

Physical Science

2021-2022 Spaulding High School

Course Title: Physical Science

Department: Science

Teacher Contact Information: Ms. Pamela Smith
psmitshs@buusd.org
476-4811 ext. 2114

Department Chair Contact Information: Science Department Chair:
Samantha Mishkit
smishshs@buusd.org
476-4811 ext. 2111

Course Description: Physical Science 1 is a foundational course where students learn the basics in chemistry, earth science, and climate. Class will involve laboratory investigations, data collection and analysis, modeling activities, whole-class and small group learning activities, and student presentations. Students seeking honors recognition will need to meet all required course standards as well as complete additional assessments outside of class (one per standard).

Units of Study:

- Unit 1: Foundations of Physical Science
- Unit 2: Geologic History
- Unit 3: Plate Tectonics
- Unit 4: Climate

Materials: **Please do not forget to bring your chromebook to class.** It is highly recommended that you bring your own pencil, pen, binder, highlighter and calculator.

Learning Tasks: Students are expected to participate in all "Learning Tasks" which include: class discussions, labs/activity, lecture/notes, projects, investigations, practice sheets, and review sessions. All Learning Tasks are NOT assessed, although feedback is routinely provided.

Assessment/Reassessment: Assessments will be used to determine if you met a standard or not. Once an assessment has been returned you have the opportunity to reassess for a higher grade. To have the ability to reassess you will need to meet with me and create a plan to be successful in your reassessment.

- **Progress Reports:** Every 3-weeks, you will receive a progress grade (Unsatisfactory, Below, Meeting, or Above). This progress grade is determined based on class work completion and current scores on assessments. If you are not meeting academic expectations, then you will be required to attend PAS Day where we will create a plan for your success.
- **Extra Help:** Extra help is given during advisory time.

Optional Honors Credit:

Honors designation is centered on students striving for greater breadth and complexity into the course material, and demonstrating greater commitment and rigor in doing so. In order to achieve "Honors" status for the course, a student must:

- Complete an additional, advanced assignment for each unit/ standard of the course.
- Pass all honors assignments. Each will be graded as pass/ fail.
- Complete all honors assignments **on the deadline required.** Each deadline will follow the completion of the unit/ standard they are connected to.
- Be proficient in all performance indicators, therefore have an overall proficiency for the course.

Safety protocols (these may change over the course of the year):

- Covid-19 Handbook [LINK](#)
- Specifically for in-classroom:
 - Wear your mask over your nose and mouth at all times
 - No food/drink other than water in the classroom
 - Don't leave any possessions in classrooms

Classroom Expectations: When you arrive to class you should bring an open mind, a respect of your peers and their views, a willingness to question the unknown and investigate your interests, an eagerness to participate in class, and finally, a sense of humor and the expectation of yourself to work hard and have fun.

- **Food in the Classroom:** No food allowed in the classroom and drink must be in a closed top container.
- **Tardiness:** Students are expected to arrive to class on time and be active every day. Students arriving after the bell or asking to leave in the first 10 minutes of class will be considered tardy.
- **Cell Phone Policy:** You may not have your cell phone out in the classroom. Put it in your bag which will be stored in the back of class during class time. . If these expectations cannot be followed I will hold on to your cell phone for the duration of the class and repeated failure will require you to submit phone to office before class and to pick it up after class
- **Substitutes:** When I am absent from class I expect you will conduct yourself in the same manner as you would if I were there teaching. Any student whose name is brought to my attention for misbehavior with a substitute will be assigned a detention
- **Safety in the Science Classroom:** All students are required to follow science safety rules. We will go over these rules in more detail and you will sign a safety contract. Please see the contract on the following pages for more details.

Course Scores: Use the **Course Performance Grading Outline** to determine your overall grade for the course. This is on the school's website.

** Note: To earn an overall grade of Exemplary or Partially Exemplary in the course no Performance Indicators can be below Proficient.*

Physical Science 1 Assessed Course Standards

→ To earn **Proficient** (P) in a standard the majority of the performance indicators need to be Proficient (P) or Exemplary (E) and there cannot be any No Evidence's (NE).

→ To earn **Exemplary** in a standard no performance indicators can be below Proficient (P).

**(This means you cannot have B's or D's on any performance indicators)*

Standard #1: Foundations of Physical Science → Students will be able to utilize and apply the foundations of physical science

Performance Indicators: Student's will be able to...

- 1.1 ... use measurements tools to quantify and explain density
- 1.2 ... model the structure of atoms and isotopes
- 1.3 ... explain the organization of the periodic table and describe the trends

Standard #2: Geologic History → Students will be able to use evidence to explain the geologic history of Earth

Performance Indicators: Student's will be able to...

- 2.1 ... explain Earth's history and formation using the Geologic Time Scale
- 2.2 ... utilize relative age laws to distinguish between older and younger rocks
- 2.3 ... use relative age & radiometric dating to determine when past geologic events took place

Standard #3: Plate Tectonics → Students will be able to explain how plate tectonics can be viewed as the surface expression of mantle convection

Performance Indicators: Student's will be able to explain...

- 3.1 ... how analyzing seismic data gives evidence for Earth's interior and composition
- 3.2 ... the evidence that supports the theory of plate tectonics
- 3.3 ... the mechanisms that drives plate tectonics

Standard #4: Climate → Students will be able to use data to explain climate trends.

Performance Indicators: Student's will be able to ...

- 4.1 ... describe how abiotic and biotic factors contribute to long and short term trends in climate
- 4.2 ... explain how human activities are altering Earth's carbon cycle and Greenhouse effect
- 4.3 ... explain how albedo and warming ocean temperatures affect feedback loops
- 4.4 ... describe the ecological impacts caused by anthropogenic climate change

Safety in the Science Classroom: All students are responsible for maintaining a safe science classroom. Please read and sign the provided science safety contract.

For your Records

Spaulding High School Science Safety Contract

Science investigations allow students to learn science through discovery. Many investigations utilize equipment and chemicals that must be used safely and responsibly. Science teachers will assure that you have a safe laboratory experience, but you must also do your part. Read the following safety contract. Signing the contract signifies you understand and will follow it. A parent or guardian must also sign so everyone is committed to safe laboratory practices.

1. Follow all written and verbal instructions as directed by the teacher.
2. Never attempt unauthorized experiments. Do laboratory work only when the teacher is present.
3. Keep the work area clear of everything except laboratory materials.
4. Food and drink is not allowed in the laboratory area. Do not chew gum. When using chemicals or preserved specimens, keep hands away from face, eyes, mouth, and body.
5. Students are not permitted in any chemical storage room.
6. Never run in the laboratory. To prevent accidents, be aware of your environment at all times.
7. Your teacher will describe the location of exits and all safety equipment. Know where the closest fire alarm is located.
8. Use equipment (balances, Bunsen burner, etc.) in the correct way, as instructed by the teacher.
9. Properly dispose of broken glassware and other sharp objects in designated areas.
10. Any time chemicals, heat or glassware are used, students, teachers, and visitors will use laboratory goggles. Lab aprons must be used when there is danger of chemical spills or biological contamination.
11. Long hair must be tied back and dangling jewelry and baggy clothing are not appropriate. Shoelaces must be tied and sandals are not allowed.
12. Immediately report any spills, accidents, or injuries to the teacher.
13. If a chemical splashes in your eye(s) or on your skin, flush with water. Inform the teacher immediately.
14. Never touch, taste, or smell chemicals or other substances unless directed to do so.
15. Follow all provided instructions when handling chemicals.
16. Follow all provided instructions when handling glassware, equipment, and when heating substances.
17. Never point the open end of a test tube containing any substance at yourself or others.
18. Dispose of all chemical and biological waste properly. The teacher will tell what materials can be poured down the drain and what materials must be placed in a waste container.
19. Clean all work surfaces and equipment at the end of laboratory work and return all equipment to the proper storage area.
20. Wash your hands with soap and water after performing all investigations and before you leave the laboratory area.
21. If you are unclear or confused about proper safety procedures and/or laboratory instructions, ask the teacher before proceeding.

ADDITIONAL SPECIFIC INSTRUCTIONS WILL BE GIVEN PRIOR TO LABORATORY ACTIVITIES.

***NO PEANUT OR TREE NUT PRODUCTS ARE ALLOWED IN CLASS!**