individuals can do about those problems. Like *Guns, Germs, and Steel*, *Collapse* was translated into dozens of languages, became an international best-seller, and was the basis of a television documentary produced by the National Geographic Society.<sup>[18][19]</sup> It was also nominated for the [Royal Society Prize for Science Books](#).<sup>[13]</sup> Join me in reading this book and we will have a “Book Club” like discussion during a few after school discussions early next school year.

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**AICE European History**

**You are to staple top left corner in this order: cover page including your name, timeline, doc sheets, map, and essay**

**(I do not need copies of the documents)**

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**(1)This is the Document Sheet you will use to complete all the documents attached; One doc sheet per document.  
There are 6 documents total.**

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**Document Analysis Sheet - AICE**

**Name:** \_\_\_\_\_

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Document number or letter \_\_\_\_\_ Author \_\_\_\_\_ Source \_\_\_\_\_

Date \_\_\_\_\_ Primary Source  Secondary Source

Main Idea of Document:

Key quote, image, or data:

Inference/Assumption:

Authors Purpose:

5 Facts from source:

- 1.
- 2.
- 3.
- 4.
- 5.

**(2) After reading and completing all 6 doc sheets; choose any 2 docs, and type a 300 word summary comparing those 2 docs of your choice.**

**Documents of German Unification, 1848-1871**

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**Document 1: Johann Gustav Droysen: Speech to the Frankfurt Assembly, 1848**

We cannot conceal the fact that the whole German question is a simple alternative between Prussia and Austria. In these states German life has its positive and negative poles--in the former, all the interests which are national and reformatory, in the latter, all that are dynastic and destructive. The German question is not a constitutional question, but a question of power; and the Prussian monarchy is now wholly German, while that of Austria cannot be. . . .We need a powerful ruling house. Austria's power meant lack of power for us, whereas Prussia desired German unity in order to supply the deficiencies of her own power. Already Prussia is Germany in embryo. She will "merge" with Germany. . .

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**Document 2: Friedrich Wilhelm IV, King of Prussia: Proclamation of 1849 to the Frankfurt Assembly**

I am not able to return a favorable reply to the offer of a crown on the part of the German National Assembly [meeting in Frankfurt], because the Assembly has not the right, without the consent of the German governments, to bestow the crown which they tendered me, and moreover because they offered the crown upon condition that I would accept a constitution which could not be reconciled with the rights of the German states.

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**Document 3: Otto von Bismarck: Letter to Minister von Manteuffel, 1856**

Because of the policy of Vienna [the Congress of Vienna, 1815], Germany is clearly too small for us both [Prussia and Austria]; as long as an honorable arrangement concerning the influence of each in Germany cannot be concluded and carried out, we will both plough the same disputed acre, and Austria will remain the only state to whom we can permanently lose or from whom we can permanently gain. . . .I wish only to express my conviction that, in the not too distant future, we shall have to fight for our existence against Austria and that it is not within our power to avoid that, since the course of events in Germany has no other solution.

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**Document 4: Field Marshal Helmuth von Moltke: 1866**

The war of 1866 [between Prussia and Austria] was entered on not because the existence of Prussia was threatened, nor was it caused by public opinion and the voice of the people; it was a struggle, long foreseen and calmly prepared for, recognized as a necessity by the Cabinet, not for territorial aggrandizement, for an extension of our domain, or for material advantage, but for an ideal end--the establishment of power. Not a foot of land was exacted from Austria, but she had to renounce all part in the hegemony of Germany. . . Austria had exhausted her strength in conquests south of the Alps, and left the western German provinces unprotected, instead of following the road pointed out by the Danube. Its center of gravity lay out of Germany; Prussia's lay within it. Prussia felt itself called upon and strong enough to assume the leadership of the German races.

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### **Document 5: Otto von Bismarck: 1866**

We had to avoid wounding Austria too severely; we had to avoid leaving behind in her any unnecessary bitterness of feeling or desire for revenge; we ought rather to reserve the possibility of becoming friends again with our adversary of the moment, and in any case to regard the Austrian state as a piece on the European chessboard. If Austria were severely injured, she would become the ally of France and of every other opponent of ours; she would even sacrifice her anti-Russian interests for the sake of revenge on Prussia. . . .The acquisition of provinces like Austria Silesia and portions of Bohemia could not strengthen the Prussian state; it would not lead to an amalgamation of German Austria with Prussia, and Vienna could not be governed from Berlin as a mere dependency. . . .Austria's conflict and rivalry with us was no more culpable than ours with her; our task was the establishment or foundation of German national unity under the leadership of the King of Prussia.

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### **Document 6: The Imperial Proclamation, January 18, 1871**

Whereas the German princes and the free cities have unanimously called upon us to renew and to assume, with the restoration of the German Empire, the German imperial office, which has been empty for more than sixty years; and Whereas adequate arrangements have been provided for this in the constitution of the German Confederation;

We, Wilhelm, by the grace of God King of Prussia, do herewith declare that we have considered it a duty to our common fatherland to answer the summons of the united German princes and cities and to accept the German imperial title. In consequence, we and our successors on the throne of Prussia will henceforth bear the imperial title in all our relations and in all the business of the German Empire, and we hope to God that the German nation will be granted the ability to fashion a propitious future for the fatherland under the symbol of its ancient glory. We assume the imperial title, conscious of the duty of protecting, with German loyalty, the rights of the Empire and of its members, of keeping the peace, and of protecting the independence of Germany, which depends in its turn upon the united strength of the people. We assume the title in the hope that the German people will be granted the ability to enjoy the reward of its ardent and self-sacrificing wars in lasting peace, within boundaries which afford the fatherland a security against renewed French aggression which has been lost for centuries. And may God grant that We and our successors on the imperial throne may at all times increase the wealth of the German Empire, not by military conquests, but by the blessings and the gifts of peace, in the realm of national prosperity, liberty, and morality. Wilhelm I, Kaiser und König.

*Source: From: James Harvey Robinson, ed., Readings in European History, 2 Vols., (Boston: Ginn and Co., 1904-1905), II:571-575; Otto von Bismarck, The Man and Statesman, (New York, 1899), II:48-51*

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**(3) We will be reading these books throughout the year, if you wanted to purchase your own copy and get a head start on reading them:**

- (1) A Tale of Two Cities, by Charles Dickens
- (2) Doctor Zhivago, by Boris Pasternak
- (3) All quiet on the Western Front, by Erich Maria Remarque
- (4) North and South, by Elizabeth Gaskell



**(4) Create a timeline, any way you want using these dates and countries, list the important events, leaders and outcomes:**

Germany- 1834,1848,1849,1858,1862,1864,1870,1871,1873

Italy - 1831,1834,1846,1848,1849,1856,1858,1861,1866,1870

**(5)Label and Color this Europe Map, all 39 countries.**



## Key Root Words, Prefixes and Suffixes that all college-bound students should be aware of:

a-, an- not, without, lacking, deficient  
ab- away from, out from  
ad- to, toward  
adip- fat  
aero- air  
ambi- both  
amphi-, amphi- both  
amyl- starch  
ana- up, back, again  
angi- blood, vessel, duct  
ante- before, ahead of time  
anter- front  
anti- against, opposite  
apo-, ap- away from  
aqu- water  
arteri- artery  
-ase forms names of enzymes  
auto- self  
bene- well, good  
bi- (Latin) two twice  
cardi- heart  
cata- breakdown, downward  
-cell- chamber, small room  
circa-, circum- around, about  
-cycle, cycl- ring, circle  
-cyst- sac, pouch, bladder  
cyt-, -cyte cell, hollow container  
de- away from, down  
di-, dipl- (Latin) two, double  
di-, dia- (Greek) through, across, apart  
dis- apart, out  
dors- back  
du-, duo- two  
ec- out of, away from  
ecto- outside of  
en-, endo-, ent- in, into, within  
epi- upon, above, over  
-escent becoming  
eso- inward, within, inner  
eu- well, good, true, normal  
ex- out of, away from  
-glob- ball, round  
gluc-, glyc- sweet, sugar  
-gross- thick  
hem- blood  
hemi- half  
hetero- different, other  
hist- tissue  
holo- entire, whole  
homo- (Greek) same, alike

hydr- water  
hygr- moist, wet  
hyper- above, beyond over  
hypo- below, under, less  
inter- within, inside  
intra- between  
iso- equal, same  
-ium refers to a part of the body  
-kary- cell nucleus  
lat- side  
-less without  
lip- fat  
-lys, -lyt, -lyst decompose, split, dissolve  
macr- large  
mes- middle, half, intermediate  
met-, meta- between, along, after  
mis- wrong, incorrect  
mono- one, single  
morph- shape, form  
multi- many  
mycel- threadlike  
non- not  
nuc- center  
ob- against  
orb- circle, round, ring  
-ous full of  
par-, para- beside, near, equal  
per- through  
peri- around  
phag- eat  
pheno- show  
-phil- loving, fond of  
-phore,, pher- bear, carry  
plasm-, -plast- form, formed into  
por- opening  
post- after, behind  
pre- before, ahead of time  
pro- forward, favoring, before  
re- again, back  
sacchar- sugar  
schis-, schiz- split, divide  
-scribe, -script write  
semi- half, partly  
-sis condition, state  
spec- look at  
-spher- ball, round  
stom-, -stome mouth  
strict- drawn tight  
sub- under, below  
super-, sur- over, above, on top  
sym-, syn- together  
tele- far off, distant

telo- end  
-the-, -thes- put  
therm- heat  
-tom- cut, slice  
trans- across  
-trop- turn, change  
-troph- nourishment, one who feels  
-ul-, -ule diminutive, small  
vas- vessel  
vect- carry  
ven-, vent- come  
ventr- belly, underside  
-verge turn, slant  
vit-, viv- life  
xyl- wood  
zyg- joined together



