

# Buckley High School Physical Science Syllabus

## 2024-2025

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### Course Description

Physical Science is an introduction to chemistry and physics and will be guided towards understanding the base topics needed and used during the 2nd Semester Astronomy course. Students will develop skills in obtaining, evaluating and communicating in science; planning and carrying out investigations; analyzing and interpreting data; scientific modeling; engaging in argument from evidence; constructing explanations and designing solutions; using math and computational thinking; asking questions and defining problems. Topics to be studied include: matter and thermal energy, atomic structure, the periodic table, compounds and reactions, force, motion, work and mechanical energy, waves, and electricity and magnetism.

### Goals

The student will:

- compare and contrast the phases of matter as they relate to atomic and molecular motion
- explain transformations and flow of energy within a system
- use the Periodic Table to explain the relative properties of elements based on patterns of atomic structure
- explain how atoms bond to form stable compounds
- generate evidence supporting the claim that mass is conserved during a chemical reaction.
- explain the changes in nuclear structure as a result of fission, fusion and radioactive decay
- Investigate and explain the properties of solutions.
- plan and carry out an investigation to analyze the motion of an object using mathematical and graphical models; and support the claims presented in Newton's three laws of motion
- identify the relationships between work, mechanical advantage, and simple machines
- obtain, evaluate, and communicate information to explain the properties of waves.
- explain the properties of and relationships between electricity and magnetism.

## **Evaluation**

This is a class based on mastery of the content. This means a student needs to show what they know, understand, and can do by themselves without the help of teachers or peers. This means that they will be evaluated on tests and quizzes and classroom-work, as well as homework.

## **SEMESTER GRADES, GRADES 7-12**

The cumulative grading system calculates a student's grade in a class that counts each new assessment points as it's assigned throughout the semester. Exams will be 20% of the total points for each semester calculated through PowerSchool.

Note: 1st semester exams are required. 2nd semester exams--students will be exempt from exams if they have a semester grade of 90% or better unless the teacher requires the final exam to be taken. Students who are present at school and are not required to take an exam will check in at the Cave.

<b><u>Percentage</u></b>	<b><u>Grade</u></b>	<b><u>Points**</u></b>
<u>93 – 100</u>	<u>A</u>	<u>4.0</u>
<u>90 – 92</u>	<u>A–</u>	<u>3.7</u>
<u>87 – 89</u>	<u>B+</u>	<u>3.3</u>
<u>83 – 86</u>	<u>B</u>	<u>3.0</u>
<u>80 – 82</u>	<u>B–</u>	<u>2.7</u>
<u>77 – 79</u>	<u>C+</u>	<u>2.3</u>
<u>73 – 76</u>	<u>C</u>	<u>2.0</u>
<u>70 – 72</u>	<u>C–</u>	<u>1.7</u>
<u>67 – 69</u>	<u>D+</u>	<u>1.3</u>
<u>63–66</u>	<u>D</u>	<u>1.0</u>
<u>60 – 62</u>	<u>D–</u>	<u>0.7</u>
<u>00 – 59</u>	<u>E</u>	<u>0.0</u>

## **Supplies**

The following materials are required and are to be brought with you every day:

**Folder/Binder** or whatever will keep you from not losing notes

**Pencils** (preferably mechanical pencils with extra lead), please no pens because we do a lot of corrections

**Calculator** with basic functions (will be provided as needed)

**Paper**

## **Make-up Work**

*Student's responsibility if absent:*

- to find out what work was missed--see teacher to get paper copies
- Seminar time will be an excellent time to get extra help, or you will need to schedule a time.
- make up work by the date arranged with the teacher

*Teacher's responsibility:*

- to be available to help the student understand material taught during the absence
- regular make-up time is during Seminar or before/after school, however the teacher's schedule is subject to change for before/after school help
- to provide materials to make up missed work

## **Discipline Plan**

All students are expected to behave properly in the classroom and/or virtual classroom. Any behavior that interrupts teaching and/or learning will not be tolerated.

*The classroom/virtual rules are as follows:*

1. Be **prepared with a notebook, and a writing utensil**
2. Show **respect** for yourself and others
3. Do your work to the best of your ability
4. Be **on time**
5. Be **alert and attentive** at all times
6. Only **water/Gatorade in a sealable container, no more than 24 oz.** is allowed in the room, no food or other drinks

*The consequences for violation of classroom rules are as follows:*

1. Verbal warning
2. Student-teacher conference and possible seat change
3. Parent contact, detention, or Saturday school
4. Severe disruptions will result in immediate referral to the office.

I am looking forward to having each of you in class and please understand we are learning this just as you are.

Thanks and I look forward to a good school year.