

Physical Science Syllabus 2015-2016

Instructors: Mr. Tommy Hipp
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Course Description: Physical science is a survey course designed to teach students valuable scientific concepts. This course focuses on chemistry and physics content according to the Georgia Department of Education objectives (Georgia Performance Standards). For review, please visit <https://www.georgiastandards.org/Standards/Pages/BrowseStandards/ScienceStandards9-12.aspx>

As of 2003-2004, the Georgia Department of Education has instituted an End of Course test (EOC) for the physical science course. The EOC will average into a student's final course grade as 20% of the final grade. The design of this class is based upon preparation for the EOC. Details and practice questions for the EOC are also available at

<https://www.georgiastandards.org/resources/Pages/Tools/TestingResources.aspx>

Proposed Course Outline: Subject to change as needed.

Unit	Topic	GPS	EOCT domain
First 18 weeks-Physics			
1	Scientific method, safety, measurement, prefixes, conversion, scientific notation, dimensional analysis (factor-label), graphing, and nanotechnology	SCSh1- SCSh8	1
2	Electricity and magnetism, static electricity, Ohm's Law, electric circuits, electricity to magnetism and magnetism to electricity	SPS8a-d	5
3	Work, power, simple machines, mechanical advantage, mechanical efficiency, forms of energy, conversions, law of conservation of mass and energy, potential and kinetic energy	SPS8e	6
4	Energy, heat and thermodynamics, conduction, convection, radiation, specific heat, calories, melting and boiling points, thermal expansion, alternative energy sources	SPS7a-d	6
5	Waves and sound, introduction to waves, types of waves, wave characteristics and interactions, refraction, reflection, diffraction, speed of sound, sound barrier, intensity, decibel, Hertz, Doppler effect, music vs. noise, electromagnetic spectrum, light and color, reflection, refraction, light sources, vision, mirrors and lenses, microscopes, lasers	SPS9a-f	7
6	Motions and forces, speed, velocity, acceleration, circular motion, gravity, Newton's laws	SPS8a-d	5
7	Characteristics of matter and solutions, chemical/physical properties, phases of matter, chemical/physical changes	SPS2a, SPS5a-b, SPS6a	2
8	Atomic structure, periodic table (development and arrangement), nuclear changes, metals, nonmetals, metalloids, periods, groups/families, quantum mechanics	SPS1a, SPS3a-d, SPS4a-b	3

9	Covalent and ionic compounds, electron movement (bonding – covalent & ionic), nomenclature (ionic & covalent), chemical reactions and reaction types, and rate of reactions	SPS1b, SPS2b,SPS2c, SPS2d., SPS2e, SPS6b-e	4
10	Acids and bases, pH scale, neutralization reaction, strong acids and strong bases, and household chemicals	SPS6a	2

Because this is a small group setting, the above timetable will be flexible based on the pace of the class. Some units may be divided and others condensed. All changes will be published on ITS Learning.

Materials: Binder or notebook, loose leaf paper, pencil/pen, and basic scientific calculator.

My expectations for students:

1. All students should be ready to begin work when the tardy bell rings.
2. All SFHS Student Code of Conduct rules will be enforced.
3. Follow the 5 P's: Be prepared, polite, productive, prompt and positive.
4. Act in a responsible manner; be very careful and attentive during lab activities.
5. If work is not neat and legible, it will not be graded.
6. Each student is expected to participate in all class activities to the best of their ability.
7. Students should demonstrate respect to other students in class and their belongings.
8. Disruptive behavior is distracting to the learning process and will not be tolerated.

Academic Honesty: Please remember that you are pursuing academic credit toward state graduation requirements for work that **you perform** and for the grades that **you earn**. Academic dishonesty in any form will not be tolerated and will be handled in accordance to the policies in the SFHS Student Code of Conduct.

Make-up Work: All students are responsible for material covered in class regardless of attendance. If a student should be absent, it is his/her responsibility to obtain class notes. Students will use Replacement Worksheets (on ANGEL) to replace any missed or poorly scored daily work.

Grading Policy:

75% Summative

25% Formative

Course Average (Composite Grade) Year long Courses:

Semester 1 = 40.0%

Semester 2 = 40.0%

EOC = 20%

I have read the syllabus for Mr. Hipp's Physical Science class and I understand all of the information and policies stated.

Student Signature

Date

Parent/Guardian Signature

Date