



# Texas Essential Knowledge and Skills

Correlation of Performance Descriptions	Student Edition Pages
<b>1</b> Scientific processes. The student, for at least 40% of instructional time, conducts field and laboratory investigations using safe, environmentally appropriate, and ethical practices. The student is expected to:	
1(A) demonstrate safe practices during field and laboratory investigations; and	12, 31–32, 55, 58, 69, 87, 91, 93, 99–100, 115, 119, 123, 129, 133, 137, 141, 156, 161–162, 164, 166, 177, 179, 188–189, 205, 208, 213, 221, 225, 227, 232, 236, 249, 257, 262, 281, 284, 287, 294, 303, 308, 311, 317, 330, 337, 339–340, 362, 365, 377, 386, 394, 399–400, 404, 408, 417–420, 432–433, 446, 450, 455, 467, 471–472, 484, 496, 512, 516, 518, 521–522, 534, 539, 545, 547, 557, 559, 562, 564, 585, 588, 591, 593, 595, 607, 612, 614, 617, 623, 627, 630, 634, 652, 656, 659, 661, 675, 682, 684, 698, 706, 719, 727
1(B) make wise choices in the use and conservation of resources and the disposal or recycling of materials.	12, 32, 58, 69, 100, 115, 137, 213, 221, 232, 257, 281, 308, 330, 362, 377, 399, 433, 446, 467, 496, 518, 545, 562, 595, 612, 634, 656, 684
<b>2</b> Scientific processes. The student uses scientific methods during field and laboratory investigations. The student is expected to:	
2(A) plan and implement experimental procedures including asking questions, formulating testable hypotheses, and selecting equipment and technology;	12, 19, 32, 58, 69, 100, 115, 129, 133, 137, 162, 177, 179, 188–189, 205, 208, 213, 221, 225, 227, 232, 236, 249, 257, 262, 281, 284, 287, 294, 303, 308, 311, 317, 330, 337, 339–340, 360, 362, 365, 371, 377, 386–387, 394, 399–400, 404, 408, 417–420, 432–433, 435, 446–447, 450, 455, 467, 471–472, 484, 496, 512, 516, 518, 522, 534, 539, 545, 547, 557, 559, 562, 564, 585, 588, 591, 593, 595, 607, 612, 614, 617, 623, 627, 630, 634, 652, 656, 659, 661, 675, 682, 684, 698, 700, 706, 727–728, 811–816
2(B) make quantitative observations and measurements with precision;	12, 19, 31–32, 50, 55, 58, 69, 74, 87, 93, 100, 115, 119, 129, 133, 137, 161–162, 179, 188, 205, 213, 225, 227, 232, 257, 262, 281, 284, 287, 308, 330, 360, 362, 371, 399, 446, 496, 518, 521, 545, 547, 700, 727
2(C) organize, analyze, evaluate, make inferences, and predict trends from data;	12–13, 19, 31–32, 55, 58, 69, 87, 91, 93, 99–100, 115, 123, 129, 133, 137, 141, 156, 161–162, 177, 179, 205, 221, 225, 249, 257, 262, 281, 284, 287, 308, 360, 362, 371, 377, 380, 383, 386, 394, 399–400, 404, 418–420, 425, 432–433, 435, 446–447, 450, 455, 467, 471–472, 484, 496, 516, 518, 521–522, 534, 539, 545, 547, 559, 562, 585, 588, 591, 593, 595, 607, 612, 614, 617, 623, 627, 630, 634, 652, 656, 659, 661, 675, 682, 684–685, 698, 700, 706, 719, 727
2(D) communicate valid conclusions;	12–13, 19, 31–32, 50, 58, 69, 87, 91, 100, 115, 133, 137, 141, 156, 161–162, 164, 166, 177, 179, 188–189, 205, 208, 213, 221, 225, 227, 232, 236, 249, 257, 262, 281, 284, 287, 294, 308, 311, 317, 330, 337, 339–340, 360, 362, 365, 377, 380, 383, 386, 399–400, 404, 417–420, 425, 432–433, 446–447, 450, 455, 467, 471–472, 484, 496, 512, 516, 518, 522, 534, 539, 545, 547, 559, 562, 564, 585, 588, 591, 595, 612, 614, 617, 623, 627, 630, 634, 652, 659, 675, 682, 684, 698, 700, 706, 719, 727, 728, 816
2(E) graph data to observe and identify relationships between variables; and	31–33, 100, 115, 281, 287, 380, 518, 700, 814



# Texas Essential Knowledge and Skills

Correlation of Performance Descriptions	Student Edition Pages
2(F) read the scale on scientific instruments with precision.	12, 19, 31–32, 58, 137, 179, 188, 205, 213, 225, 227, 232, 257, 262, 281, 284, 287, 308, 330, 360, 362, 446–447, 518–519, 545, 547
<b>3</b> Scientific processes. The student uses critical thinking and scientific problem solving to make informed decisions. The student is expected to:	
3(A) analyze, review, and critique scientific explanations, including hypotheses and theories, as to their strengths and weaknesses using scientific evidence and information;	5, 13, 70, 170, 193, 196–197, 267, 376, 466, 476–477, 505, 587, 640–641, 664–667, 712, 732–733
3(B) express laws symbolically and employ mathematical procedures including vector addition and right-triangle geometry to solve physical problems;	12, 19–29, 34, 38–41, 50, 53–55, 58–59, 64–69, 71–79, 86–89, 92–115, 120–137, 140–141, 143–147, 150–163, 166, 168–173, 177, 179–197, 201–221, 224–235, 238–239, 241–245, 250–265, 268–271, 278–284, 286–289, 296–297, 300–309, 313, 318–319, 321, 323–325, 331–333, 335, 344–347, 350–352, 360–363, 366–371, 376–377, 379–381, 389–391, 396–404, 410–413, 420–427, 430–435, 438–441, 446–451, 454–455, 458–459, 470–472, 474–479, 482–485, 488–495, 500–505, 510–511, 514–522, 524–529, 533–541, 544–547, 550–553, 568–569, 572–579, 582–585, 588–589, 594–601, 604–611, 622–623, 626–638, 640–643, 652–657, 666–667, 672–677, 680–681, 686–689, 692–701, 706–708, 712–715, 719–721, 724–727, 730–731, 734–735, 748–777, 816, 819, 821, 823, 829, 836, 839, 845–846, 849–853, 856, 870–871
3(C) evaluate the impact of research on scientific thought, society, and the environment;	2–17, 63, 70, 143, 167, 178, 184, 223, 245, 266, 274–275, 292, 299, 310, 316, 320–321, 334, 356, 374–375, 378, 390–391, 405, 428–429, 451, 486, 505, 519, 525, 587, 618, 620, 639, 648–653, 663–664, 671, 679, 683, 686, 701–703, 711, 717, 722–725, 728–729, 732, 734–735
3(D) describe the connection between physics and future careers; and	3–5, 8–13, 26, 46, 68, 98, 122, 165, 167, 186, 214, 234, 245, 312, 319–320, 332, 352, 376, 402, 421, 454, 464, 489, 510, 543, 548, 574, 589, 605, 629, 662, 664, 673, 686, 694, 721
3(E) research and describe the history of physics and contributions of scientists.	3–13, 16–17, 76, 79, 104, 106, 117, 122–123, 125–127, 141–142, 313, 323, 381, 451, 486, 504–505, 620, 636, 666–667
<b>4</b> Science concepts. The student knows the laws governing motion. The student is expected to:	
4(A) generate and interpret graphs describing motion including the use of real-time technology;	30–34, 36–37, 40–41, 44–45, 72–75, 78–79, 82–100, 108–115, 120–121, 218–219, 239, 243–245, 260–261, 268–271, 748–753, 816
4(B) analyze examples of uniform and accelerated motion including linear, projectile, and circular;	44–51, 53–61, 68–71, 76–99, 102–107, 120–149, 152–173, 176–177, 179–207, 216–217, 220–221, 224–239, 241–245, 248–255, 258–261, 264–265, 268–271, 494–495, 748–761, 811–813, 816–822, 826–832, 861–871
4(C) demonstrate the effects of forces on the motion of objects;	120–125, 128–133, 136–137, 140–147, 152–173, 180–191, 204–209, 212–213, 220–221, 224–227



# Texas Essential Knowledge and Skills

Correlation of Performance Descriptions	Student Edition Pages
4(D) develop and interpret a free-body diagram for force analysis; and	119, 124–125, 128–129, 132–133, 140, 145–147, 151–153, 156–157, 159, 179, 244–245, 251, 304–307, 754–755, 760, 811, 816, 827, 833, 835–839
4(E) identify and describe motion relative to different frames of reference.	42–45, 48–51, 68–69, 71, 78–79, 170–171, 752, 830–832, 861–867, 869–870
<b>5</b> Science concepts. The student knows that changes occur within a physical system and recognizes that energy and momentum are conserved. The student is expected to:	
5(A) interpret evidence for the work-energy theorem;	224–231, 236–249, 251, 256, 266–271, 759–760
5(B) observe and describe examples of kinetic and potential energy and their transformations;	246–262, 265–271, 275–277, 294–295, 300–301, 488–493, 498–507, 628–636, 642–643, 708–709, 759–760, 829, 841, 867, 870–871
5(C) calculate the mechanical energy and momentum in a physical system such as billiards, cars, and trains; and	200–221, 251, 254–255, 261–262, 265, 758–760, 774–775
5(D) demonstrate the conservation of energy and momentum.	208, 210, 213–214, 216–221, 256–257, 261–262, 265–271, 634, 636, 638, 640–643, 758–759
<b>6</b> Scientific concepts. The student knows forces in nature. The student is expected to:	
6(A) identify the influence of mass and distance on gravitational forces;	181–184, 188–192, 194–197, 756–757
6(B) research and describe the historical development of the concepts of gravitational, electrical, and magnetic force;	175–177, 180, 185, 191–192, 197, 461, 468, 470–471, 479, 482, 493–495, 560, 564, 567, 582, 590, 604–605
6(C) identify and analyze the influences of charge and distance on electric forces;	462–464, 467–472, 474–479, 482–485, 487–489, 492–493, 498–505, 670–671, 695, 768
6(D) demonstrate the relationship between electricity and magnetism;	562–563, 569, 574–579, 585, 589, 595, 597–601, 607, 610–612, 614
6(E) design and analyze electric circuits; and	511–519, 521–522, 525–529, 533–553, 588–589, 591, 616, 628, 630, 680–684, 688–689, 727, 769–771, 773, 776, 855, 857–858
6(F) identify examples of electrical and magnetic forces in everyday life.	462–467, 473, 476–477, 498–499, 505, 565–566, 570–574, 586
<b>7</b> Science concepts. The student knows the laws of thermodynamics. The student is expected to:	
7(A) analyze and explain everyday examples that illustrate the laws of thermodynamics; and	273, 280–281, 289–291, 294, 296–297, 761



# Texas Essential Knowledge and Skills

Correlation of Performance Descriptions	Student Edition Pages
7(B) evaluate different methods of heat energy transfer that result in an increasing amount of disorder.	283–284, 294, 296–297
<b>8</b> Science concepts. The student knows the characteristics and behavior of waves. The student is expected to:	
8(A) examine and describe a variety of waves propagated in various types of media and describe wave characteristics such as velocity, frequency, amplitude, and behaviors such as reflection, refraction, and interference;	328, 347, 350–356, 358–363, 366–371, 374–376, 381, 383, 385–391, 394–413, 416–441, 444–451, 453–459, 762–767
8(B) identify the characteristics and behaviors of sound and electromagnetic waves; and	292, 333, 344–346, 349–355, 358, 371, 374–377, 381–383, 385–391, 394–413, 416–441, 444–451, 453–459, 613–615, 621–623, 636–637, 640–643, 647–650, 736–767, 774–776, 855–860, 870
8(C) interpret the role of wave characteristics and behaviors found in medicinal and industrial applications.	292, 356, 368–369, 378, 388, 405, 409, 428, 441, 456, 458–459, 620, 860
<b>9</b> Science concepts. The student knows simple examples of quantum physics. The student is expected to:	
9(A) describe the photoelectric effect; and	628–633, 636, 642
9(B) explain the line spectra from different gas-discharge tubes.	647–657, 665–667



# Correlation to Performance Descriptions

<b>Physics: Principles and Problems</b>		
<b>Contents</b>	<b>Pages</b>	<b>Texas Essential Knowledge and Skills</b>
<b>CHAPTER 1 What is physics?</b>	1–13	1(A), 1(B), 2(A), 2(B), 2(C), 2(D), 2(F), 3(A), 3(B), 3(C), 3(D), 3(E)
<b>CHAPTER 2 A Mathematical Toolkit</b>		
2.1 The Measures of Science	14–23	2(A), 2(B), 2(C), 2(D), 2(F), 3(B), 3(C), 3(E)
2.2 Measurement Uncertainties	24–29	3(B), 3(D)
2.3 Visualizing Data	30–41	1(A), 1(B), 2(A), 2(B), 2(C), 2(D), 2(E), 2(F), 3(B), 4(A)
<b>CHAPTER 3 Describing Motion</b>		
3.1 Picturing Motion	42–46	3(D), 4(B), 4(E)
3.2 Where and When?	47–52	2(B), 2(D), 3(B), 4(B), 4(E)
3.3 Velocity and Acceleration	53–61	1(A), 1(B), 2(A), 2(B), 2(C), 2(D), 2(F), 3(B), 4(B)
<b>CHAPTER 4 Vector Addition</b>		
4.1 Properties of Vectors	62–71	1(A), 1(B), 2(A), 2(B), 2(C), 2(D), 3(A), 3(B), 3(C), 3(D), 4(B), 4(E)
4.2 Components of Vectors	72–79	2(B), 3(B), 3(E), 4(A), 4(B), 4(E)
<b>CHAPTER 5 A Mathematical Model of Motion</b>		
5.1 Graphing Motion in One Dimension	80–89	1(A), 2(B), 2(C), 2(D), 3(B), 4(A), 4(B)
5.2 Graphing Velocity in One Dimension	90–93	1(A), 2(B), 2(C), 2(D), 3(B), 4(A), 4(B)
5.3 Acceleration	94–103	1(A), 1(B), 2(A), 2(B), 2(C), 2(D), 2(E), 3(B), 3(D), 4(A), 4(B)
5.4 Free Fall	104–115	1(A), 1(B), 2(A), 2(B), 2(C), 2(D), 2(E), 3(B), 3(E), 4(A), 4(B)
<b>CHAPTER 6 Forces</b>		
6.1 Force and Motion	116–125	1(A), 2(B), 2(C), 3(B), 3(D), 3(E), 4(A), 4(B), 4(C), 4(D)
6.2 Using Newton's Laws	126–137	1(A), 1(B), 2(A), 2(B), 2(C), 2(D), 2(F), 3(B), 3(E), 4(B), 4(C), 4(D)
6.3 Interaction Forces	138–147	1(A), 2(C), 2(D), 3(B), 3(C), 3(E), 4(B), 4(C), 4(D)
<b>CHAPTER 7 Forces and Motion in Two Dimensions</b>		
7.1 Forces in Two Dimensions	148–154	3(B), 4(B), 4(C), 4(D)
7.2 Projectile Motion	155–162	1(A), 2(A), 2(B), 2(C), 2(D), 3(B), 4(B), 4(C), 4(D)
7.3 Circular Motion	163–173	1(A), 2(D), 3(A), 3(B), 3(C), 3(D), 4(A), 4(B), 4(C), 4(D), 4(E)
<b>CHAPTER 8 Universal Gravitation</b>		
8.1 Motion in the Heavens and on Earth	174–184	1(A), 2(A), 2(B), 2(C), 2(D), 2(F), 3(B), 3(C), 4(B), 4(C), 4(D), 6(A), 6(B)
8.2 Using the Law of Universal Gravitation	185–197	1(A), 2(A), 2(B), 2(D), 2(F), 3(A), 3(B), 3(D), 4(B), 4(C), 6(A), 6(B)



# Correlation to Performance Descriptions

<b>Physics: Principles and Problems</b>		
<b>Contents</b>	<b>Pages</b>	<b>Texas Essential Knowledge and Skills</b>
<b>CHAPTER 9 Momentum and Its Conservation</b>		
9.1 Impulse and Momentum	198–206	1(A), 2(A), 2(B), 2(C), 2(D), 2(F), 3(B), 4(B), 4(C), 5(C)
9.2 The Conservation of Momentum	207–221	1(A), 1(B), 2(A), 2(B), 2(C), 2(D), 2(F), 3(B), 3(D), 4(A), 4(B), 4(C), 5(C), 5(D)
<b>CHAPTER 10 Energy, Work, and Simple Machines</b>		
10.1 Energy and Work	222–232	1(A), 1(B), 2(A), 2(B), 2(C), 2(D), 2(F), 3(B), 3(C), 4(B), 4(C), 5(A)
10.2 Machines	233–245	1(A), 2(A), 2(D), 3(B), 3(C), 3(D), 4(A), 4(B), 4(D), 5(A)
<b>CHAPTER 11 Energy</b>		
11.1 The Many Forms of Energy	246–257	1(A), 1(B), 2(A), 2(B), 2(C), 2(D), 2(F), 3(B), 4(A), 4(B), 4(D), 5(A), 5(B), 5(C), 5(D)
11.2 Conservation of Energy	258–271	1(A), 2(A), 2(B), 2(C), 2(D), 2(F), 3(A), 3(B), 3(C), 4(A), 4(B), 5(A), 5(B), 5(C), 5(D)
<b>CHAPTER 12 Thermal Energy</b>		
12.1 Temperature and Thermal Energy	272–284	1(A), 1(B), 2(A), 2(B), 2(C), 2(D), 2(E), 2(F), 3(B), 3(C), 5(A), 5(B), 7(A), 7(B)
12.2 Change of State and Laws of Thermodynamics	285–297	1(A), 2(A), 2(B), 2(C), 2(D), 2(E), 2(F), 3(B), 3(C), 5(B), 7(A), 7(B), 8(B), 8(C)
<b>CHAPTER 13 States of Matter</b>		
13.1 The Fluid States	298–313	1(A), 1(B), 2(A), 2(B), 2(C), 2(D), 2(F), 3(B), 3(C), 3(D), 3(E), 4(D), 5(B)
13.2 The Solid State	314–325	1(A), 2(A), 2(D), 3(B), 3(C), 3(D), 3(E)
<b>CHAPTER 14 Waves and Energy Transfer</b>		
14.1 Wave Properties	326–335	1(A), 1(B), 2(A), 2(B), 2(D), 2(F), 3(B), 3(C), 3(D), 8(A), 8(B)
14.2 Wave Behavior	336–347	1(A), 2(A), 2(D), 3(B), 8(A), 8(B)
<b>CHAPTER 15 Sound</b>		
15.1 Properties of Sound	348–356	3(B), 3(C), 3(D), 8(A), 8(B), 8(C)
15.2 The Physics of Music	357–371	1(A), 1(B), 2(A), 2(B), 2(C), 2(D), 2(F), 3(B), 8(A), 8(B), 8(C)
<b>CHAPTER 16 Light</b>		
16.1 Light Fundamentals	372–381	1(A), 1(B), 2(A), 2(C), 2(D), 2(E), 3(A), 3(B), 3(C), 3(D), 3(E), 8(A), 8(B), 8(C)
16.2 Light and Matter	382–391	1(A), 2(A), 2(C), 2(D), 3(B), 3(C), 8(A), 8(B), 8(C)



# Correlation to Performance Descriptions

<b>Physics: Principles and Problems</b>		
<b>Contents</b>	<b>Pages</b>	<b>Texas Essential Knowledge and Skills</b>
<b>CHAPTER 17 Reflection and Refraction</b>		
17.1 How Light Behaves at a Boundary	392–402	1(A), 1(B), 2(A), 2(B), 2(C), 2(D), 3(B), 3(D), 8(A), 8(B)
17.2 Applications of Reflected and Refracted Light	403–413	1(A), 2(A), 2(C), 2(D), 3(B), 3(C), 8(A), 8(B), 8(C)
<b>CHAPTER 18 Mirrors and Lenses</b>		
18.1 Mirrors	414–428	1(A), 2(A), 2(C), 2(D), 3(B), 3(C), 3(D), 8(A), 8(B), 8(C)
18.2 Lenses	429–441	1(A), 1(B), 2(A), 2(C), 2(D), 3(B), 8(A), 8(B), 8(C)
<b>CHAPTER 19 Diffraction and Interference of Light</b>		
19.1 When Light Waves Interfere	442–451	1(A), 1(B), 2(A), 2(B), 2(C), 2(D), 2(F), 3(B), 3(C), 3(E), 8(A), 8(B)
19.2 Applications of Diffraction	452–459	1(A), 2(A), 2(C), 2(D), 3(B), 3(D), 8(A), 8(B), 8(C)
<b>CHAPTER 20 Static Electricity</b>		
20.1 Electrical Charge	460–467	1(A), 1(B), 2(A), 2(C), 2(D), 3(A), 3(C), 3(D), 6(B), 6(C), 6(F)
20.2 Electrical Force	468–479	1(A), 2(A), 2(C), 2(D), 3(A), 3(B), 6(B), 6(C), 6(F)
<b>CHAPTER 21 Electric Fields</b>		
21.1 Creating and Measuring Electric Fields	480–487	1(A), 2(A), 2(C), 2(D), 3(B), 3(C), 3(E), 6(B), 6(C)
21.2 Applications of Electric Fields	488–505	1(A), 1(B), 2(A), 2(B), 2(C), 2(D), 3(A), 3(B), 3(C), 3(D), 3(E), 4(B), 5(B), 6(B), 6(C), 6(F)
<b>CHAPTER 22 Current Electricity</b>		
22.1 Current and Circuits	506–519	1(A), 1(B), 2(A), 2(B), 2(C), 2(D), 2(E), 2(F), 3(B), 3(C), 3(D)
22.2 Using Electric Energy	520–529	1(A), 2(A), 2(B), 2(C), 2(D), 3(B), 3(C), 6(E)
<b>CHAPTER 23 Series and Parallel Circuits</b>		
23.1 Simple Circuits	530–541	1(A), 2(A), 2(C), 2(D), 3(B), 6(E)
23.2 Applications of Circuits	542–553	1(A), 1(B), 2(A), 2(B), 2(C), 2(D), 2(F), 3(B), 3(D), 6(E)
<b>CHAPTER 24 Magnetic Fields</b>		
24.1 Magnets: Permanent and Temporary	554–566	1(A), 1(B), 2(A), 2(C), 2(D), 6(B), 6(D), 6(F)
24.2 Forces Caused by Magnetic Fields	567–579	3(B), 3(D), 6(B), 6(D), 6(F)



# Correlation to Performance Descriptions

<b>Physics: Principles and Problems</b>		
<b>Contents</b>	<b>Pages</b>	<b>Texas Essential Knowledge and Skills</b>
<b>CHAPTER 25 Electromagnetic Induction</b>		
25.1 Creating Electric Current from Changing Magnetic Fields	580–589	1(A), 2(A), 2(C), 2(D), 3(A), 3(B), 3(C), 3(D), 6(B), 6(D), 6(E), 6(F)
25.2 Changing Magnetic Fields Induce <i>EMF</i>	590–601	1(A), 1(B), 2(A), 2(C), 2(D), 3(B), 6(B), 6(D), 6(E)
<b>CHAPTER 26 Electromagnetism</b>		
26.1 Interaction Between Electric and Magnetic Fields and Matter	602–612	1(A), 1(B), 2(A), 2(C), 2(D), 3(B), 3(D), 6(B), 6(D)
26.2 Electric and Magnetic Fields in Space	613–623	1(A), 2(A), 2(C), 2(D), 3(B), 3(C), 3(E), 6(D), 6(E), 8(B), 8(C)
<b>CHAPTER 27 Quantum Theory</b>		
27.1 Waves Behave Like Particles	624–636	1(A), 1(B), 2(A), 2(C), 2(D), 3(B), 3(D), 5(B), 5(D), 6(E), 8(B), 9(A)
27.2 Particles Behave Like Waves	637–643	3(A), 3(B), 3(C), 5(B), 5(D), 8(B), 9(A)
<b>CHAPTER 28 The Atom</b>		
28.1 The Bohr Model of the Atom	644–657	1(A), 1(B), 2(A), 2(C), 2(D), 3(B), 3(C), 8(B), 9(B)
28.2 The Quantum Model of the Atom	658–667	1(A), 2(A), 2(C), 2(D), 3(A), 3(B), 3(C), 3(D), 3(E), 8(B), 9(B)
<b>CHAPTER 29 Solid State Electronics</b>		
29.1 Conduction in Solids	668–678	1(A), 2(A), 2(C), 2(D), 3(B), 3(C), 3(D), 6(C)
29.2 Electronic Devices	679–689	1(A), 1(B), 2(A), 2(C), 2(D), 3(B), 3(C), 3(D), 6(E)
<b>CHAPTER 30 The Nucleus</b>		
30.1 Radioactivity	690–700	1(A), 2(A), 2(B), 2(C), 2(D), 2(E), 3(B), 3(D), 6(C)
30.2 The Building Blocks of Matter	701–715	1(A), 2(A), 2(C), 2(D), 3(A), 3(B), 3(C), 6(E)
<b>CHAPTER 31 Nuclear Applications</b>		
31.1 Holding the Nucleus Together	716–721	1(A), 2(C), 2(D), 3(B), 3(C), 3(D)
31.2 Using Nuclear Energy	722–735	1(A), 2(A), 2(B), 2(C), 2(D), 3(A), 3(B), 3(C), 6(E)
<b>APPENDICES</b>		
Appendix B Extra Practice Problems	748–777	3(B), 4(A), 4(B), 4(D), 4(E), 5(A), 5(B), 5(C), 5(D), 6(A), 6(C), 6(E), 7(A), 8(A), 8(B)
Appendix D Additional Topics in Physics	811–871	2(A), 2(D), 2(E), 3(B), 4(A), 4(B), 4(D), 4(E), 5(B), 6(E), 8(B), 8(C)