

## **4e Coversheets, 2010-2011**

### **Chapter 1: Introduction and the Scientific Method**

1. Getting to Know Your Conceptual Physics Textbook
2. Lab: "Amassing a Penny's Worth"
3. Graph from lab

### **Chapters 2: Equilibrium of Forces**

1. Worksheet 2-1
2. Worksheet 2-2
3. Chapter 2 Think and Explains #25-35 (answered in complete sentences)
4. Chapter 2 Think and Solves #36-48 (4-step method)
5. Lab: "Smart Ropes"
6. Double graph from "Smart Ropes" lab
7. Lab: "24-Hour Towing Service"
8. Force as a Vector (vector diagrams neatly done on graph paper)
9. Chapter 2 Reading/Class Notes

Please utilize the four-step procedure for all "Think and Solves".

#### Four Step Method:

- 1) Make and sketch and label the givens (and free-body diagram)
- 2) Identify what you are solving for ( $d = \text{___?___}$ ,  $v = \text{___?___}$ ,  $a = \text{___?___}$  etc.)
- 3) Write down the relevant equations.
- 4) Solve the equation(s) then either box your answer or highlight your answer.

## **Chapter 3: Inertia**

1. Lab: "Going Nuts"
2. Worksheet 3-1
3. Worksheet 3-2
4. Chapter 3: "Think and Explains" (in complete sentences) #28-42
5. Chapter 3: "Think and Explains" (in complete sentences) #43-50
6. Chapter 3: "Think and Solves" #51-55 (4-step method)
7. Inertia Demonstration—"Ball & String Demo" (from WebAssign)
8. Chapter 3 Reading Class/Notes

## **Chapter 4: Linear Motion**

1. Lab#3 "The Domino Effect" + graph of data (hand drawn graph)
2. Worksheet 4-1
3. Worksheet 4-1b
4. Worksheet 4-2 (with your own calculations on back)
5. "Reaction Time" Activity
6. Chapter 4 "Think and Solves" using 4-step method
7. Chapter 4: Reading/Class Notes

## **Chapter 5a: Projectile Motion**

1. Worksheet 5-1, carefully done with a ruler
2. "Rock Off a Cliff" at  $45^\circ$  with 5 Questions & Answers
3. "Rock Off a Cliff" at  $38^\circ$  with 5 Questions & Answers
4. Chapter 5, page 83#18-32 (show your work and complete sentence answers!)
5. Chapter 5, page 83#33-43 (show your work and complete sentence answers!)
6. Chapter 5, page 83#44-50 (show your work and complete sentence answers!)

## **Chapter 5b: Baseball as a Projectile**

1. Anatomy of a Pitch (with 2-page graph)
2. Anatomy of a Homer—with calculations clearly shown
3. Velocity as a Vector Problems—First Draft
4. Velocity as a Vector Problems—Final Draft
5. Lab: “Bull’s Eye”
6. History and Physics of Balls
7. Velocity as a Vector and Projectile Motion Test and Corrections  
(must have both)
8. Physics of Baseball Notes

## **Chapter 6: Newton's 2<sup>nd</sup> Law**

1. Lab: "What a Drag" with graph of height vs. # filters
2. Worksheet 6-1
3. Worksheet 6-2
4. Worksheet 6-3
5. Lab #19 or #20 with graph drawn by hand and with Excel
6. Top Gun Problems (4-step method including FBD)
7. Chapter 6 Reading/Class Notes
8. Worksheet 7-2
9. Chapter 7 Reading Notes
10. Worksheet 8-1
11. Chapter 8 Reading Notes

## **Chapters 9-14 Packet**

1. Worksheet 9-2
2. Worksheet 9-3
3. Lab #23 "Egg Toss"
4. Chapter 8 #54-65
5. Class Activity/Video: "Head-on Physics"
6. Chapter 9, #38-48, 50-54
7. Chapter 9 Reading/Class Notes
8. "Frames of Reference" Study Guide
9. Worksheet 10-1
10. Worksheet 10-2a
11. Worksheet 10-2b
12. Chapter 10, #33-43
13. Chapter 10 Reading/Class Notes
14. WebAssign 10a
15. Lab #34 "Going in Circles"
16. Lab #35 "The Flying Pig"
17. Chapter 11 Reading/Class Notes
18. Chapter 12 Reading/Class Notes
19. Chapter 13 Reading/Class Notes
20. Chapter 14 Reading/Class Notes

## **Chapters 10 & 14 Packet**

1. Video Notes: "Understanding Car Crashes: It's Just Basic Physics/Where Physics Meets Biology"
2. "What Holds Satellites Up?"
3. Worksheet 14-1 (with carefully drawn vectors on the back)
4. Chapter 14#24-39 (answers in complete sentences!)
5. Chapter 14#40-50 (must show work!)
6. Lab#46 "Trial and Error with both graphs"
7. Lab#44 "Getting Eccentric"
8. Escaping the Gravity of the Sun—Gravitational Sling-Shots (notes from PPT)



## **Chapters 32-35 Packet**

1. Chapter 32 Reading Notes
2. Chapter 33 Reading Notes
3. Chapter 34 Reading Notes
4. Chapter 35 Reading Notes
5. Worksheet 32-1
6. Worksheet 33-2
7. Worksheet 34-1
8. Worksheet 34-2
9. Worksheet 35-1
10. Worksheet 35-2