

Mansfield Independent School District

Physics

Year at a Glance

First Six-Weeks	Second Six-Weeks	Third Six-Weeks
<ul style="list-style-type: none"> • Lab safety • Lab practices and ethical practices • Lab and field investigation questions • Critical thinking • Scientific reasoning • Problem solving • Laws of motion • Linear motion 	<ul style="list-style-type: none"> • Experimental design • Scientific method • Laws of Motion 	<ul style="list-style-type: none"> • Scientific process • Laws of Motion (continued from 2nd 6 weeks) • Conservation Laws • Energy and Momentum • Rotation
Fourth Six-Weeks	Fifth Six-Weeks	Sixth-Six Weeks
<ul style="list-style-type: none"> • Wave Characteristics (Part One) • Nature of forces in the physical world • Electricity 	<ul style="list-style-type: none"> • Nature of forces in the physical world • Including gravitation, and magnetism • Thermodynamics 	<ul style="list-style-type: none"> • Wave characteristics (Part Two) • Nature of forces in the physical world • Gravitation • Electricity • Magnetism • Atomic • Nuclear • Quantum phenomena

Mansfield Independent School District
Science
Physics

1st Six Weeks

Number of Days	Topics	Concepts	TEKS
Ongoing	Lab safety Lab practices and ethical practices	Safe Practices Equipment Scientific Method Ethical Practices	1A-1B
Ongoing	Lab and field investigation questions	Scientific method Science history Technology Theories Hypothesis Natural and Physical Phenomena	2A- 2F 2H -2L
Ongoing	Critical thinking, scientific reasoning, problem solving	Scientific process Technology History Vectors	3A; 3D; 3E; 3F
3 weeks	Laws of motion Linear motion	Velocity Acceleration Graphical Relationships	4A- 4B; 4F

2nd Six Weeks

# of Days	Topics	Concepts	TEKS
Ongoing	Experimental design Scientific method	Scientific method Science history Technology Theories Hypothesis Natural and physical phenomena	2(G)
4 weeks	Laws of Motion	Free Fall Gravity Horizontal Projectile Projectile motion	4C
2 weeks	Laws of Motion	Forces Graphical Relationships Accelerations Weight Mass Newton's Laws Free body Diagrams Gravity	4(D) ; 4E

3rd Six Weeks

Number of Days	Topics	Concepts	TEKS
Ongoing	Scientific process	Critical thinking, scientific reasoning, problem solving	3(B)
1 weeks	Laws of Motion (continued from 2 nd 6 wks)	Forces Graphical relationships Accelerations Weight Mass Newtons Laws Free body diagrams Gravity	4(D) ; 4E
3 weeks	Conservation Laws Energy and Momentum	Law of conservation of Energy/Momentum Work Energy Theorem Kinetic and Potential Energy Work Power	6A – 6D
2 weeks	Rotation	Rotation UCM Torque Tangential speed Angular characteristics	4C (cont. from 2 nd 6 wks)

4th Six Weeks

Number of Days	Topics	Concepts	TEKS
Ongoing	Scientific Process	Critical thinking, scientific reasoning, problem solving	3(C)
3 weeks	Wave Characteristics	Wave properties Waves motion Transverse waves Longitudinal waves Resonance Sound characteristics Frequency Wave length Current Velocity Electromagnetic waves	7A – 7D
3 weeks	Nature of forces in the physical world electricity	Coloumb’s Law Conductors and Insulators Charges Circuits	5C; 5D; 5E -5G

5th Six Weeks

Number of Days	Topics	Concepts	TEKS
3 weeks	Nature of forces in the physical world Including gravitation, and magnetism	Universal gravitation Satellite motion Gravitational and magnetic forces	5A; 5B
3 weeks	Thermodynamics	Mechanical Energy Thermodynamics Heat; Convection; Conduction; Radiation; Phase Change; Specific Heat; Temperature	6E – 6G

6th Six Weeks

Number of Days	Topics	Concepts	TEKS
2 weeks	Wave characteristics (part deux)	Lenses and Optics Refraction Convex and flat mirror	7D (cont); 7E; 7F
2 weeks	Nature of forces in the physical world Including gravitation, electricity, and magnetism	Magnetic Forces in Everyday Life Generators, Transformers and Motors	5D ; 5H
1 weeks	Atomic, nuclear and quantum phenomena	Photoelectric Effect Duality of Light Emission Spectra Fission and Fusion Nuclear Power Nuclear Imaging	8A – 8D
1 week	Finals	Review	1A – 8D