

## SC2030/ Physical Science 2 Syllabus

Course Title----- Physical Science 2  
 Course Number----- SC2030  
 Grades:----- 09-09  
 High School Credit Value:----- 0.5  
 Prerequisites:----- Successful completion of Physical Science 1

Course Length:----- Regular courses: 17 weeks  
 CR: 9-17 weeks.

Course Time:----- Regular courses: 17 week schedule: 75 - 90 minutes per school day (6-7.5 hours per week)  
 Credit Retrieval: 75 - 90 minutes per school day (6-7.5 hours per week) until course completion.

### { Course Description }

Physical Science 2 is the second semester of a full year science course offering a broad introduction to the scientific method, performing scientific experiments, and analyzing data. Topics include an introduction to basic physics and astronomy. A semester final exam is required. This course helps meet the state minimum requirements of 2.0 science credits in addition to it meeting a lab requirement. Please check with your district for more specific requirements.

**Course Materials:**

Technical requirements include the ability to download and use freeware such as Adobe Acrobat and Flash. PowerPoint presentation software is also recommended.

**State Alignments**

Washington State Standards guided the design of the course. Learning expectations are found within the course itself.

This course is designed to correspond to the FWSD Power Standards

PS1. Systems thinking can be especially useful in analyzing complex situations. To be useful, a system needs to be specified as clearly as possible.	Unit 3
PS2. Plan an appropriate scientific investigation to answer a research question.	Semester 1
PS3. Collect data to answer research questions.	Semester 1
PS4. Display and analyze data to answer research questions, using available technical devices.	Semester 1
PS5. Conclusions must be logical, based on evidence, and consistent with prior established knowledge.	Unit 5
PS6. Public communication among scientists is an essential aspect of research. Scientists evaluate the validity of one another's investigations, check the reliability of results, and explain inconsistencies in findings.	Semester 1
PS7. Scientists carefully evaluate sources of information for reliability before using that information. When referring to the ideas or findings of others, they cite their sources of information.	Semester 1

PS8. Perfect solutions do not exist. All technological solutions involve trade-offs in which decisions to include more of one quality means less of another. All solutions involve consequences, some intended, others not.	Unit 3
PS9. Changes in the motion of objects are caused by forces, and can be predicted using Newton's laws.	Unit 1 and 2
PS10. Although energy can be transferred from one object to another and can be transformed from one form of energy to another form, the total energy in a closed system remains the same. The concept of conservation of energy, applies to all physical and chemical changes.	Unit 4, Unit 5
PS11. Atoms are composed of protons, neutrons, and electrons. The nucleus of an atom takes up very little of the atom's volume but makes up almost all of the mass. The nucleus contains protons and neutrons, which are much more massive than the electrons surrounding the nucleus. Protons have a positive charge, electrons are negative in charge, and neutrons have no net charge.	Semester 1
PS12. Atoms of the same element have the same number of protons. The number and arrangement of electrons determines how the atom interacts with other atoms to form molecules and ionic crystals.	Semester 1

### Course Outline

#### 17 Week Session

Unit 1 Motion, 2 weeks

Unit 2 Force, 3 weeks

Unit 3 Waves, 3 weeks

Unit 4 Energy, 4 weeks

Unit 5 Astronomy, 3 weeks

Unit 6 Scientific Inquiry, 1 week

Course Reflection & Semester Final, 1 week

### Course Work

Students are expected to put in 6-8 hours per week to complete their lessons. Teacher may return assignments and ask student to make modifications if it does not meet minimum standards. Assignments include formative assessments, summative assessments, research essays, and a semester final.

Assignments are submitted online, with rare exception. Students may contact their teacher through email, by phone, in live chat session, or during live online study sessions. Weekly academic contact is strongly recommended for students to be successful in this class.

Units and lessons should *always be done in the order presented on the Learning Plan Contract*. **Tests can only be taken once, and many are timed.** Students should study all unit instruction and lessons prior to taking tests to prepare themselves.

### Grading

**Lesson assignments will be graded using the following criteria:**

- Proper spelling and grammar should be used at all times.
- Lab write-ups should follow standard format provided in the course.
- All lesson answers should be paraphrased from the information in the sources. Copying and pasting from sources will not be tolerated. Students must write answers in their own words.

**Projects will be graded using the following criteria:**

- All prescribed formats will be followed.

- Bibliographic citation of all web resources must accompany the project, including the URL, name of the web site, and author or editor if available.
- Copying or plagiarism will not be tolerated. Plagiarism may result in no credit given for the lesson or project.

**Revision Policy:**

- Students may be either given a score for submitted work or work may be returned for revision.
- Students have one opportunity to revise and return work for credit.
- Revised work should be returned to the teacher in a timely manner.
- Revised work will still be worth up to full credit.
- Work submitted in bulk either during the semester or especially at the end of the semester will not be available for revision and will be scored as submitted.
- Unit tests may only be taken once and semester projects may not be revised.

**Occupational Credit:**

This course may qualify for \*occupational credit. Please consult your school counselor for further clarification.

\*Please note that FLA901 (Sign Language) does not qualify for occupational credit.

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