

## Physical Science Syllabus

James Clemens High School  
11306 County Line Road  
rehenson@madisoncity.k12.al.us  
Madison, AL 35756

Teacher: Rachael Henson  
Email:  
Phone: 256-216-5313

### **I. Course Description:**

This course surveys concepts taught in chemistry and physics, requires basic math skills, prepares the student for continued study in science, and meets the physical science graduation requirement. This course is recommended for students going through Algebra 1A and 1B to help better prepare them for Chemistry.

### **II. Course Objectives:**

Students will:

- Use the periodic table as a model to predict properties and trends of main group elements based on patterns of valence electrons.
- Identify the relationship that exist among pressure, volume, density, and temperature of a confined gas.
- Determine the role of electrons in chemical bonding and interpret chemical equations.
- Analyze data using acid-base indicators to distinguish between acids and bases, including comparisons between strong and weak acids and bases
- Develop models to illustrate the concept of half-life for radioactive decay.
- Analyze and interpret basic motion graphs including displacement, velocity, and acceleration.
- Discuss the motion of a system by applying Newton's Laws
- Design models to demonstrate simple circuits.
- Discuss conservation of momentum using mathematical equations and diagrams.
- Discuss the conservation and transformation of energy.

### **III. Classroom Expectations:**

1. Be respectful. Practice courtesy and mutual respect. Treat others as you would like to be treated. The classroom and laboratory are to be regarded as a safe and supportive learning environment.
2. Attend class and be on time. Come prepared to learn with all materials. Tardy means that you are not in the room and seated when the bell rings. JCHS policy governs the consequences for tardiness.
3. Participate and act in a professional manner.
4. Help provide an excellent learning environment, where everyone is able to be productive.
5. Keep cell phones / devices put away and turned off throughout the entire class unless explicitly approved by the teacher.

#### **Accommodations:**

Requests for accommodations for this course or any school event are welcomed from students and parents.

#### **Concerning laptop utilization:**

1. Student laptops should not be hard wired to the network or have print capabilities.
2. Use of discs, flash drives, jump drives, or other USB devices will not be allowed on Madison City computers.
3. Neither the teacher, nor the school is responsible for broken, stolen, or lost laptops.
4. Laptops and other electronic devices will be used at the individual discretion of the teacher.

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- IV. Grading Policy:** Grades are calculated according to MCBOE/JCHS policy. Tests and projects are weighted 70% and all other assessments are weighted 30% of the 9-week scores. Each 9-week score contributes 40% of the final grade for the course and the comprehensive final exam counts 20%. The grading scale is as follows: A (90-100), B (80-89), C (70-79), D (65-69), and F (below 65). Grades will be a reflection of mastery of the standards. Make sure all absences are excused as missed work can be made up and graded for excused absences only.
- V. Make-up Test Policy:** Make-up tests for **excused** absences will be given as arranged with the teacher. Students have 3 school days following a missed test to reschedule the test. Failure to keep an appointment for a makeup test will result in a zero. Make-up work for excused absences should be turned in within three days. If a student is missing an assignment, but was not absent, they must complete and submit the missing assignment sheet. If done correctly, a late assignment may be turned in for a grade if the assignment answers have not been given yet; however, the maximum grade a late assignment can earn is 75% of the original.
- VI. Text and Other Required Reading:** *Foundations of Physical Science, 3rd edition.* Tom Hsu, CPO Science, 2013.
- VII. Materials and Supplies Needed:**
- Notebooks (1-2)
  - Pencils / Pens
  - Scientific calculator (or any calculator with a square-root function)
  - Scotch tape / glue (multiple)
  - 1 roll of paper towels
  - (If desired) 1 box of tissues

Dear Parent/Guardian,

I look forward to having a great year! I feel fortunate to have your son/daughter in my class this semester and hope that you will contact me should you have any concerns about the progress of your son/daughter or any aspect of the instruction. I would also like to encourage you to frequently check iNow because it is one of the best ways to stay current with your son or daughter's progress. Please read the attached policies with your son/daughter, then sign and date this signature page, and have your son/daughter return this form. Please provide a current email address and phone number at which I can contact you should the need arise. Please contact me at school with any concerns.

Thank you,  
Rachael Henson  
Physical Science and Astronomy Teacher  
James Clemens High School

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<b>18 – WEEK PLAN*</b>	
<b>Week 1</b>	Lab Safety, Scientific Method, Measurement
<b>Week 2</b>	Scientific Method, Measurement, States of Matter
<b>Week 3</b>	States of Matter, Trends and Properties of the Periodic Table
<b>Week 4</b>	Trends and Properties of the Periodic Table
<b>Week 5</b>	Periodic Table and Chemical Bonding
<b>Week 6</b>	Chemical Bonding and Nomenclature
<b>Week 7</b>	Types of Chemical Reactions and Conservation of Mass
<b>Week 8</b>	Acids and Bases
<b>Week 9</b>	Radioactivity and Radioactive Decay
<b>Week 10</b>	Motion and Forces
<b>Week 11</b>	Forces and Newton's Laws
<b>Week 12</b>	Newton's Laws and Momentum
<b>Week 13</b>	Energy and Simple Machines, Work and Power
<b>Week 14</b>	Conservation of Energy
<b>Week 15</b>	Electricity and Circuits
<b>Week 16</b>	Energy and Waves
<b>Week 17</b>	Energy and Waves, Electromagnetic Radiation
<b>Week 18</b>	Electromagnetic Radiation and Sonar

\* The syllabus serves as a guide for both the teacher and student; however, during the term it may become necessary to make additions, deletions, or substitutions. Adequate notice will be provided to students of any necessary changes.

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My child and I have read and discussed the classroom syllabus.

Student Name (Print) \_\_\_\_\_ Date \_\_\_\_\_

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

Student Email Address \_\_\_\_\_

Parent/Guardian Name (Print) \_\_\_\_\_ Date \_\_\_\_\_

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

Parent/Guardian Email Address \_\_\_\_\_

Parent/Guardian Phone Number \_\_\_\_\_ (w) \_\_\_\_\_ (c)