Physical Science: 2022-23 school year Chrystal Vining

**Course Overview**

This course is an introductory level laboratory course covering both chemistry and physics fundamentals, designed for 9th grade students. Science develops thinking, problem-solving, and lifelong learning skills—and it’s FUN, too!! Although I strive to make this class as enjoyable as possible, I take my job as an educator very seriously. It is my intent to teach students about a subject that I love. A variety of methods will be employed to achieve course objectives: problem solving activities, laboratory work, both collaborative and independent projects, and real world applications. Critical thinking and reasoning skills will be emphasized strongly over memorization. The Georgia Performance Standards (GPS) for this class are available at <http://www.georgiastandards.org/science.asp> by choosing High School and Physical Science from the list provided. All of the activities and assignments are aligned to these standards. I am a very demanding and structured teacher.

**Objectives**

The class will cover physical science content as specified by the Georgia Performance Standards (GPS). The student will: Explore the organization, structure, and dynamics of matter (the chemistry portion) and energy systems and their dynamics (the physics portion).

## Contact

## I can be reached by email at chrystalvining@atkinson.k12.ga.us or through the school system phone if you have questions or concerns. This email goes to my phone and I will try to respond as quickly as possible. This is the best way to get to me.

**Supplies**

Students need to supply, and bring to class, **daily**: 3-ring binder or composition book with PLENTY of notebook **paper,** blue or black ink pen AND a **pencil, calculator** capable of simple math functions. Students should expect to write something in my class every day.

## Textbook

Physical Science - Pearson 2008. A textbook has been assigned to keep at home for studying and completing homework assignments. It is expected that they not be written in or carelessly mishandled. Replacement cost is $67.50.

**Make-up Work**

## Valuable learning is missed when you are absent but I realize that absences will occur. Finding out what work you missed and making arrangements for make up SHOULD be done WITHOUT DISTURBING CLASS (check with a neighbor for the warm-up question, see me before class, at lunch, or after school for other assignments). Per the handbook, you have three days to make up any missing work after an excused absence.

## Grading Policy

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| **1st 9 weeks (40% of final course grade):** At the end of the 1st 9 weeks, the grade will be recorded using the grading scale below.A 90-100, B 80-89, C 70-79, F 60-69 |
| Tests | 50% | Tests will come from assigned material. This material has been derived from the textbook and other resources. I must stress that attendance and participation in class are CRITICAL for success in this class. A portion of each test grade will come from essay. A cumulative midterm will be given and could count up to two times. Study guides will be provided.  |
| QuizzesDaily  | 30%20% | Quizzes (There are 10 of these: one per standard)Laboratory Reports, Class work , Homework, Reading Assignments |
| **2nd 9 weeks (40% of final course grade): same breakdown as 1st nine weeks** |
| **Same as 1st 9 weeks** |
| **Final (20% of final course grade):**  |

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| **Physical Science Pacing Guide One Semester** |
| **Unit One:** **Motion** | **Unit Two:** **Energy** | **Unit Three:** **Matter** | **Unit Four:** **Chemistry in Motion** | **Unit Five:****Charged!** |
| 3 weeks | 4 weeks | 3.5 weeks | 4 weeks  | 2 weeks |
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| ***Focus:*** *Force* *Motion* *Molecular Motion* *Phases of Matter* *Relationship between* *temperature,* *pressure, and volume* *of gases to molecular* *motion*  |

Chapter Resources for this unit: 2,3,5GPS standards: 2a, 5,7a,8 |

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| ***Focus:*** ***Concept connection Temperature and Phase diagram.*** *Thermal Energy* *Heat Capacity* *Energy Flow and Energy Transfer*  o *Waves*  o *Radiation, convection, and conduction*  o *Work* *Forces* *Simple Machines* o *Nuclear* *Matter*  |

Chapter Resources for this unit: 4,5,6,9,10,12,15,16GPS standards: 9,7,3a,3c |

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| ***Focus:*** ***Concept Connection*** ***Nuclear Reactions*** *Atomic Structure*  o *Nucleus*  o *Types of nuclear reactions*  o *Half life*  o *Isotope* *atomic number* *Periodic Table*  o *Electrons*  o *Trends in the periodic table due to valence electrons.*  o *Ions formed.*  o *Electron Movement* *bonding* *Forces**Current*  |

Chapter Resources for this unit: 17,18,19,20GPS standards: 1,4, 3b, 3d |

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| ***Focus:*** ***Concept Connection******Bonding*** *Covalent and Ionic Compounds* *Properties of Matter*  o *Density*  o *Solubility*  o *Acid/Base*  o *Conductivity* *Conservation of Matter* *Chemical Reactions*  |

Chapter Resources for this unit: 21,22,23GPS standards: 2,6**\*\*\*\*Schedule is a general guideline and actual times may vary. \*\*\*\*\*\*\*** |

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| ***Focus:*** ***Connecting*** ***Motion of charge particles*** *Matter Properties*  o *Insulator*  o *Conductor* *Difference of Potential Energy*  o *Current (resistance and voltage)*  o *Conductor (force* *friction)*  o *Induction*  o *Chemical Cell (conductivity through solutions)*  o *Induce Magnetic Fields*  o *Energy Transformation*  o *Motors, Permanent magnets, electromagnets* |

Chapter Resources for this unit: 7,8GPS standards: 10 |

**School wide rules:** Must be on time to class (**missing 20 minutes of any class counts as an absence in that class**.) Keep in mind that students can exempt finals.

I have read the syllabus and I understand what is expected of a student.

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| Student’s Signature\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Date\_\_\_\_\_\_\_\_\_\_ |

I have read the syllabus and I understand what is expected of the student.

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