

## Physics Parent Guide

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<sup>st</sup> 6 Weeks:

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

### 4<sup>th</sup> 6 Weeks:

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<sup>nd</sup> 6 Weeks:

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

### 5<sup>th</sup> 6 Weeks:

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

### 3<sup>rd</sup> 6 Weeks:

Electric Force  
Conductors and insulators  
Circuits  
Electromagnetism

### 6<sup>th</sup> 6 Weeks:

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

**Questions?** Please contact your course science teacher.