Nelson Physics 11

Unit 1: Forces and Motion

Are You Ready?

Chapter 1: Motion

1.1 Motion in Our Lives
Activity 1.1.1 Calibrating a Ticker-Tape Timer

1.2 Uniform Motion

1.3 Two-Dimensional Motion

1.4 Uniform Acceleration
Investigation 1.4.1 Attempting Uniform Acceleration

1.5 Acceleration Near Earth's Surface
Investigation 1.5.1 Acceleration Due to Gravity

1.6 Solving Uniform Acceleration Problems
Activity 1.6.1 Human Reaction Time

Chapter 1 Summary

Chapter 1 Review

Chapter 2: Forces and Newton's Laws of Motion

2.1 Forces in Nature
Activity 2.1.1 Forces on Springs

2.2 Newton's First Law of Motion

2.3 Investigating Force, Mass, and Acceleration
Investigation 2.3.1 The Relationship Involving Acceleration, Resultant Force, and Mass

2.4 Newton's Second Law of Motion

2.5 Newton's Third Law of Motion

Careers in Science

Chapter 2 Summary

Chapter 2 Review

Chapter 3: Gravitational Force and Friction

3.1 Gravitational Force on Earth's Surface

3.2 Universal Gravitation

3.3 The Effects of Friction
Investigation 3.3.1 Factors that Affect Friction

3.4 Analyzing Motion with Fiction
Lab Exercise 3.4.1 Determining Coefficients of Friction

Chapter 3 Summary

Chapter 3 Review

Unit 1 Performance Task Motion and Space Exploration

Unit 1 Review

Unit 2: Energy, Work, and Power

Are You Ready?

Chapter 4: Energy, Heat, Work, and Power

4.1 Energy and Energy Transformations

4.2 Work

4.3 Mechanical Energy

4.4 The Law of Conservation of Energy and Efficiency
Investigation 4.4.1 Testing the Law of Conservation of Energy
Investigation 4.4.2 The Efficiency of a Ramp

4.5 Thermal Energy and Heat
Activity 4.5.1 Determining Specific Heat Capacity

4.6 Power
Activity 4.6.1 Student Power

Chapter 4 Summary

Chapter 4 Review

Chapter 5: Using Energy in Our Society

5.1 The Consumption of Energy

5.2 Energy Transformation Technologies
Lab Exercise 5.2.1 Determining Waste Energy

5.3 Energy Resources

5.4 Using Energy Wisely

Careers in Science

Chapter 5 Summary

Chapter 5 Review

Unit 2 Performance Task Energy Cost-Benefit Analysis

Unit 2 Review

Unit 3: Waves and Sound

Are You Ready?

Chapter 6: Vibrations and Waves

Chapter 7: Properties of Sound Waves

Chapter 8: Music, Musical Instruments, and Acoustics

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Unit 4: Light and Geometric Optics

Are You Ready?

Chapter 9: Light Rays, Reflection, and Refraction

Chapter 10: Lenses and the Eye

Chapter 11: Optical Instruments

Unit 5: Electricity and Magnetism

Are You Ready?

Chapter 12: Electricity

Chapter 13: Electromagnetism

Chapter 14: Electromagnetic Induction

Unit 5 Performance Task Technology Trade Show

Unit 5 Review