

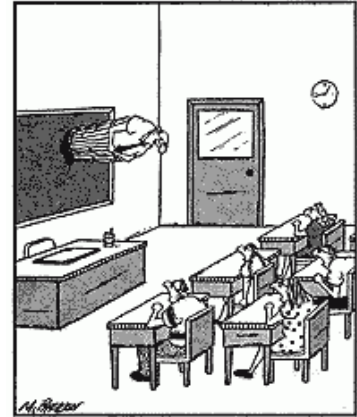
Principles of Physics

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What is physics?

Physics is the science that life has best prepared you for, as you experience much of it every day. However, its rules do not just govern our daily life, they are universal. Physics can explain everything from the nucleus of the atom to galaxies in space, including earthly activities like sports, music and driving. The theories of physics are used by engineers to produce smart phones, safer and more efficient cars and new diagnostic methods for medicine. Soon you will see it everywhere!



"Good morning, and welcome to
The Wonders of Physics."

How does Principles of Physics compare to other physics classes?

Though your math skills will be handy, this class will emphasize a conceptual understanding of the way the world works. This course can be challenging as it can be easier to rely on equations than to truly understand what is happening. We will not study the same topics for the same amount of time as other physics classes. First semester we will study include the Math & Methods of Physics, Motion, Forces & Interactions, Energy, Waves & Optics, and Electricity & Magnetism. You may petition to learn about other topics you are interested in.

What do I need to bring to class every day?

1. The following *materials*
 - a 1.5" three-ring binder for notes and handouts,
 - a composition notebook for warm-ups and lab work,
 - a scientific calculator (not necessarily graphing)
2. *An open mind.* We may need to reconcile explanations that you have made with the explanations physics provides us. Ask questions until you are satisfied.
3. *To make mistakes.* They are required to learn. Embrace them.

What are we going to do in this class?

We will do a lot of **hands-on activities and lab work.**

Hands-on activities and labs are a key element of physics as they let you scientifically experiment, become familiar with and discover the patterns of nature for yourself. Attendance in lab is mandatory. If you miss lab, like class, YOU must see me to make up the lab.

We will also do **projects** that will require you apply your creativity and physics knowledge.

At the end of every unit, there will be a project. Most projects will involve designing and creating something based on what we have studied. For example, for the unit on motion, you will make a stop motion animated video. As part of your final grade, you will compile a Physics Portfolio, featuring required assignments and ones you choose that show how you have grown. More about this to come.

Problem solving, both conceptually and mathematically, as well as **collaborative group work** are key components of being successful in this class.

There will be times I will be at the front of the room teaching and ask for your quiet attention, other times I will ask for your active participation. In both, please ask questions and draw connections!

During class you will be asked to solve problems based on what we've learned. In the end, you should be able to do every problem on your own however, in order to learn, you are encouraged to work together. Collaboration will help you learn, and is a useful skill whatever your future may hold. Some problems will require organized group work, in which every person's participation is crucial!

What are your classroom policies?

- In this classroom you have right to...learn; belong; hear and be heard; compassionate treatment; be safe; be yourself; be happy. Our classroom expectations support these rights.
- You are expected to be in class ON TIME, every day. If you are absent, YOU must to contact me as soon as you can about what you missed. Continued lateness will merit a call home and, if it continues, detention.
- You are highly encouraged to WORK TOGETHER with your peers. However, all individual work should be your own. I have zero tolerance for any form of plagiarism. Please ask if you are unsure if something is considered plagiarism.



Grading Policies:

Your grade will be calculated with equal weight given to the categories:

Classwork/Homework Lab Work Projects & Tests

- Grades are available on-line via the Student/ParentPortal, please check this before asking me.
- You will be given time to complete most work for this class during class. If you use your time wisely in class, you can expect to have no homework.
- If you have completed every assignment in a quarter, your lowest lab grade and your lowest homework/classwork grade will be dropped.
- Work that is not turned in to the folder will receive a zero. Late work will be penalized 10% each day it is late, up to a maximum of 50%. Labs will earn a 0 if not received after 2 cycles.
- Tests & quizzes are announced well in advance and will be posted on the calendar on the [class website](#). If you are absent on this date, you can expect to take the test/quiz the next day that you are in school. You may do test corrections to increase your test grade.
- Your final exam grade will come from an in-class comprehensive final exam and your Portfolio.

What if I am struggling?

Please talk to me about any concerns you have as soon as possible. I encourage you to seek extra help by seeing me after school, during FLEX or during Student Help times in my schedule (on website).

This class is set up so that everyone making an honest effort will succeed. *The only way you will fail is by not doing the work, or by not seeing me for extra help.*