

Course: Physics (Regular and Honors)

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Technology Support/Content: n/a

Week 1	Day 1	Day 2	Day 3	Day 4	Day 5
Lesson/Topic:	Thermodynamics	Thermodynamics pt 2 Does hot water freeze faster than cold water?	Ideal Gas Law Review	Time and the Atomic Clock: Quantum physics	Atom Smashing! Particle acceleration
Resource:	Applied Science: A refrigerator made with rubber bands	Sciencium: Does hot water freeze faster than cold water?	CrashCourse: Ideal Gas Problems	Motherboard: The most precise Atomic Clock in the World	CERN LHC Short video CERN LHC Long video
Task:	Watch the Applied Science video and take notes on the properties of thermodynamics that relate to what you have learned. Additionally see this Wiki Summary on Rubber Band . Then follow this experiment on Biophysics Basics: Elasticity and do your best to complete what you can, given your available materials.	Watch the Sciencium video and take notes on the properties of thermodynamics that relate to what you have learned. Additionally, see this Wiki on the Mpemba effect . Conduct your own experiment by simply freezing two cups of water, one hot and one cold. Check on them at 15 minute intervals but be quick! Only confirm frozen or not and record the data. (add measurements if you have a thermometer and adjust the experiment as needed) Record results!	Watch the video and PAUSE to take notes on the different gas laws, formulas, and people they are named after. Proceed to experiment with PhET Gases here and attempt to complete 10/20 of the questions on this worksheet . Write your notes and answers in your notebook or loose-leaf paper and show your work .	Watch the video and take notes regarding the importance of TIME in the physical world and how it is necessary for science. Watch this follow up on Time Dilation and Einstein's theory of Relativity What questions do you have for your physics teacher regarding what you have learned here?	Watch the video and PAUSE to take notes during the video. What do scientists hope to discover with the LHC (Large Hadron Collider) at CERN? What has already been discovered? Check out this CERN Website Recent news on the Atlas experiment and the Higgs Boson here . Write some questions for your teacher and save for discussions next week!
Recommended Duration:	45 minutes – 1 hour	45 minutes – 1 hour	45 minutes – 1 hour	45 minutes – 1 hour	45 minutes – 1 hour