

# Public Academy for Performing Arts Class Syllabus

## Chemistry

### *Teacher Information*

Teacher: Mr. Ramirez

Room #7

Email: [cramirez@paparts.org](mailto:cramirez@paparts.org)

Teacher website: <http://edmodo.com>

Phone: 505-830-3128 ext 24610

Office hours: My prep is HS 5<sup>th</sup> period and I am always welcoming of students during lunch or after school (usually past 8<sup>th</sup> period).

### *Course Description*

In this class, we will explore the chemical composition of matter and the relationships between these components. We will incorporate labs, group work, research projects, and various other methods of discovery to learn the tools of science, methods of scientists, and gain better perspectives on the microscopic and macroscopic levels of life. The sciences are a very difficult field. Please understand that although the class material may be hard to grasp at times, I will do my best to help you achieve in this class.

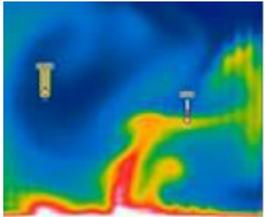
### *Remind App/Edmodo*

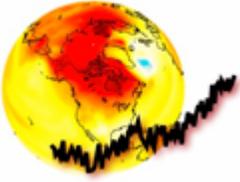
This year I will be utilizing a phone app called Remind. This will be used to communicate with students about due dates, tests, quizzes, announcements, etc. I am also posting all homework, course curriculums, syllabus's, notes, and references to my edmodo webpage. The code will be given in class.

### *Skills and Major Topics Covered*

This class will begin with scientific methods, safety, and equipment necessary for scientists. The next step in the course will be an introduction to energy in a chemical sense. We will then see how energy in the form of heat affects our planet and is intertwined in our lives.

We will then move onto the periodic table, elements, and chemical reactions. And finally, we will learn about the chemistry of climate change and all of the impacts of humanity on this planet.

	<p><b>1</b> <b>Combustion</b></p>	<p>In this brief introductory unit, students investigate the amount of stored chemical potential energy in food. They make observations of material properties at the bulk scale that they will later explain in the atomic scale. The themes of combustion and CO<sub>2</sub> tie together several of the Instructional Segments.</p>
	<p><b>2</b> Heat and Energy in the Earth System</p>	<p>Students develop models of energy conservation within systems and the mechanisms of heat flow. They relate macroscopic heat transport to atomic scale interactions of particles, which they will apply in later units to construct models of interactions between atoms. They use evidence from Earth's surface to infer the heat transport processes at work in the planet's interior.</p>
	<p><b>3</b> Atoms, Elements, and Molecules</p>	<p>Students recognize patterns in the properties and behavior of elements, as illustrated on the periodic table. They use these patterns to develop a model of the interior structure of atoms and to predict how different atoms will interact based on their electron configurations. They use chemical equations to represent these interactions and begin to make simple stoichiometric calculations.</p>
	<p><b>4</b> Chemical Reactions</p>	<p>Students refine their models of chemical bonds and chemical reactions. They compare the strength of different types of bonds and attractions and develop models of how energy is stored and released in chemical reactions.</p>

	<p style="text-align: center;"><b>5</b></p> <p style="text-align: center;">Chemistry of Climate Change</p>	<p>Students develop models of energy flow in Earth's climate. They revisit combustion reactions from IS1 to focus on emissions from fossil fuel energy sources. They apply models of the structures of molecules to explain how different molecules trap heat in the atmosphere. Students evaluate different chemical engineering solutions that can reduce the impacts of climate change.</p>
	<p style="text-align: center;"><b>6</b></p> <p style="text-align: center;">Dynamics of Chemical Reactions and Ocean Acidification</p>	<p>Students investigate the effects of fossil fuel combustion on ocean chemistry. They develop models of equilibrium in chemical reactions and design systems that can shift the equilibrium. Students conduct original research on the interaction between ocean water and shell-building organisms.</p>

### *Textbooks*

There are unfortunately only enough textbooks for a class set, and some to be checked out overnight. I do expect every student to take care of all textbooks to prolong their life for PAPA.

### *Materials Necessary*

Every student will be expected to have a notebook/ binder for class notes and bell ringers. Students are expected to have a pen/pencil every day and will be forced to put down collateral if they need to borrow one from me. All other materials needed will be announced at a future date when necessary.

### *Late Work/ Make-up Work*

All late work/make-up assignments will be accepted for full credit at a reasonable timeframe for excused absences only. Late work turned in without an excused absence will be accepted up to 1 week late. However, each day of lateness will be penalized by 15% of the full grade.

## *Grading*

Grading will consist of a total point system, in which all grades, unless otherwise stated, will be of an equal weighting. Semester grades will consist of 40% period 1, 40% period 2, and 20% final exam.

The grading scale will go as follows.

<b>Letter Grade</b>	<b>Percentage Points</b>
A+	100 – 97
A	96.9 – 93
A-	92.9 – 90
B+	89.9 – 87
B	86.9 – 83
B-	82.9 – 80
C+	79.9 – 77
C	76.9 – 73
C-	72.9 – 70
D+	69.9 – 67
D	66.9 – 63
D-	62.9 – 60
F	Below 60

## *Extra Credit*

Extra credit is a privilege not a right. I will offer extra credit at my own discretion. If you whine too much for extra credit, I will not want to offer any. However, I do have a heart and will reward extra effort when pertinent.

## *Class Rules and Procedures*

Students are expected to follow a set of procedures to ensure that everyone has a fair and enjoyable experience in this class. Likewise, I have a set of rules for myself that I believe will promote respect and learning from both sides of the classroom.

For Students

- 1) Be respectful of your peers your teachers, and all faculty in the school.
- 2) Be fully prepared to learn every day in class. This includes having a good mindset in addition to having all necessary supplies and work ready.

- 3) Participate. It is necessary for scientists, and students, to be able to work together and collaborate.

For Myself

- 1) I will in turn show respect to all of my students.
- 2) I will come to each class prepared to teach and have everything ready for you.
- 3) I will do my best to foster an environment that promotes rigor and safe collaboration.

### *Food and Drink Policy*

Students may not eat in my class unless they have received prior permission from myself (not very likely). You may finish your snacks before entering my class or place them on the side ledge by the entrance until you leave. Students may drink water freely. Anything else must be in a spill resistant container (soda with a cap or bottle that snaps/locks shut)

### *Trash Throwing*

Please don't do it. You will pick up trash and/or come in to vacuum later.