Program Guide for Mississippi Science

Conceptual Academy for
Foundations of Biology, Biology, Chemistry, Earth and Space Science, Physics, Physical Science

PocketLab
BY MYRIAD SENSORS, INC.

Curriculum Scope and Sequence for MCCR Standards for Science

The *Conceptual Academy* materials cover six courses with the corresponding program title in the table below.

Approved Courses for the Secondary Schools of Mississippi	Conceptual Academy Program Name
Foundations of Biology	*Conceptual Academy Biology*
Biology	*Conceptual Academy Biology*
Chemistry	*Conceptual Academy Chemistry*
Earth and Space Science	*Conceptual Academy Earth and Space Science*
Physical Science	*Conceptual Academy Physics and Chemistry Integrated*
Physics	*Conceptual Academy Physics*

The scope and sequence summarizes how the high school program textbook chapters and activities are organized in relation to the MCCRS for Science. The chapter sequencing is designed to build on prior ideas and integrate the three dimensions of the *Framework for K-12 Science Education: Practices, Crosscutting Concepts, and Core Ideas*.

Course Sequence

The Conceptual Academy High School scope and sequence can ideally progress through the Mississippi Best Practices for CCR Sequencing in Science.

Grade	9	10	11	12
Course	Biology (260131)	Chemistry 1 (400519)	Physics (400820) or Earth and Space (260629)	Physics (400820) or Earth and Space (260629)

Additionally, the Foundations of Biology program is available for students to gain the basic knowledge needed prior to attempting the rigorous Biology course required for graduation. Combined with the Biology program at 10th grade

and the Physical Science program at 11th grade, this sequence would give students the breadth of knowledge across the three core science disciplines in a three-year sequence. If students opted for a fourth year of science they could go into more depth with the Chemistry of Physics programs or gain further breadth with Earth and Space Science.

Grade	9	10	11	12
Course	Foundations of Biology (260628)	Biology (260131)	Physical Science (400700)	Chemistry 1 (400519) or Physics (400820) or Earth and Space (260629)

The order of the standards within each program reflects a purposeful consideration of how to build disciplinary core ideas (DCIs), science and engineering practices (SEPs), and crosscutting concepts (CCCs) through three-dimensional learning, while also maintaining a logical progression through the core content knowledge and covering 100% of the MCCRS for Science.

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Conceptual Academy

Scope and Sequence for Mississippi College and Career Readiness Standards for Science

Grade: High school

Subject: Foundations of Biology

Program Title: *Conceptual Academy Biology*

Chapter	FB.1 Hist. of Bio. and Impacts				FB.2 The Chemistry of Life							FB.3 Organization and Energy in Living Systems							FB.4 Molecular Basis of Heredity						FB.5 Biological Evolution					FB.6 Ecological Principals						
	FB.1.1	FB.1.2	FB.1.3	FB.1.4	FB.2.1	FB.2.2	FB.2.3	FB.2.4	FB.2.5	FB.2.6	FB.2.7	FB.3.1	FB.3.2	FB.3.3	FB.3.4	FB.3.5	FB.3.6	FB.3.7	FB.4.1	FB.4.2	FB.4.3	FB.4.4	FB.4.5	FB.4.6	FB.5.1	FB.5.2	FB.5.3	FB.5.4	FB.5.5	FB.6.1	FB.6.2	FB.6.3	FB.6.4	FB.6.5	FB.6.6	FB.6.7
Chapter 1 Science and Biology			■	■																															
Chapter 2 The Chemistry of Life			■		■	■	■	■	■	■	■																								
Chapter 3 The Cell	■	■	■	■							■	■	■	■																■					
Chapter 4 How Cells Work		■	■							■	■	■	■	■	■	■																	■		
Chapter 5 DNA and Genes		■	■							■	■								■	■		■									■	■		■	
Chapter 6 Inheritance	■		■														■	■			■	■					■		■		■				
Chapter 7 Genetic Technologies			■	■														■		■		■	■	■						■					
Chapter 8 Natural Selection	■	■	■	■																					■		■	■		■		■		■	
Chapter 9 Evidence of Evolution		■	■	■																	■				■	■	■	■	■	■		■			
Chapter 10 Diversity of Life 1			■																						■	■	■	■	■	■		■			
Chapter 11 Diversity of Life 2			■																			■						■	■	■	■	■			■	
Chapter 12 The Nervous System																													■		■				
Chapter 13 Control and Development								■					■																■		■				
Chapter 14 Maintaining the Body			■	■						■	■												■						■		■				
Chapter 15 Protecting Health			■	■						■																			■		■				
Chapter 16 Populations			■	■																									■		■				
Chapter 17 Communities			■					■	■																		■		■	■	■		■	■	
Chapter 18 Ecosystems			■	■											■														■	■	■	■	■	■	■

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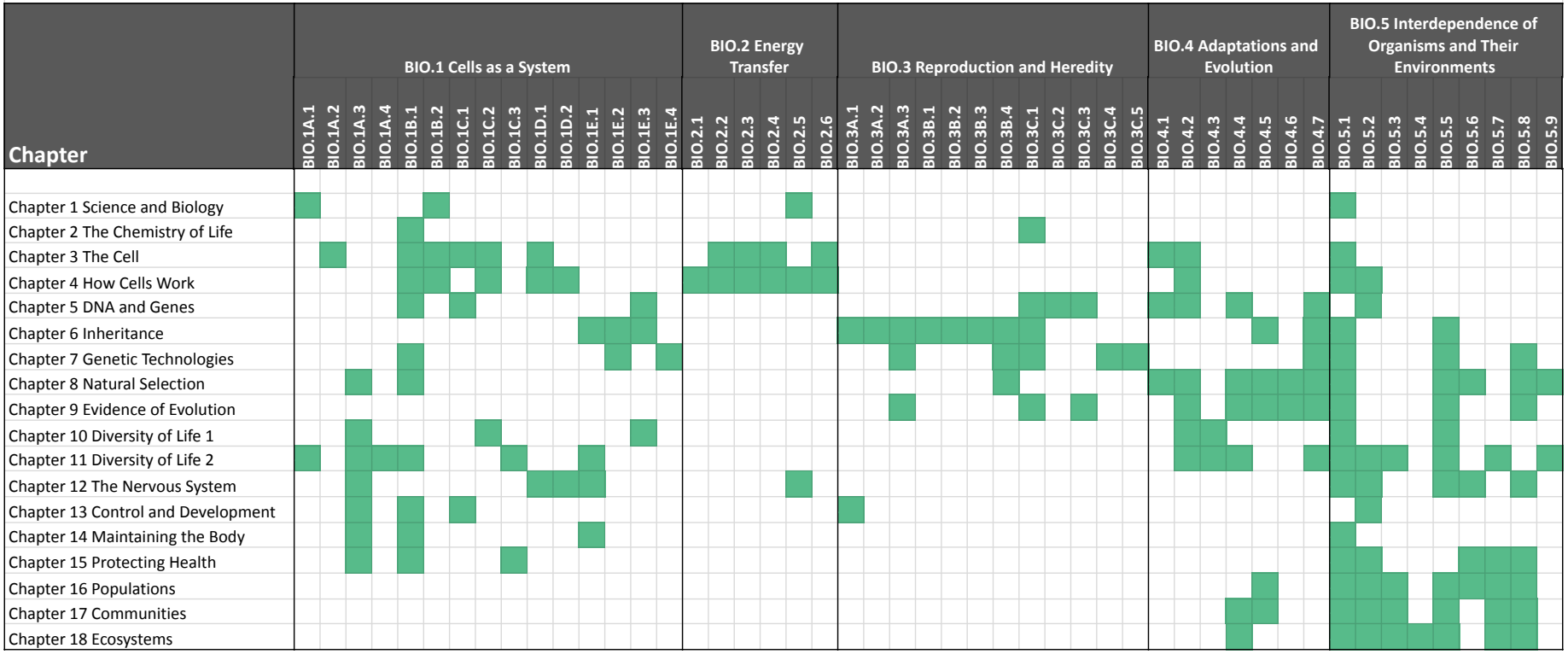
Scope and Sequence for Mississippi College and Career Readiness Standards for Science

Grade: High school

Subject: Biology

Program Title: *Conceptual Academy Biology*



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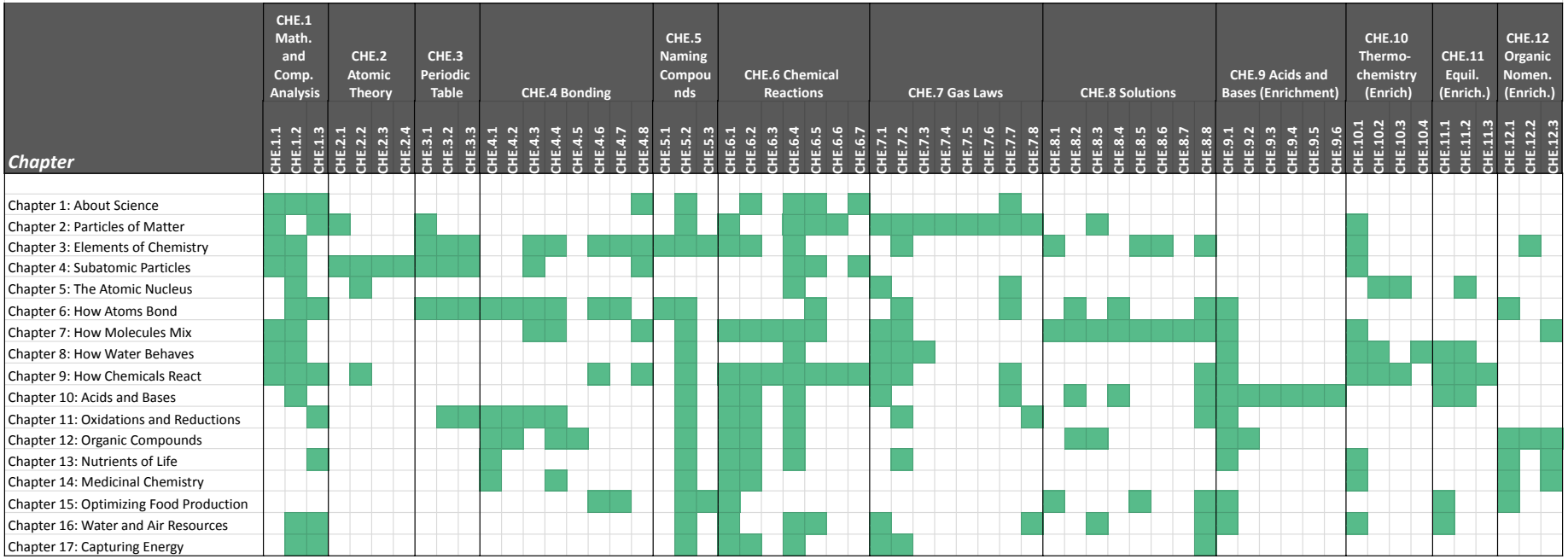
Scope and Sequence for Mississippi College and Career Readiness Standards for Science

Grade: High school

Subject: Chemistry

Program Title: *Conceptual Academy Chemistry*



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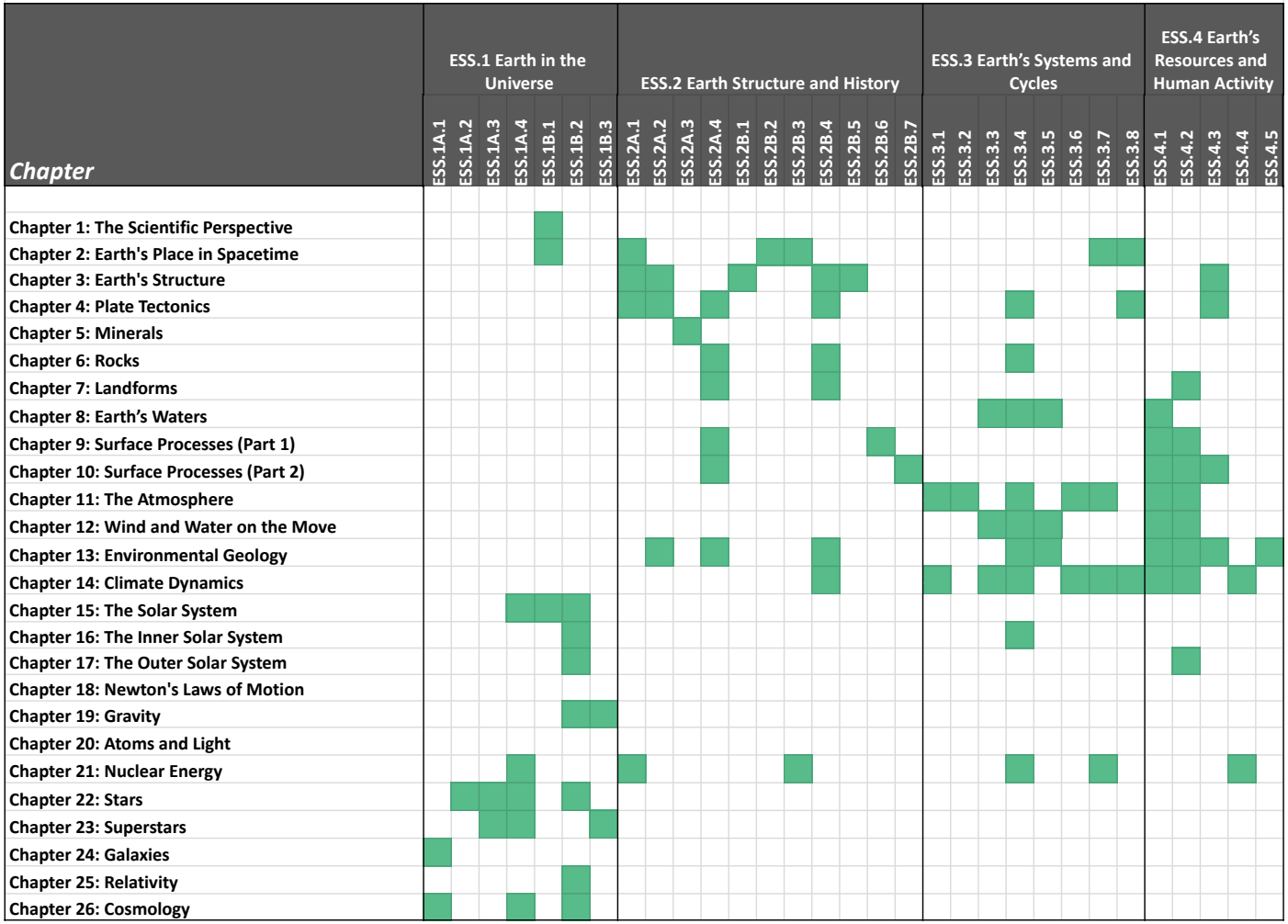
Scope and Sequence for Mississippi College and Career Readiness Standards for Science

Grade: High school

Subject: Earth and Space Science

Program Title: *Conceptual Academy Earth and Space Science*



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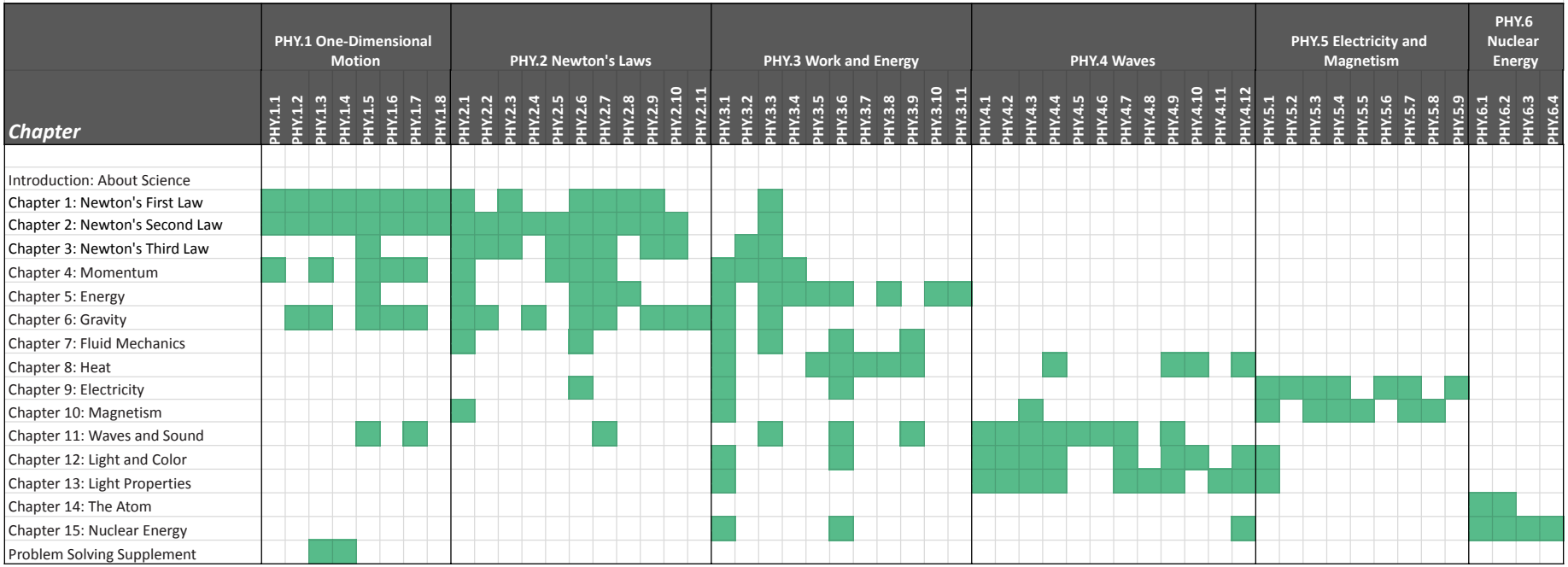
Scope and Sequence for Mississippi College and Career Readiness Standards for Science

Grade: High school

Subject: Physics

Program Title: *Conceptual Academy Physics*



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Conceptual Academy

Scope and Sequence for Mississippi College and Career Readiness Standards for Science

Grade: High school

Subject: Physical Science

Program Title: *Conceptual Academy Physics and Chemistry Integrated*

Chapter	PHS.1 Nature of Matter						PHS.2 Atom	PHS.3 Periodic Table					PHS.4 The Law of Conservation of Matter and Energy						PHS.5 Newton's Laws of Motion								PHS.6 Waves								PHS.7 Energy						PHS.8 Thermal Energy				PHS.9 Electricity			
	PHS.1.1	PHS.1.2	PHS.1.3	PHS.1.4	PHS.1.5	PHS.1.6	PHS.2.1	PHS.3.1	PHS.3.2	PHS.3.3	PHS.3.4	PHS.3.5	PHS.4.1	PHS.4.2	PHS.4.3	PHS.4.4	PHS.4.5	PHS.4.6	PHS.5.1	PHS.5.2	PHS.5.3	PHS.5.4	PHS.5.5	PHS.5.6	PHS.5.7	PHS.5.8	PHS.6.1	PHS.6.2	PHS.6.3	PHS.6.4	PHS.6.5	PHS.6.6	PHS.6.7	PHS.6.8	PHS.7.1	PHS.7.2	PHS.7.3	PHS.7.4	PHS.7.5	PHS.7.6	PHS.8.1	PHS.8.2	PHS.8.3	PHS.8.4	PHS.9.1	PHS.9.2	PHS.9.3	PHS.9.4
Chapter 1: About Science																																														
Chapter 2: Newton's First Law																			■	■	■																											
Chapter 3: Newton's Second Law																			■	■	■	■	■																									
Chapter 4: Newton's Third Law																			■	■																													
Chapter 5: Momentum																								■												■	■	■										
Chapter 6: Energy																								■	■	■									■		■	■									
Chapter 7: Heat	■	■		■																																		■	■			■	■	■	■				
Chapter 8: Electricity	■																																												■			
Chapter 9: Magnetism																																													■	■	■	
Chapter 10: Waves and Sound	■																										■	■	■	■																	
Chapter 11: Light and Color																											■	■		■	■	■	■														
Chapter 12: Particles of Matter	■	■		■	■	■																																			■	■						
Chapter 13: Elements of Chemistry	■	■	■	■				■	■	■	■							■																													
Chapter 14: Subatomic Particles	■		■				■	■	■			■																																			
Chapter 15: The Atomic Nucleus	■						■	■									■																													
Chapter 16: How Atoms Bond	■	■					■	■	■	■	■																																			
Chapter 17: How Molecules Mix	■	■	■	■					■																																					
Chapter 18: How Chemicals React	■			■						■		■	■	■	■	■																														
Chapter 19: Acid/Base and Redox	■	■	■				■		■	■	■		■																																		