

Welcome to AP Physics 2! I am so excited to have you all in class again this year. This physics course encompasses some of my favorite topics as a physicist and I cannot wait to explore them with you. **There is no mandatory AP Physics 2 summer work this year.** However, there are some things you can do before the start of the school year to prepare yourself for the course if you want to keep your science brain working over the summer.

1. Check out the list of books below and consider reading one. These books vary in style and topic but contain many of the topics that we will explore in AP Physics 2 next year. I hope you pick one and enjoy it!
 - [The Bastard Brigade](#): The True Story of the Renegade Scientists and Spies Who Sabotaged the Nazi Atomic Bomb, by Sam Kean
Relevant Topics: atomic and nuclear physics, thermodynamics, ethics of scientific research
 - [Storm in a Teacup](#): The Physics of Everyday Life, by Helen Czerski
Relevant Topics: scientific literacy, linking everyday occurrences to big ideas in science
 - [A Brief History of Time](#), by Stephen Hawking
Relevant Topics: entropy, the nature of time, the formation of the universe
2. Go through the review resources below. Many of the topics in AP Physics 2 are based on fundamentals we covered in AP Physics 1 and, if you're nervous about this class, you might find it beneficial to do a little bit of content review before the academic year starts.
 - [Introductory Concepts](#) (videos)
Follow this link and scroll down until you see "Introductory Concepts for Algebra Based Physics"
 - Significant Figures
 - Base Dimensions
 - Conversions
 - Accuracy and Precision
 - Reviewing SOH CAH TOA and Pythagorean Theorem
 - [Dynamics](#) (review video)
 - Inertial vs Gravitational Mass
 - Newton's Laws of Motion
 - Free Body Diagrams
 - Mass and Weight
 - Friction
 - Equilibrium
3. Visit a science museum, aquarium, nature center, or zoological park when traveling to a new city or even here in our own town.
4. Spend time in nature. Try hiking, kayaking, biking, surfing, or other outdoor activities for the first time or for the millionth time. Be observant of the patterns of the natural world around you and marvel in the beauty of our earth.
5. Sign up to be a Citizen Scientist and make a difference by contributing to environmental studies in our local area through the [SC Aquarium](#) or [SC Seagrant](#).
6. Take part in a STEM enrichment [program](#) either in person or virtually.
7. Use the Internet as a guide to pursue answers to a question about the scientific universe that you wish to learn more about. Dive into learning more about your question either by watching YouTube or TikTok videos or even by enrolling in an online course on a platform like [EdX](#).
8. Most of all, observe and be curious about the world around you. Disconnect from technology from time to time and keep your head up and aware of your surroundings. Make special note of ways that we measure our world and share these measurements.

If you make it to the bottom of this list and send me an email with a selfie of you doing one of these items on the list and the most random fact about yourself that you can think of, then you will receive extra credit.

I'm looking forward to our year together in AP Physics 2!