

PASADENA INDEPENDENT SCHOOL DISTRICT

COURSE SCOPE AND SEQUENCE

INTEGRATED PHYSICS AND CHEMISTRY – B (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

FIRST SEMESTER					
		[23]	First Six Weeks <i><u>Laboratory Investigation and Inquiry Process are applied to all instruction, assessment and learning processes. TEKS 1AB, 2ABCD, 3ABCDE</u></i>		
		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 & 5	*1AB 2ABCD 3ABCDE 4A	(4)	Laboratory Investigations and Inquiry Process Measurement and Systems of Units	Sample Safety Contract Measurement Metric System Definitions of Science Lab Safety Lab Safety Carnegie Institution 40 Steps for Lab Safety Scientific Methods Notes Scientific Methods Lecture Notes Scientific Methods	
		Reflects recommended instructional days for each instructional topic within each six-week period.			
1 & 5	4A	(8)	Investigating Speed and Acceleration	Physics Facts on Speed Compilation of Tutorials and Lessons Database for Physics lessons	
1 & 5	4B	(11)	Forces and Motion (Newton's Laws and Momentum)	Newton's Laws of Motion Lessons Quizzes, puzzles, handouts, etc.	

		[27]	Second 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
1 & 5	4CD	(8)	Simple Machines and Efficiency	Simple Machines Learning Site Simple Machines Lesson Simple Machines Tutorial with Animation Activity Ideas	
4	4A	(6)	Work and Power	Compilation of Tutorials and Lessons Lessons on Work and Power	
5	6ABH	(4)	Energy Transformation, Law of Conservation of Energy	Tutorial on the Conservation of Energy Conservation of Energy Activity	
1 & 5	6CDE	(5)	Introduction to Electricity (AC/DC, Ohm's Law, Origins, Conductivity)	The Ohm Zone-Interactive Circuit Builder Virtual Electricity Labs and Simulations Animation on Ohm's Law Tutorial on Electromagnetic Induction (Animated)	
1 & 5	6F	(2)	Series and Parallel Circuits	The Ohm Zone-Interactive Circuit Builder	
1 & 5	6G	(2)	Magnetism and Electromagnetism	Magnet Science Experiments Electromagnetic Devices and Inventions Lesson (with Animations) Faraday's Magnetic Field Induction Experiment Lesson	

		[26]	Third Six Weeks <u>Laboratory Investigation and Inquiry Process are applied to all instruction, assessment and learning processes. TEKS 1AB, 2ABCD, 3ABCDE</u>		
TAKS	TEKS	DAYS	INSTRUCTIONAL TOPIC	RESOURCES	LABORATORY INVESTIGATIONS AND ACTIVITIES
1 & 5	5AB	(5)	Waves	Online Wave Labs (Calculus Based) Refraction Animation Wave Tutorials and Animations	
1 & 5	5D	(6)	Sound	Acoustics and Vibration Animations Moving Waves Sound Lab Sound Waves Notebook	
1 & 5	5AC	(6)	Electromagnetic Waves	Database for Lessons	
1 & 5	5BC	(6)	Application of Optics	Web Exhibit (nice stuff for colors)	

SECOND SEMESTER

SECOND SEMESTER					
		[29]	Fourth Six Weeks <u>Laboratory Investigation and Inquiry Process are applied to all instruction, assessment and learning processes. TEKS 1AB, 2ABCD, 3ABCDE</u>		
TAKS	TEKS	DAYS	INSTRUCTIONAL TOPIC	RESOURCES	LABORATORY INVESTIGATIONS AND ACTIVITIES
1 & 5	*1AB 2ABCD 3ABCDE 4A	(2)	Laboratory Investigations and Inquiry Process	Sample Safety Contract Measurement Metric System Definitions of Science	
1 & 5	4A	(8)	Investigating Speed and Acceleration	Physics Facts on Speed Compilation of Tutorials and Lessons Database for Physics lessons	
1 & 5	4B	(11)	Forces and Motion (Newton's Laws and Momentum)	Newton's Laws of Motion Lessons Quizzes, puzzles, handouts, etc.	

		[24]	Fifth Six Weeks <u>Laboratory Investigation and Inquiry Process are applied to all instruction, assessment and learning processes. TEKS 1AB, 2ABCD, 3ABCDE</u>		
TAKS	TEKS	DAYS	INSTRUCTIONAL TOPIC	RESOURCES	LABORATORY INVESTIGATIONS AND ACTIVITIES
1 & 5	4CD	(7)	Simple Machines and Efficiency	Simple Machines Learning Site Simple Machines Lesson Simple Machines Tutorial with Animation Activity Ideas	
4	4A	(6)	Work and Power	Compilation of Tutorials and Lessons Lessons on Work and Power	
5	6ABH	(4)	Energy Transformation, Law of Conservation of Energy	Tutorial on the Conservation of Energy Conservation of Energy Activity	
1 & 5	6CDE	(8)	Introduction to Electricity (AC/DC, Ohm's Law, Origins, Conductivity)	The Ohm Zone-Interactive Circuit Builder Virtual Electricity Labs and Simulations Animation on Ohm's Law Tutorial on Electromagnetic Induction (Animated)	
1 & 5	6F	(3)	Series and Parallel Circuits	Virtual Electricity Labs and Simulations	
1 & 5	6G	(2)	Magnetism and Electromagnetism	Magnet Science Experiments Electromagnetic Devices and Inventions Lesson (with Animations) Faraday's Magnetic Field Induction Experiment Lesson	

TAKS	TEKS	DAYS	INSTRUCTIONAL TOPIC	RESOURCES	LABORATORY INVESTIGATIONS AND ACTIVITIES
		[33*]	Sixth Six Weeks <u>Laboratory Investigation and Inquiry Process are applied to all instruction, assessment and learning processes. TEKS 1AB, 2ABCD, 3ABCDE</u> *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.		
1 & 5	5AB	(5)	Waves	Online Wave Labs (Calculus Based) Refraction Animation Wave Tutorials and Animations	
1 & 5	5D	(6)	Sound	Acoustics and Vibration Animations Moving Waves Sound Lab Sound Waves Notebook	
1 & 5	5AC	(6)	Electromagnetic Waves	Database for Lessons	
1 & 5	5BC	(6)	Application of Optics	Web Exhibit (nice stuff for colors)	
			GENERAL SCIENCE TEACHING RESOURCES	Websites for general physics topics: The Physics Classroom Science Joywagon (some applets needs membership to view) US Army Website Virtual Labs and Simulations Animated Diagrams Interactive Lessons and Activities Lesson Plans Page.com Physics Curriculum .com	

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