**Physics Activity Log 1st term**

M August 15

Introductions

Class Rules

Homework: Get class rules signed and bring back W

W August 17

Collect Rules

Scientific Method Notes

Prove Date

Unit Intro.

* Homework: News Article. Find an article from a newspaper, magazine or internet showing a problem and how they solved it- Due W. Chapter 1 Review p. 9, Scientific Method worksheet due M

R August 18

Tower Build Project

M August 22

* Dimensional Analysis
* Significant Figures
* Homework: Chapter 3 Practice Problem Worksheet packet (odds only) due W

**SCI.P.1.1 2010**

Using motion, maps, graphs and algebraic equations, describe, measure, and analyze constant acceleration motion in one dimension in terms of time and the vector quantities of displacement, velocity and acceleration.

W August 24

News Articles

Speed and Velocity Notes

Homework: Speed Worksheet due R

R August 25

Velocity and Vector Notes

Soh Cah Toa

Homework: Distance, Speed and Time worksheet, Vector Problems worksheet – due M

M August 29

Dimensional Analysis Quiz

Constant Speed Lab

Complex Vector Review Problems

Homework: Vector Packet due T

W August 31

Vector Review

Average Speed Lab: Find the Average Speed of a car going down a ramp, and then predict and prove three variables that will affect that speed.

Homework: Finish Vector Packet

R September 1

Instant. Speed Lab

Vector Quiz

T September 6

Test Review

Complex Vector Quiz

R September 8

Speed and Vector Test

**SCI.P.1.2 2010**

Using motion, maps, graphs and algebraic equations, describe, measure, and analyze constant acceleration motion in one dimension in terms of time and the vector quantities of displacement, velocity and acceleration. Consider specifically projectile and uniform circular motion.

M September 12

* Go over test results
* Play Mindtrap for Extra Credit
* Introduction Notes on Acceleration and Free Fall
* Introduce concepts and equations
* Homework: Acceleration worksheet both sides due W.

W September 14

* Go over Acceleration worksheet and collect
* Free Fall work with initial velocity
* Homework: Ch 4 Review 1-41 due M

R September 15

* Acceleration Lab
* Homework: Ch 4 Review 1-41 due M

M September 19

* Helicopter Problems
* Free Fall Lab
* Homework: Vel and acc worksheet and Falling Bodies Worksheet due W

W September 21

* Weather Balloon Problem
* Free fall group work
* Acceleration Quiz
* Homework: Ch. 4 Review 42-60 due R

R September 22

* Helicopter problem quiz
* Projectile motion intro and examples
* Driving over cliff problem
* Homework: Projectile Motion Worksheet due M.

M September 26

* Review projectile motion worksheet
* the monkey and banana problem together on board
* Homework: Chapter 5 review 1-49 odd and number 50 due R

W September 28

Film Case Rocket Lab

R September 29

* Projectile Motion Work- Due M you did not get done in class!
* Handed out Projectile Motion Packet
* Free Fall Quiz

M October 3

* Work day on projectile motion packet due end of period on W!

W October 5

* Projectile motion quiz
* Test Review

R October 6

* Projectile Motion/Acceleration Test
* **SCI.P.1.3**
* Describe the magnitude and direction of kinds of forces, including both contact forces and non-contact forces, those that act at a distance. Find the net force acting on an object using free-body diagrams and the addition of forces. Use Newton’s three laws to deductively analyze static and dynamic systems.
* **SCI.P.1.4 2010**
* Use Newton’s Law of Universal Gravitation and the laws of motion to quantitatively analyze the motions of orbiting objects such as the moon, the planets and satellites (i.e., Kepler’s Third Law of Planetary Motion).

M October 10

* Go over test
* Projectile Motion Lab

W October 12

* Notes on Aristotle, Newton, Galileo and Inertia and Newton’s Laws
* Homework: Force worksheets due R

R October 13

* Check Force Worksheets
* Force Lab
* Homework: Newton’s Law Packet due T

**2nd Quarter**

M October 17

Nerf Gun Lab

T October 18 (traditional day due to PSAT)

* Collect Newton’s Law packet
* Horse and Cart discussion
* Force practice problem

R October 20

* Newton’s Law Quiz
* Notes on Mass vs. Weight
* Homework: Force and Weight worksheet, both sides and Newton’s 2nd Law Packet due M

M October 24

* Grade Force Packet
* Notes on Friction types
* First Free Body Diagram problem
* Homework: p. 850-851 1-25 all due W

W October 26

* Free Body example problem
* Force Quiz
* Homework: p. 851-852 26-37 due M

Fall Break Oct 27, 28

M October 31

* Ramp problem
* Circular Motion Notes
* Friction Lab
* Homework: Projectile Motion (both sides) and acceleration worksheet (both sides) due W.

W November 2

* Notes on Centripetal Acceleration and Universal Gravitation
* Notes on Universal Gravitation, Kepler’s Laws, Black Holes and Tides
* Ramp problem #2 and #3
* Homework: Free Body Packet Due M

R November 3

* Free Body problem
* Ramp Lab
* Fido Pop Quiz
* Homework: Free Body Packet Due M

M November 7

* Lawn mower Problem
* Went over packet problems
* Review packet problems, check packet

W November 9

* 50 point Free Body Quiz
* Test review

R November 10

* Force Test

M November 14

Roller Coaster Lab

**SCI.P.2.1, 2.2, 2.3 2010**

* Describe qualitatively and quantitatively the concepts of momentum, work, kinetic energy, potential energy and power.
* Quantitatively predict changes in momentum using the impulse-momentum theorem and in kinetic energy using the work-energy theorem.
* Analyze evidence that illustrates the Law of Conservation of Energy and the Law of Conservation of Momentum. Apply these laws to analyze elastic and completely inelastic collisions.

W November 16

* Momentum and collision notes
* Homework: Motion worksheet, both sides due R

R November 17

* Collect Motion worksheet
* Angular momentum notes
* Homework: Collision Packet due M

M November 21

* Turn in momentum work
* Collision Lab

W November 17

* Momentum packet work in groups get it done it class.

M November 28

* Notes on Work and Energy
* Homework: Practice problems work, both sides of both sheets due W
* Momentum Quiz

W November 30

* Simple Machine Notes
* Work Review
* Homework: Start Work and Energy Packet, all due M December 5

R December 1

* Energy Conversion Lab
* Work Quiz

M December 5

* Exercise Lab
* Notes on Work, Power and Efficiency
* Homework: Power, Work and Force worksheet, both sides due W along with packet due R

W December 7

* Power sample problems
* Discuss and check Power, Work and Force worksheet
* Power and work Quiz

R December 8

Check Packet

Power and Work Quiz

M December 12

* Power, Work and Momentum Test

W December 14

* MT
* Start Final Exam Review

Tuesday December 15

* Final Exam Review

R December 15

Final Exam Review

M December 19

-Final exam review

T December 20

- Physics Final Exam

**2nd Semester**

**3rd Term**

**Unit 1 – Heat and Energy**

**SCI.P.2.4 2010**

Describe and quantify energy in its different mechanical forms (e.g., kinetic, gravitational potential, elastic potential) and recognize that these forms of energy can be transformed one into another and into non-mechanical forms of energy (e.g., thermal, chemical, nuclear and electromagnetic).

**SCI.P.3.1 2010**

Describe temperature, thermal energy and thermal energy transfer in terms of the kinetic molecular model. Expand the concept of conservation of mechanical energy to include thermal energy.

**SCI.P.3.2 2010**

Describe the kinetic molecular model, use it to derive the ideal gas law and show how it explains the relationship between the temperature of an object and the average kinetic energy of its molecules.

**SCI.P.3.3 2010**

Use the kinetic theory to explain that the transfer of heat occurs during a change of state.

**SCI.P.3.4 2010**

Use examples from everyday life to describe the transfer of thermal energy by conduction, convection and radiation.

M January 9  
Roller Coaster Lab

W January 11

* Review Notes on Energy Types
* Homework: Extreme Energy Packet- work in groups while in class, then finish at home on your own. Packet due R

R January 12

* Notes on Thermal Energy and Temperature
* Homework: Temperature Conversion Worksheet Due T.
* Boiling water lab

T January 17

* Notes on Measuring heat Notes on Measuring Heat
* Homework: Book assignment: Ch. 21 p. 424-425 Do problems 1-23 and define all vocabulary words in Chapter 21. Due R

R January 19 (textbook caravan day)

* Vector Review Lab Project
* Collect 1-23 Ch. 21

M January 23

* Heat review and Mixture concepts.
* Specific Heat Lab
* Homework: Heat Packet due W

W January 25

* Collect Book work
* Graded Specific Heat worksheet in class
* Notes on Phase Changes, Heat of Fusion and Heat of Vaporization
* Homework: Ch. 23 p. 464-465 in book problems 1-33 due R.

R January 26

* Graded book homework
* Phase change sample problem work
* Heat of Fusion Lab
* Homework: Phase Change Packet due next W

M January 30

Peanut Lab- burn the peanuts and try to solve for the Calories in a serving

W February 1

* Energy Flow Drawing Lab

R February 2

* Heat Transfer Notes
* Review and check energy problems
* Homework: Heat transfer packet due M

M February 6

* Conduction lab
* Check Heat transfer packet
* Heat Quiz
* Homework: Ch. 22 p. 445-447 1-17, 21-35 due W

W February 8

* Pressure, Buoyancy and Archimedes Notes
* Energy Transfer Quiz
* Homework: PBA packet due R

R February 9

* PBA review
* PBA Quiz

M February 13

* Heat and Energy Test