

Date	Description of Topic	Activity/lab	Assignment
W 8/25		-Good Morning -Pronounce Name - Attendance -essential elements -How to be successful from former students -OK to be wrong -Gravity in space with Apollo 13, Tinkerbelle, Dog in Plane, Vomit Comet -Lab safety	-Parent letter safety sheet, book, notebook
R 8/26	1.1 Mathematics and Physics -Math in Physics (C)	-Gravity Follow up -Course Profile -Language clip -show clip and talk about how we can talk about whether it's fake or not, but we can use math in physics to prove it <u>Notes: 1.1 Mathematics and Physics</u> -Go over book's process for doing problems 1) Analyze and/or sketch the problem -Rewrite equation -Substitute values 2) Solve for the unknown 3) Evaluate answer -Are the units correct? -Does the answer make sense? -Do three example problems -Picture Pairs	Bring book to class on Friday to be checked in and used

F	8/27	SI Units (B) (F)	<u>Notes: 1.1 SI Units</u> -Metric Prefixes Worksheet -Stress that we'll use centi, kilo first semester and mega, giga and micro during 2nd semester -Show step ladder for converting prefixes -do practice problems -Guestimating activity on board (not worksheet)	RD 1.1 PP 5-6 SR 16, 17 MP 67,69,70,72
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Week 2

M	8/30		Day in lab to take pretest, survey, use outbox, login to skyward, periods in 366	
T	8/31	-Scientific Methods -Dimensional Analysis (A)	-Tower activity -Discuss best shape and how groups revised as they went <u>Notes 1.1 Conversions and dimensional analysis</u> -conversions worksheet	PP 7-8 MP 74
W	9/1	-Significant Digits (Fig 1- 4) 1.2 Measurement -Comparing Results -Precision vs. Accuracy -Techniques of Good Measurement (E)	-Notes: 1.2 Significant Figures and <u>Measurement</u> -Significant figures handout Metric Measurement lab	Rd 1.2 PP 9-12 SR 18-23 MC 39-41 MP 79
R	9/2	1.3 Graphing Data (D) -Identifying Variables -Linear Relationships	<u>Notes 1.3 Graphing Data</u> -Show important parts of graph -Point out illegal break in figure 1- 15 and 1-16 (pendulum data-trend vs. data) -Linear relationships -Slope formula (it looks for trends) -Balls in cup graphing lab	

F	9/3	1.3 continued -Nonlinear Relationships -Predicting Values	<u>Notes 1.3 Non-Linear Relationships</u> -Quadratic relationship example on computers (phet?) -Inverse example on computers (phet?) -Spring shot lab for predicting values	Bring book on Tuesday
Week 3				
M	9/6	Labor Day No school		
T	9/7		-Spring shot performance test	Ch1 PP24 SR 27-28 MC 46 MP 83, 84 on graph paper
W	9/8	2.1 Picturing Motion -All kinds of motion -Motion Diagrams -the Particle Model 2.2 Where and When -Coordinate system -Time intervals and displacements 2.3 Position-Time graphs -Using a graph to find where and when	<u>Notes 2.1-2.3 Where, When, d vs t</u> -dropping sandbags in hallway -Vernier example? -Define coordinate system, origin, position, distance, magnitude, vector, scalar, resultant -Define time interval, displacement -Show relationship between particle model and vectors Lab: "Constant" motion with buggies (vernier) (A-F) **only do questions 1 and 2 -Point out that direction matters	Ch 2 PP 9,10,11,14-18 Due Friday
R	9/9	Rosh Hashanah	Section 1 review (go over yesterday's hw) Section 1 quiz (apprx 30 min)	

F	9/10	2.4 How Fast -Velocity -Instantaneous velocity (ramp:avg $v \rightarrow$ inst v) -Average velocity on Motion diagrams	<u>Notes 2.4 How Fast</u> -Define average velocity -Show equation for motion for average velocity -Point out table 2-2 which shows the relationship between general variables and specific motion variables Lab: 2 Hallway graphs (slow \rightarrow fast, and fast \rightarrow slow)	
Week 4				
M	9/13		-400m hurdles -Lab: Motion graphs with computers (D)	Ch2 AC 46-48 MP 49-53
T	9/14		-Go over Quiz 1 Section 2 review -maybe use MR 54-60 for in class activity	Ch2 TC 61-64 CR 67-69 STP 1-7
W	9/15		Section 2 Test	
R	9/16	Back to School Night 6- 9pm 3.1 Acceleration -Changing Velocity -Velocity-time graphs -Average and Instantaneous Acceleration -Displaying Acceleration on a Motion Diagram -Positive and Negative Acceleration	<u>Notes 3.1 Acceleration</u> -Define acceleration, average acceleration and instantaneous acceleration -iPhone example -Touch on positive and negative acceleration with cart fan -Lab: Abbreviated Ticker Timer (A- F)	Ch 3.1 PP 3,4,6,7
F	9/17	Staff Development Yom Kippur Begins at Sundown		

Week 5				
M	9/20	-Determining Acceleration from a v-t graph 3.2 Motion with Constant Acceleration -Velocity with average acceleration	<u>Notes 3.2 Motion with Constant Acceleration</u> -Phelps and Bolt Acceleration Clips -Graphs of d vs. t, v vs. t -Graph Matching Quiz? -Equation for average acceleration with practice problems	Ch3 MP79-82
T	9/21		-Show cart going up and down incline with position, velocity and acceleration Lab: Modern Galileo (vernier)	Ch3 PP 18(not c)-21
W	9/22	-Position with constant acceleration -An alternate expression	<u>Notes 3.2 Position with constant acceleration</u> -Finding position with initial velocity and acceleration equation -Finding velocity with constant acceleration equation -Recognize that we have learned the superphats Lab: Find your average acceleration (C)	
R	9/23	Junior Assembly 2 nd period	Practice problems via jigsaw, remainder HW	Ch3 PP 26-29, 30-33
F	9/24	Senior Assembly 2 nd period 3.3 Free Fall -Acceleration due to gravity	<u>Notes 3.3 Freefall</u> -Glass tube, moon video, paper vs. book, -Lab: Find your reaction time (A,B, C,E,F)	Ch3 PP 42, 44, 63-65, 97-99
Week 6				
M	9/27		-Reaction time follow up -Show Kobe jumping clip on youtube with example of finding delta x -Lab: Find your vertical leap(A,B,C, E,F)	

T	9/28		-Clip of Vanuatu jumpers Lab: Barbee Bungee	Ch3 PP 45-46, 101-102
W	9/29		Section 3 review	Ch3 AC 66-78 Even STP 1-9
R	9/30		Review activities	
F	10/1		Test on section 3	
		Wedding		
Week 7				
M	10/4	4.1 Force and Motion -Force and Motion -Contact Forces and Field Forces -Force and acceleration -Combining Forces	Notes 4.1 Force and Motion -Define force -Distinguish between contact and field forces -Give free body diagram examples -Lab: Constant force, changing mass (A-F)	Ch 4 PP 6-8
T	10/5		-Debrief lab -Lab: Constant mass, changing force (A-F)	
W	10/6	-Newton's 2 nd Law -Free body diagrams	-Go over test Notes 4.1 Force and Acceleration Define Newton's 2 nd Law -Airplane example -Airplane and race car clips -CD 6-3 -CD FBD practice sheet	MP 59-62
R	10/7	-	Lab: labrp090110 – 1-D motion with Phet	
F	10/8	Newton's 1 st Law	Notes 4.1 Newton's First Law -Define Newton's first law, inertia and equilibrium -Newton's first law stations lab	Read Hewitt's Chapter on Newton's 1 st and answer questions
Week 8				

M	10/11	Columbus Day		
T	10/12	-Mass vs. weight	Notes 4.2 Mass vs. weight vs apparent weight -Apparent Weight Example -Mass vs. weight lab	PP 15-18 MP 68,70,72
W	10/13	4.2 Using Newton's Laws -Using Newton's Second law -Drag Force and Terminal Velocity	Notes 4.2 Drag and Terminal Velocity -Drag force and terminal velocity -Coffee Filters Lab (A-F)	MP 78, 79, 80
R	10/14		-Example problem like PP17 -CD terminal velocity sheet -Make a parachute (A,B,C,E,F)	
F	10/15	4.3 Interaction Forces -Identifying interaction forces -Newton's Third Law -Forces on ropes and Strings -Normal Force	Notes 4.3 Interactional Forces -scale demo, skateboard, vernier example -Monte Christo, rabbit clip -CD sheet -Tension examples -Tension worksheet	

Week 9

M	10/18	Wedding	Review packet practice test	MR 81-91 STP 1-9
T	10/19		Chapter 4 review	
W	10/20	GA quarterly	Chapter 4 test	

R	10/21	5.1 Vectors -Vectors Revisited -Vectors in Multiple Dimensions -Components of Vectors -Algebraic Addition of Vectors	5.1 Vectors, Components -Vector addition applet -Titanic Trig -Remind of Pythagorean theorem, tell them to ignore law of sines and cosines -Introduce head to tail method (Schultz worksheet)	PP 1-4 (only do mathematically, not graphically)
F	10/22		5.1 Angle of resultant -Equation for angle of resultant vector -Component addition sheet -Point out figure 5-4 -Chicago vectors (A-F)	PP 5,6,7
Week 10				
M	10/25	5.2 Friction -Static and Kinetic Friction	5.2 Static and Kinetic Friction -Friction examples -Vernier Demo of static vs. kinetic friction -Give friction equations -Lab: Find kinetic and static coefficient lab (B,D,E,F) (point out that we are assuming constant velocity so $F_p = F_f$)	PP 17-21
T	10/26		5.2 Friction problems with non-zero acceleration -Braking Problems -CD Friction sheet -Lab: Friction related to surface and mass lab (A-F)	PP22-26
W	10/27		-Lab: Phet Friction lab	MP 93,94

R	10/28	5.3 Force and Motion in Two Dimensions -Equilibrium Revisited	5.3 Force and Motion in Two dimensions -Define equilibrant - Missing forces on Chichester Rounds (reinforce that this is an exception and often there is a net force, vector, etc)	MP 85-86, 95
F	10/29	-Motion Along an Inclined Plane	5.3 Motion along an incline plane -Equation for x and y components of weight -Incline worksheet -Finding acceleration of puck -Finding acceleration if there is friction	Take review packet practice quiz
Week 11				
M	11/1		Practice Problems	PP 33-36, 38-40
T	11/2		Practice Quiz review with targets	AC 66,68,72,103,106 STP 1-9
W	11/3		Test 5	