



Physics is the study of matter and energy and their interactions. This study will encompass fundamental concepts in the laws of motion, forces, energy and momentum, thermodynamics, waves, and nuclear phenomena. Student investigations emphasize accurate observations, collection of data, data analysis, and safe manipulation of laboratory apparatus. Students will acquire factual knowledge within a conceptual framework, practice experimental design and interpretation, work collaboratively with classmates, and develop critical thinking skills. Texas Essential Knowledge and Skills for Physics [§112.39. Physics, Adopted 2017](#)

1-Dimensional Motion  
 Laws governing motion  
 Generate and interpret graphs  
 Motion in 1-dimension equations and graphical vector addition

Work, Energy, and Power  
 Laws of Conservation of Energy in one dimension  
 Law of Conservation of Momentum in one dimension  
 Momentum and Impulse  
 Thermodynamics

2-Dimensional Motion  
 2-Dimension motion equations and graphical vector addition  
 Projectile and circular motion  
 Motion Laws  
 Force and Free Body Diagrams

Laws of Thermodynamics  
 Thermal energy transfer  
 Characteristics and behaviors of waves  
 Vibrations and waves  
 Sound

Electric Force  
 Conductors and insulators  
 Circuits  
 Electromagnetism

Atomic, nuclear, and quantum phenomena  
 Photoelectric effect  
 Mass-energy equivalence  
 Modern Physics

Please contact your course science teacher.