# Physical Science Syllabus

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***Every student has the right to learn and succeed in a safe environment.***

## **Text**: Students will be using a variety of resources to reinforce all key concepts taught in this course.

## **Description:**

Students will be exploring various aspects of science including scientific inquiry, structure and properties of matter, chemical reactions, energy, forces and motion and forces and energy, interactions of forces, waves, electromagnetic radiation, and nuclear processes. Students will take part in labs, group work, and research projects that reinforce key concepts. All concepts that are taught throughout this course are working in alignment of the *Next Generation Science Standards.*

## **Goals:**

1. Learn the facts, formulas, and principles of Chemistry and Physics.
2. Understand the basic concepts underlying the facts, formulas, and principles of Chemistry and Physics.
3. Develop critical-thinking and problem-solving skills, not only to use in chemistry but, by extension, to use in everyday life.

**Class Guidelines:**

1. Attitude – Respect, Effort, Courtesy
   1. **Be Polite**: **RESPECT** me as the teacher and each other as fellow learners. Respect yourself and your learning environment. Listen when others are speaking and work cooperatively at all times! Refrain from sarcasm, loud outbursts, and foul/inappropriate language and/or behavior.
2. Attendance – Daily, On Time, On Task
   1. **Be Productive**: Follow directions at all times. Contribute positively during all class work and cooperative group assignments. Stay on task and focused!
   2. **Be Prompt**: Class begins when the bell rings… **be in your assigned seat at the sound of the bell.** Begin working on the “question of the day” after entering the class.
   3. **Be Prepared**: Bring your folder and something to write with to class every day. \*Bring completed homework assignments to class; anassignment is considered late if it is not in your possession at the start of the class period.
3. Achievement – Your Best Effort

## **Requirements:**

Students are expected to attend class, complete assignments, and participate in class discussion.

Students are expected to attend all laboratory sessions. Make-up laboratories will be allowed only for excused absence.

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| Evaluation and Grading:  * Tests – 45% * Homework – 25% * Lab Activities– 15% * Projects – 105 * Class Participation – 5% | Grades:  * A: 100 to 93.5 * A-: 93.4 to 89.5   B+: 89.49 to 86.5   * B: 86.49 to 83.5 * B-: 83.49 to 79.5 * C+: 79.49 to 76.5 * C: 76.49 to 73.5 * C- 73.49 to 69.5 * D+: 69.49 to 66.5 * D: 66.49 to 63.4 * D-: 63.49 to 59.5 * F: 59.49 and below |

Course Content:

* Chemical Building Blocks
  + Intro to Matter
  + Changes in Matter
  + Elements and Periodic Table
  + Carbon Chemistry
* Chemical Interactions
  + Chemical Reactions
  + Atoms and Bonding
  + Acids, Gases, and Solutions
  + Exploring Materials
* Motion, Forces, and Energy
  + Motion
  + Forces
  + Forces in Fluids
  + Work and Machines
  + Energy and Power
  + Thermal Energy and Heat
* Sound and Light
  + Characteristics of Waves
  + Sound
  + Electromagnetic Spectrum
  + Light

**Materials Required:**

1. Notebook (2-4 single College ruled or 1-3/5 subject notebook)
2. Pocket folder
3. Pen and pencil
4. Calculator
5. Textbook

**LAB Experiments and Activities**

Goals of activities are to acquaint yourself with a particular physical phenomenon. You will be observing relationships, identifying variables, and developing tentative explanations of phenomena in a qualitative fashion

Experiments are more quantitative in nature and generally involve acquiring data in a prescribed manner. A greater emphasis will be placed on learning how to use a particular piece of equipment, making measurements, identify and estimating errors, organizing data, and interpreting data.

**Lab Reports**

Should be written so another student taking physics can read your report and understand what you did well enough to replicate your work. (see lab rubric)

Guidelines:

1. Lab number and title – Write your name, data, and period in the upper right-hand corner of your report. Include the names of your partners underneath.
2. Purpose – Writ a brief statement of what you were exploring, verifying, measuring, investigating, etc.
3. Method – make a rough sketch of the apparatus you used and a brief description of how you planned to accomplish your lab
4. **Data** – show a record of your observations and measurements, including all data tables.
5. **Analysis** – show calculations performed, any required graphs, and answers to questions. Summarize what you accomplished in the lab.

Homework assignments are due on the assigned date. Late work will be adjusted according to the following percents: **10% each day/late after 5 days assignment will be recorded as late and given a zero.**

## All students are expected to turn in work for credit. It must be **your own work in your own words,** unless clear and explicit acknowledgement of the sources of the work is given. Give credit where credit is due. This does not mean that you cannot collaborate, just make sure that the work you turn in is in your own words, and not just a copy of the work of your collaborators.

**Technology Use**

The appropriate use of technology in this classroom is required. As part of our curriculum, students will be using technology. Students must abide by the Acceptable Use Policy put together by the district. If a student fails to follow the rules of the Acceptable Use Policy, they may lose their technology privileges in this classroom, as well as any other consequences outlined in the Acceptable Use Policy.

**Cell Phones/iPods:** Cell phones and iPods are prohibited in this classroom unless otherwise specified during a specific class period. If a student is found using their electronic devices, they will be taken and stored in a safe location. If an electronic device is taken before lunch period, the student may pick up their device at the end of the day. If an electronic device is taken after lunch period, the student may pick up their device the next morning.

Physical Science Syllabus

Please sign and return the bottom portion of this syllabus. Please return no later than Friday, September 9, 2013**. (15 points ~ extra credit)**

We have read the class expectations and syllabus. We understand what is expected of each student and agree to follow all expectations in the classroom and lab to protect ourselves and to ensure a successful year.

Student Signature \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Parent/Guardian Signature \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_