

PASADENA INDEPENDENT SCHOOL DISTRICT

COURSE SCOPE AND SEQUENCE

**PHYSICS &
CONCEPTUAL PHYSICS**

[Texas Essential Knowledge and Skills \(TEKS\)](#)

Important resources for entire science curriculum:

TRACK

TAKS readiness (links to lessons, activities, video, etc.)

United Streaming Video

Streaming educational video on thousands of topics

Science Materials

Free science interactive lessons

****Instructional Days**

[number]- reflects **total** number of instructional days available in each six week period minus **3** days for review and testing

(number)- reflects recommended instructional days for each instructional topic within each six week period

Important Dates

First Semester

First Six Weeks: Aug10- Sept 15 [23] Instructional Days

Second Six Weeks: Sept 18- Oct 27 [27] Instructional Days

Third Six Weeks: Oct 30- Dec 15 [26] Instructional Days

Second Semester

Fourth Six Weeks: Jan 3- Feb 16 [29] Instructional Days

Fifth Six Weeks: Feb 19- April 5 [24] Instructional Days

Sixth Six Weeks: April 10- May 24 [33] Instructional Days

Science TAKS Test: Thursday April 19, 2007- 8th, 10th, and 11th grades

FIRST SEMESTER

[23]



First Six Weeks

Laboratory Investigation and Inquiry Process are applied to all instruction, assessment and learning processes. TEKS 1AB, 2ABCD, 3ABCDE

Represents the total number of instructional days available in each six-week period minus 3 days for review and testing.

TAKS	TEKS	DAYS	INSTRUCTIONAL TOPIC	RESOURCES	LABORATORY INVESTIGATIONS AND ACTIVITIES
1	1AB 2ABCDEF, 3ABCDE		Laboratory Investigation and Inquiry Process Nature of Science – Safety, lab skills, measurement, scientific process and methods Graphing Skills Accuracy/Precision	Physics Lab Skills Manual Introduction to the Scientific Method Scientific Method Notes Scientific Method vs. Scientific Methods Experimental Science Projects Safety in the Classroom Lab Safety Flinn Lab Safety Report on Science Classroom Safety	
5	4ABC		Linear Motion Speed, Velocity, Acceleration Free-fall/Air resistance Graphical Analysis of: Distance vs. Time Speed/Velocity vs. Time	It's all about speed Acceleration School for Champions-Motion Linear Motion and Graphs Notes Linear Motion Lesson Plans Linear Motion Problem Set	

		[27]	Second Six Weeks <i>Laboratory Investigation and Inquiry Process are applied to all instruction, assessment and learning processes. TEKS 1AB, 2ABCD, 3ABCDE</i>		
TAKS	<u>TEKS</u>	DAYS	INSTRUCTIONAL TOPIC	RESOURCES	LABORATORY INVESTIGATIONS AND ACTIVITIES
5	4B		Projectile Motion Components of Vectors Projectile Motion Horizontally & at an Angle	Physics Applets on Projectile Motion (Animations) Lesson on Projectile Motion Projectile Motion Notes Throw a Ball Activity Projectile Motion, General Solution Cannon (Ballistic Simulator) Ballistic Trajectory Tutorial	
5	4ABCDE		Newton's Law/Force Vectors First Law-Inertia/Mass Second Law- Force & Acceleration/Weight Third Law- Action & Reaction/ Gravitational Force	Amusement Park Physics The Science House Your Weight on Different Worlds The Physics Classroom	
	5CD		Momentum Impulse/Change in Momentum Collisions Conservation of Momentum	Impulse and Momentum Momentum	

		[26]	Third Six Weeks <i>Laboratory Investigation and Inquiry Process are applied to all instruction, assessment and learning processes. TEKS 1AB, 2ABCD, 3ABCDE</i>	
5	5ABD		Work and Energy/Simple Machines Work/Power Mechanical Energy/PE & KE Conservation of Energy Simple Machines- Lever, Incline Plane, Pulley, Wedge, Wheel & Axle, Screw Efficiency & Mechanical Advantage	Amusement Park Physics Mechanical Energy
5	4CD		Fluid Mechanics Buoyancy Archimedes' Principle Density Viscosity Pressure/Pascal's Principle	Fluid Mechanics Gallery of Fluid Mechanics

SECOND SEMESTER

SECOND SEMESTER					
		[29]	Fourth Six Weeks <i><u>Laboratory Investigation and Inquiry Process are applied to all instruction, assessment and learning processes. TEKS 1AB, 2ABCD, 3ABCDE</u></i>		
TAKS	TEKS	DAYS	INSTRUCTIONAL TOPIC	RESOURCES	LABORATORY INVESTIGATIONS AND ACTIVITIES
5	7AB		Heat, Thermodynamics, Phase Changes Temperature/Heat Specific Heat Capacity Phase Change Diagram Heat Transfer- Conduction, Convection & Radiation	About Temperature Notes Thermodynamics Lesson Thermodynamics Notes	
5	6BCEF		Electricity Statics Conservation of Charge Coulomb's Law Ohm's Law/Current, Voltage, Resistance Series Circuit Parallel Circuit	Electricity and Magnetism Notes Electricity and Magnetism Experiments Electricity Applets (Animations) Static Electricity Activities Static Electricity Notes Circuits All About Circuits	

		[24]	Fifth Six Weeks <i>Laboratory Investigation and Inquiry Process are applied to all instruction, assessment and learning processes. TEKS 1AB, 2ABCD, 3ABCDE</i>		
TAKS	<u>TEKS</u>	DAYS	INSTRUCTIONAL TOPIC	RESOURCES	LABORATORY INVESTIGATIONS AND ACTIVITIES
5	8A		Wave Properties Reflection Refraction Diffraction Interference/Constructive & Destructive Standing Waves Polarization	Vibration Animations The Energetic Universe Properties of Waves How Pendulum Clocks Work Waves in Everyday Life	
5	8BC		Sound Speed of Sound/Resonance Resonance Interference Doppler Shift	Sound Introduction to Sound Sound Wave Module Doppler Effect	

		[33*]	Sixth Six Weeks <i>Laboratory Investigation and Inquiry Process are applied to all instruction, assessment and learning processes. TEKS 1AB, 2ABCD, 3ABCDE</i> <i>*Please consider, that the total number of instructional days for second semester does not reflect the five days allocated for TAKS Testing nor the number of days a campus may use for TAKS review.</i>		
TAKS	TEKS	DAYS	INSTRUCTIONAL TOPIC	RESOURCES	LABORATORY INVESTIGATIONS AND ACTIVITIES
5	8BC		Light Flat Mirrors Curved Mirrors/Concave/Convex Lenses-Converging/Diverging Color	Visualizing Electromagnetic Waves Visible Light Waves	
5	6DF		Magnetism Magnetic Fields Electromagnetism Induction	Molecular Expressions Electricity and Magnetism Physics Electromagnetic Induction Exp. NCSU Demos	
			GENERAL SCIENCE TEACHING RESOURCES	Physics 2000 Molecular Expressions TI education site Physics Van Video Demos Physics Animations The Physics Classroom HyperPhysics Physics for Beginners Web Physics Applets Lecture Online Physics Applets Physics Classroom.com General-lab, notes, problems	

Last updated 6/06