


DEVIL PHYSICS
BADDEST CLASS ON CAMPUS

AP PHYSICS 1 PACING PLAN

<u>Straight Schedule</u>	<u>IB Block</u>
146 class periods to complete the AP curriculum 180 School days / periods Minus 10 for testing, exams, assemblies, buyouts, fire drills, etc. (-10) Minus 26 for early AP exam (-26) 144 usable class days/periods prior to AP Exam 2 class periods uncovered	146 class periods to complete the AP curriculum 80 school days / 140 school periods Minus 5 for testing, exams, assemblies, buyouts, fire drills, etc. (-5) Minus 18 for early AP exam (-18) 117 usable class periods prior to AP Exam 29 class periods uncovered

Note: Current Pacing Plan below requires 146 class periods in order to cover all required material and labs under the AP Syllabus. This means that some material will have to be covered via independent study over the Thanksgiving, Christmas and/or Spring Breaks and some labs delayed until after the AP exam.

1	Intro 1	Due: None Objectives: Assign seats, assign textbooks, Pacing Plan, assign computers, check logins, website orientation, Focus moodle orientation Homework: Student Info Sheet (emailed and uploaded to Focus) Webquest
2	Intro Lab	Ball Bounce Experiment Partial Report: Research Question, Introduction, Defining Variables, Materials, Procedures, Controlling Variables, Data Analysis, Conclusion, and Evaluation
3	Intro 2	Objectives: Class Procedures Lecture Homework: Class Procedures Quiz
4	Intro 3	Objectives: Lab Safety Lecture Homework: Lab Safety Quiz Lab Safety Contract
5	Intro 4	Math Skills Test

CHAPTER 1

6	1.A.	Due: Reading Activity 1-1 to 1-4.docx, Definitions and questions Lecture: 1-1 The Nature of Science 1-2 Physics and its Relation to Other Fields 1-3 Models, Theories and Laws 1-4 Measurements and Uncertainty; Significant Figures
7	1.B.	Homework Review: Pg. 16, #1-10
8	1.C.	Due: Reading Activity G1-5 to 1-6, Cornell Notes Lecture: 1-5 Units, Standards and the SI system 1-6 Converting Units
9	1.D.	Homework Review: Pg. 16, #12-23

10	1E..	Due: Reading Activity G1-7 to 1-8, Practice Problem Solving Lecture: 1-7 Order of Magnitude: Rapid Estimating 1-8 Dimensions and Dimensional Analysis
11	1.F.	Homework Review: Pg. 17, #24-30, 32-33, State Your Assumptions
12	Enrich	SSTP Presentation
13	1.G.	Chapter 1 Test Review
14	1.H.	Chapter 1 Test – Multiple Choice Homework: Supplemental Reading Activity ~ Faster Than Light
15		Chapter 1 Test – Free Response
16	1.I.	1.Lab.1.: Measuring for Pi Data Collection Full Report (Fill in worksheet): Research Question, Introduction, Defining and Controlling Variables, Materials, Procedure, Data Collection, Data Analysis and Presentation, Conclusion, and Evaluation
17	1.J.	1.Lab.1.: Measuring for Pi Excel Spreadsheets and Graphs
18	1.K.	1.Lab.1.: Measuring for Pi Excel Spreadsheets and Graphs

CHAPTER 2

19	2.A.	Due: Reading Activity G2-1 to 2-3, Spider Diagram Lecture: 2-1 Reference Frames and Displacement 2-2 Average Velocity 2-3 Instantaneous Velocity
20	2.B.	Homework Review: #1-14
21	2.C.	Due: Reading Activity, Lsn 2-4 to 2-6, Cornell Notes Lecture: 2-4 Acceleration 2-5 Motion at Constant Acceleration 2-6 Solving Problems
22	2.D.	Homework Review: #16-19, 21-28
23	2.E.	2.Lab.1: Motion on Air Track Partial Report:
24	2.F.	Due: Reading Activity G2-7, Frayer Model Lecture: 2-7 Falling Objects
25	2.G.	Homework Review: #33-41
26	2.H.	2.Lab.2: Acceleration Due To Gravity Partial Report:
27	2.I.	2.Lab.2: Acceleration Due To Gravity Video Analysis
28	2.J.	Due: Reading Activity G2-8, Spider Diagram Lecture: 2-8 Graphical Analysis of Linear Motion
29	2.K.	Homework Review: #49-56

30	2.L.	2.Lab.3.: Moving Man Partial Report:
31	2.M.	Chapter 2 Test Review
32	2.N.	Chapter 2 Test – Multiple Choice
33	2.O.	Chapter 2 Test – Free Response

CHAPTER 3

34	3.A.	Due: Reading Activity G3-1 to 3-3, Question and Answer Lecture: 3-1 Vectors and Scalars 3-2 Addition of Vectors - Graphical Methods 3-3 Subtraction of Vectors and Multiplication of a Vector by a Scalar
35	3.B.	Due: Reading Activity ~ Trigonometry for Vectors, Question and Answer Lecture: Trigonometry for Vectors
36	3.C.	Homework Review: Trigonometry Review - Worksheet
37	3.D.	Trigonometry Review - Quiz
38	3.E.	Due: Reading Activity G3-4, Write A Problem Lecture: 3-4 Adding Vectors By Components
39	3.F.	Homework Review: #1-16
40	3.G.	Due: Reading Activity G3-5 to 3-6, 10 Fun Facts Lecture: 3-5 Projectile Motion 3-6 Solving Problems Involving Projectile Motion
41	3.H.	Homework Review: #17-33
42	3.I.	Due: Reading Activity ~ G3-7 to 3-8, Cornell Notes Lecture: 3-7 Projectile Motion is Parabolic 3-8 Relative Velocity
43	3.J.	Homework Review: #36-48
44	3.K.	3.Lab.1.: Ball In The Cup In-Class Lab, No Write-Up
45	3.L.	Chapter 3 Test Review
46	3.M.	Chapter 3 Test – Multiple Choice
47	3.N.	Chapter 3 Test – Free Response
48	3.O.	3.Lab.2.: Catapult Partial Report:

CHAPTER 4

49	4.A.	Due: Reading Activity G4-1 to 4-6, Definitions Lecture: 4-1 Force 4-2 Newton's First Law of Motion 4-3 Mass 4-4 Newton's Second Law of Motion 4-5 Newton's Third Law of Motion 4-6 Weight -- The Force of Gravity and The Normal Force
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50	4.B.	Homework Review: #1-17
51	4.C.	Due: Reading Activity 4-7, Problem Solving Lecture: 4-7 Solving Problems With Newton's Laws: Free-Body Diagrams
52	4.D.	Homework Review: #19-32
53	4.E.	Due: Reading Activity G4-8 to 4-9, Cornell Notes Lecture: 4-8 Problems Involving Friction 4-9 Problem Solving -- A General Approach
54	4.F.	Homework Review: #36-57
55	4.G.	4.Lab.1: PhET Ramp Lab Answer questions posed in lab instructions.
56	4.H.	Chapter 4 Test Review
57	4.I.	Chapter 4 Test – Multiple Choice
58	4.J.	Chapter 4 Test – Free Response

CHAPTER 5

59	5.A.	Due: Reading Activity G5-1 to 5-3, Definitions and Questions Lecture: 5-1 Kinematics of Uniform Circular Motion 5-2 Dynamics of Uniform Circular Motion 5-3 Highway Curves, Banked and Unbanked
60	5.B.	Homework Review: #1-20
61	5.C.	Due: Reading Activity 5-5 to 5-7, Answer Questions Lecture: 5-6 Newton's Law of Universal Gravitation 5-7 Gravity Near the Earth's Surface; Geophysical Applications
62	5.D.	Homework Review: #28-41
63	5.E.	Due: Reading Activity ~ Lsn 5-8 and 5-10, Cornell Notes Lecture: 5-8 Satellites and "Weightlessness" 5-10 Types of Forces in Nature
64	5.F.	Homework Review: #43-54
65	5.G.	5.Lab.1.: Centripetal Acceleration Full Report: Research Question, Introduction, Defining and Controlling Variables, Materials, Procedure, Data Collection, Data Analysis and Presentation, Conclusion, and Evaluation
66	5.H.	Chapter 5 Test Review
67	5.I.	Chapter 5 Test – Multiple Choice
68	5.J.	Chapter 5 Test – Free Response
69	5.K.	5.Lab.2: Even More Acceleration Full Report: Research Question, Introduction, Defining and Controlling Variables, Materials, Procedure, Data Collection, Data Analysis and Presentation, Conclusion, and Evaluation
70	5.L.	5.Lab.3: Physics Day at Busch Gardens Physics Day Prep Answer questions from Physics Day Guide
71	5.M.	5.Lab.3: Physics Day at Busch Gardens Answer questions from Physics Day Guide

MID-YEAR CORRECTIONS AND EXAMS

72	<i>Testing, assemblies, buyouts, fire drills, exam review, etc.</i>
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76	<i>Mid-Year Exams</i>
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END OF FIRST SEMESTER, BEGINNING OF SECOND SEMESTER

CHAPTER 6

80	6.A.	Due: Reading Activity Lesson 6-1 to 6-2, Cornell Notes Lecture: 6-1 Work Done By A Constant Force 6-2 Work Done By A Varying Force
81	6.B.	Homework Review: #1-14
82	6.C.	Due: Reading Activity Lesson 6-3, Frayer Model Lecture: 6-3 Kinetic Energy and the Work-Energy Principle
83	6.D.	Homework Review: #15-24
84	6.E.	Due: Reading Activity Lesson 6-4 to 6-5, Student Choice Lecture: 6-4 Potential Energy 6-5 Conservative and Nonconservative Forces
85	6.F.	Homework Review: #26-32
86	6.G.	Due: Reading Activity Lsn 6-6 to 6-7, Write a Story Lecture: 6-6 Mechanical Energy and Its Conservation 6-7 Problem Solving Using Conservation of Mechanical Energy
87	6.H.	Homework Review: #33-44
88	6.I.	Due: Reading Activity Lesson 6-8 to 6-9, Create a Block Diagram Lecture: 6-8 Other Forms of Energy; Energy Transformations and the Law of Conservation of Energy 6-9 Energy Conservation with Dissipative Forces: Solving Problems
89	6.J.	Homework Review: #47-54
90	6.K.	6.Lab.1 PhET Energy Skate Park Full Report: Research Question, Introduction, Defining and Controlling Variables, Materials, Procedure, Data Collection, Data Analysis and Presentation, Conclusion, and Evaluation
91	6.L.	Due: Reading Activity Lsn 6-10, Cornell Notes Lecture: 6-10 Power
92	6.M.	Homework Review: #58-70

93	6.N.	6.Lab.2: Conservation of Energy Full Report: Research Question, Introduction, Defining and Controlling Variables, Materials, Procedure, Data Collection, Data Analysis and Presentation, Conclusion, and Evaluation
94	6.O.	Chapter 6 Test Review
95	6.P.	Chapter 6 Test – Multiple Choice
96	6.Q.	Chapter 6 Test – Free Response

CHAPTER 7

97	7.A.	Due: Reading Activity Lsn 7-1 to 7-3, Develop a Quiz Lecture: 7-1 Momentum and Its Relation To Force 7-2 Conservation of Momentum 7-3 Collisions and Impulse
98	7.B.	Homework Review: #1-12, 15-20
99	7.C.	Due: Reading Activity 7-4 to 7-6, Explain how terms are used in the poem Charge of the Light Brigade Lecture: 7-4 Conservation of Energy and Momentum in Collisions 7-5 Elastic Collisions in One Dimension 7-6 Inelastic Collisions
100	7.D.	Homework Review: #22-28, 31-38
101	7.E.	7.Lab.1: Ballistic Pendulum Full Report: Research Question, Introduction, Defining and Controlling Variables, Materials, Procedure, Data Collection, Data Analysis and Presentation, Conclusion, and Evaluation
102	7.F.	7.Lab.2.: Center of Mass and Momentum (split) Full Report: Research Question, Introduction, Defining and Controlling Variables, Materials, Procedure, Data Collection, Data Analysis and Presentation, Conclusion, and Evaluation
103	7.G.	Chapter 7 Test Review
104	7.H.	Chapter 7 Test – Multiple Choice
105	7.I.	Chapter 7 Test – Free Response

CHAPTER 8

106	8.A.	Due: Lecture: 8-1 Angular Quantities 8-2 Constant Angular Acceleration 8-3 Rolling Motion (Without Slipping)
107	8B..	Homework Review: #1-13, 15-21
108	8.C.	Due: Reading Activity Lsn 8-4 (add obj), Definitions and Problem Solving Lecture: 8.4 Torque
109	8.D.	Homework Review: #22-26
110	8.E.	Due: Lecture: 8-5 Rotational Dynamics; Torque and Rotational Inertia 8-6 Solving Problems in Rotational Dynamics
111	8.F.	Homework Review: #27-40
112	8.G.	Due: Lecture: 8-7 Rotational Kinetic Energy

113	8.H.	Homework Review: #43-48
114	8.I.	Due: Lecture: 8-8 Angular Momentum and Its Conservation
115	8.J.	Homework Review: #51-64
116	8.K.	8.Lab.1: TBD Full Report: Research Question, Introduction, Defining and Controlling Variables, Materials, Procedure, Data Collection, Data Analysis and Presentation, Conclusion, and Evaluation
117	8.L.	8.Lab.2.: TBD Full Report: Research Question, Introduction, Defining and Controlling Variables, Materials, Procedure, Data Collection, Data Analysis and Presentation, Conclusion, and Evaluation
118	8.M.	Chapter 8 Test Review
119	8.N.	Chapter 8 Test – Multiple Choice
120	8.O.	Chapter 8 Test – Free Response

CHAPTER 11

121	11.A.	Due: Reading Activity 11-1 to 11-3, Definitions and Questions Lecture: 11-1 Simple Harmonic Motion 11-2 Energy in the Simple Harmonic Oscillator 11-3 The Period and Sinusoidal Nature of SHM
122	11.B.	Homework Review: #1-25
123	11.C.	Due: Lecture: 11-4 The Simple Pendulum
124	11.D.	Homework Review: #28-34
125	11.E.	Due: Reading Activity Lsn 11-7 to 11-8, Definitions and Questions Lecture: 11-7 Wave Motion 11-8 Types of Waves: Transverse and Longitudinal 11-9 Energy Transported by Waves
126	11.F.	Homework Review: #36-44, 46-47
127	11.G.	Due: Reading Activity Lsn 11-11 to 11-13, Definitions and Questions Lecture: 11-11 Reflection and Transmission of Waves 11-12 Interference; Principle of Superposition 11-13 Standing Waves; Resonance
127	11.H.	Homework Review: #51-61
129	11.I.	11.Lab.1: TBD Full Report: Research Question, Introduction, Defining and Controlling Variables, Materials, Procedure, Data Collection, Data Analysis and Presentation, Conclusion, and Evaluation
130	11.J.	11.Lab.2.: TBD Full Report: Research Question, Introduction, Defining and Controlling Variables, Materials, Procedure, Data Collection, Data Analysis and Presentation, Conclusion, and Evaluation
131	11.K.	Chapter 11 Test Review
132	11.L.	Chapter 11 Test – Multiple Choice
133	11.M.	Chapter 11 Test – Free Response

CHAPTER 16, 18, 19

134	16.A.	Due: Lecture: 16-1 Static Electricity; Electric Charge and Its Conservation 16-2 Electric Charge in the Atom 16-3 Insulators and Conductors 16-4 Induced Charge; the Electroscope
135	16.B.	Due: Lecture: 16-5 Coulomb's Law 16-6 Solving Problems Involving Coulomb's Law and Vectors
136	16.C.	Homework Review: #1-9, #10-17
137	18.A.	Due: Lecture: 18.1 The Electric Battery 18.2 Electric Current 18.3 Ohm's Law: Resistance and Resistors
138	18.B.	Homework Review: #1-11
139	18.C.	Due: Lecture: 18-4 Resistivity
140	18.D.	Homework Review: #12-23
141	18.E.	Due: Lecture: 18-5 Electrical Power 18-6 Power in Household Circuits
142	18.F.	Homework Review: #26-39
143	19.A.	Due: Lecture: 19-1, EMF and Terminal Voltage 19-2, Resistors in Series and in Parallel
144	19.B.	Homework Review: #1-18
145	19.C.	Due: Lecture: 19-3, Kirchoff's Rules
146	19.D.	Homework Review: #23-31
146	ELEC. LAB.A	ELEC.Lab.1: TBD Full Report: Research Question, Introduction, Defining and Controlling Variables, Materials, Procedure, Data Collection, Data Analysis and Presentation, Conclusion, and Evaluation
148	ELEC. LAB.B	ELEC.Lab.2.: TBD Full Report: Research Question, Introduction, Defining and Controlling Variables, Materials, Procedure, Data Collection, Data Analysis and Presentation, Conclusion, and Evaluation
149	ELEC.A	Electricity Test Review (Chap 16, 18 and 19)
150	ELEC.B	Electricity Test (Chap 16, 18 and 19) – Multiple Choice
151	ELEC.C	Electricity Test (Chap 16, 18 and 19) – Free Response

PRACTICE AP EXAM

152	PRAC EXAM	Review Practice Exam Multiple Choice
153	PRAC EXAM	Review Practice Exam Free Response

AP EXAM

154	EXAM	AP Exam
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Post-Exam Lessons and Labs

(First priority will be given to labs not completed prior to the AP Exam and then to topics deemed most beneficial to the students)

155	TBD	TBD
156	TBD	TBD
157	TBD	TBD
158	TBD	TBD
159	TBD	TBD
160	TBD	TBD
161	TBD	TBD
162	TBD	TBD
163	TBD	TBD
164	TBD	TBD
165	TBD	TBD
166	TBD	TBD
167	TBD	TBD
168	TBD	TBD
169	TBD	TBD
170	TBD	TBD

END-OF-YEAR CORRECTIONS AND EXAMS

171	<i>Testing, assemblies, buyouts, fire drills, exam review, etc.</i>
172	
173	
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175	<i>Final Exams and Graduation</i>
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Ideas for Post-Exam Lessons and Labs

Lesson #	7.D
Resources	7.8 Center of Mass (CM)
Reading Activity	Reading Activity Lsh 7.8 to 7.9, Cornell Notes
Lecture	Grandchild Lesson 7.8 to 7.9 Lecture
Homework	#46-51