

Physical Science Syllabus

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I. Course Description / Methods of Instruction

This course is an introductory level laboratory course covering both chemistry and physics fundamentals. Science develops thinking, problem-solving, and lifelong learning skills. This course will explore the concepts of physics- the various forms of energy and their relation to matter and the concepts of chemistry-the study of matter and changes in it. A variety of methods will be employed to achieve this objective: classroom lecture, problem solving, laboratory work, and both collaborative and independent projects, with a focus on reading, technical writing and technology integration. Critical thinking and reasoning skills will be emphasized strongly over rote memorization. Much will be expected of each student and self-directed study is essential in pursuit of academic achievement in this course.

II. Georgia Standards of Excellence (GSE)

- **SPS1** Obtain, evaluate, and communicate information from the Periodic Table to explain the relative properties of elements based on patterns of atomic structure.
- **SPS2** Obtain, evaluate, and communicate information to explain how atoms bond to form stable compounds.
- **SPS3** Obtain, evaluate, and communicate information to support the Law of Conservation of Matter.
- **SPS4** Obtain, evaluate, and communicate information to explain the changes in nuclear structure as a result of fission, fusion and radioactive decay.
- **SPS5** Obtain, evaluate, and communicate information to compare and contrast the phases of matter as they relate to atomic and molecular motion.
- **SPS6** Obtain, evaluate, and communicate information to explain the properties of solutions.
- **SPS7** Obtain, evaluate, and communicate information to explain transformations and flow of energy within a system.
- **SPS8** Obtain, evaluate, and communicate information to explain the relationships among force, mass, and motion.
- **SPS9** Obtain, evaluate, and communicate information to explain the properties of waves.
- **SPS10** Obtain, evaluate, and communicate information to explain the properties of and relationships between electricity and magnetism.

III. Units of Study/Pacing Guide - Each unit will take approximately 3 weeks to complete.

- Unit 1 - Motion
- Unit 2 - Energy
- Unit 3 - Waves
- Unit 4 - Atoms
- Unit 5 - Solutions
- Unit 6 - Electricity and Magnetism

IV. Required Materials - Unless you are told otherwise, bring **ALL** required materials to class every day.

- Pencils
- Three ring binder filled with paper
- Calculator

V. Grading

- Your overall grade is determined by an 18-week average and a final exam
 - The 18-week average makes up 80% of your grade.
 - The final exam makes up 20% of your grade.
- Your 18 week average is calculated in the following way:
 - Tests: 50% (The mid-term counts as two test grades.)
 - Labs, quizzes, and projects: 30%
 - Class work assignments and homework assignments: 20%

VI. Make up Work

- After an absence it is the responsibility of the student to check with the teacher to find out the assignments missed. Failure to ask for missed work does not excuse the student from the assignment. Work missed due to an excused absence must be made up within three days. Failure to make arrangements within the allotted time will result in a zero for all work missed. Work missed during an unexcused absence cannot be made up. If you miss the day of a test, be prepared to take a make-up test the day you return to school. Missed labs must be made up at the teacher's convenience.