

	Week	# Days	Unit/Module	Topic	Lessons by week	Lab or Simulation	
Quarter 1	1	5	Energy Transfer	Topic 1: Energy	Lesson 1: Energy, Motion, Force, and Work	Connect Lab: What Would Make a Card Jump? Quest: Outrageous Energy Contraptions Interactivity: Things That Have Energy Interactivity: Understanding Machines Interactivity: Levers Interactivity: Get the Ball Rolling Investigate Lab: What Work Is Interactivity: Force and Energy Quest: Applying Energy	
	2	5			Lesson 2: Kinetic Energy and Potential Energy	Interactivity: Interpret Kinetic Energy Graphs Investigate Lab: Mass, Velocity, and Kinetic Energy Investigate Lab: Energy, Magnetism, and Electricity Interactivity: Racing for Kinetic Energy Interactivity: Roller Coasters and Potential Energy Quest: Build a Chain Reaction Machine Engineer It: Prosthetics on the Move	
	3	5			Lesson 3: Other Forms of Energy	Interactivity: Using Energy Interactivity: Types of Energy Interactivity: Forms of Energy Investigate Lab: Making a Flashlight Shine Quest: Test and Evaluate a Chain-Reaction Machine	
	4	5			Lesson 4: Energy Change and Conservation	Interactivity: Everyday Energy Transformations Interactivity: Energy Transformations Investigate Lab: Law of Conservation of Energy Interactivity: Take it to the Extreme Quest: Redesign and Retest a Chain-Reaction Machine Case Study: U.S. Energy Consumption Demonstrate Lab: 3, 2, 1...Liftoff!	
	5	4	Energy Transfer	Topic 2: Thermal Energy	Lesson 1: Thermal Energy, Heat, and Temperature	Connect Lab: How Cold Is the Water? Interactivity: Flow of Thermal Energy Investigate Lab: Temperature and Thermal Energy Interactivity: A Rising Thermometer	
	6	5			Lesson 2: Heat Transfer	Interactivity: Cooler and Warmer Interactivity: Methods of Thermal Energy Transfer Investigate Lab: Visualizing Convection Currents Interactivity: Heat and Reheat Quest: Contain the Heat Engineer It: Shockwave to the Future Case Study: Earth Power Demonstrate Lab: Testing Thermal Conductivity	
	7	5	Atoms and Chemical Reactions	Topic 1: Atoms and the Periodic Table	Lesson 1: Atomic Theory	Connect Lab: Modeling Matter Hands-On Lab: What's in the Box? Investigate Lab: How Far Away Is the Electron? Interactivity: Build an Atom Interactivity: Models of Atoms Case Study: Unlocking the Power of the Atom	
	8	5			Lesson 2: The Periodic Table	Hands-On Lab: Which is Easier? Interactivity: Interactive Periodic Table Interactivity: The Periodic Table Investigate Lab: Classifying Elements Interactivity: Groups of Elements Quest: Examining Physical Properties of Powders	
	9	4			Lesson 3: Bonding and the Periodic Table	Investigate Lab: Element Chemistry Interactivity: Valence Electrons Interactivity: Transferring Energy Through Bonding Quest: The Iodine Test for Starch Engineer It: When Particles Collide	
	Fall Break						
	10	5	Atoms and Chemical Reactions	Topic 1: Atoms and the Periodic Table	Lesson 4: Types of Bonds	Hands-On Lab: How Do Ions Form? Interactivity: Build an Ionic Compound Interactivity: Ionic or Covalent Bonding Investigate Lab: Molecular Compounds Interactivity: Chemical Bonding Quest: The Vinegar Test Demonstrate Lab: Shedding Light on Ions	
	11	5			Lesson 5: Acids and Bases	Hands-On Lab: What Can Cabbage Juice Tell You? Interactivity: Acids and Bases in Careers Investigate Lab: Properties of Acids and Bases Interactivity: Properties and Uses of Acids and Bases Interactivity: Acid Rain Quest: Solving the Mystery	
12	5	Atoms and Chemical Reactions	Topic 2: Chemical Reactions	Lesson 1: Mixtures and Solutions	Connect Lab: What Happens When Chemicals React? Interactivity: Mixing Substances Interactivity: Separating a Mixture Investigate Lab: Particles in Liquids Interactivity: Inside a Water Treatment Plant Quest: Energy Salts Engineer It: Making Water Safe to Drink Case Study: Is Plastic Really So Fantastic? Demonstrate Lab: Evidence of Chemical Change		

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Quarter 2		13	4	Forces	Topic 1: Forces and Motion	Lesson 1: Describing Motion and Force	Connect Lab: Identifying Motion Hands-On Lab: Is the Force With You? Interactivity: Relative Motion Investigate Lab: Motion Commotion Interactivity: Balanced and Unbalanced Forces Interactivity: Explore Forces Quest: Define Criteria and Constraints	
		14	5			Lesson 2: Speed, Velocity, and Acceleration	Interactivity: Up to Speed Investigate Lab: Walking the Walk Interactivity: Motion Graphs Interactivity: Falling for Velocity Interactivity: How Forces Affect Motion Quest: Mass, Speed, and Colliding Cars Case Study: Finding Your Way With GPS	
		15	2			Lesson 3: Newton's Laws of Motion	Interactivity: The Ball Stops Rolling Interactivity: How Are Mass, Motion, and Force Related? Investigate Lab: Newton Scooters Interactivity: Going, Going, Gone! Quest: Apply Newton's Laws of Motion Engineer It: Generating Energy from Potholes	
		16	5			Lesson 4: Friction and Gravitational Interactions	Interactivity: You Can't Always Coast on Your Bicycle Hands-On Lab: Sticky Sneakers Investigate Lab: Observing Friction Interactivity: Exploring Gravity Interactivity: The Pull of the Tides Quest: Bumping Cars, Bumper Solutions Demonstrate Lab: Stopping on a Dime	
		17	5	Forces	Topic 2: Electricity and Magnetism	Lesson 1: Electric Force	Connect Lab: Magnetic Poles Hands-On Lab: Uncanny Attractions Interactivity: Electric Currents Interactivity: Theramin Investigate Lab: Detecting Changes Interactivity: Charged Interactions Quest: Apply Electrical Forces	
		18	5			Lesson 2: Magnetic Force	Interactivity: Magnets Are Closer Than You Think Interactivity: Interactions of Magnetic Fields Investigate Lab: Detecting Fake Coins Interactivity: Modeling Magnetic Forces Quest: Tracking Levitation Engineer It: Electromagnetism in Action Case Study: The X-57 Maxwell Demonstrate Lab: Planetary Detective	
		19	4	Final Exams	Final Exams	Final Exams		
	Winter Break							
			20	4	Changing Earth and Human Activity	Topic 1: Earth's Surface Systems	Lesson 1: Weathering and Soil	Connect Lab: How Does Gravity Affect Materials on A Slope? Hands-On Lab: Breaking Up Is Hard to Do Investigate Lab: Freezing and Thawing Interactivity: Dating and Using Weathering Rates Interactivity: Colors of the Sand Interactivity: Classify the Forces of Weathering Quest: Breaking It Down Engineer It: Ground Shifting Advances: Maps Help Predict Interactivity: Landslide Prevention
			21	4			Lesson 2: Erosion and Deposition	Interactivity: Material Slope Angle Interactivity: Predicting Disasters Investigate Lab: Small, Medium, and Large Interactivity: Changing Landscapes Quest: Ingenious Island Part I
		22	5	Lesson 3: Water Erosion & Lesson 4: Glacial and Wave Erosion			Interactivity: Learning from Rocks Investigate Lab: Raindrops Falling Interactivity: Carving a Canyon Interactivity: Karst Topography Interactivity: Mammoth Caves Quest: Ingenious Island Part II Case Study: Buyer Beware! Hands-On Lab: Glacier in a Cup Interactivity: Effects of Glaciers Interactivity: Glacial Ice Investigate Lab: Changing Coastlines Interactivity: Coastline Management Quest: Breaking Waves Demonstrate Lab: Materials on a Slope	

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Quarter 3	23	5	Changing Earth and Human Activity	Topic 2: Distribution of Natural Resources	Lesson 1: Nonrenewable Energy Resources & Lesson 2: Renewable Energy Resources	Connect Lab: What's in a Piece of Coal? Hands-On Lab: Using Resources Investigate Lab: Fossil Fuels Interactivity: Distribution of Fossils Interactivity: Fossil Fuel Sources Quest: Surviving on Fossil Fuels Interactivity: Renewable Resources in Your Community Interactivity: Using Renewable Resources Investigate Lab: The Power of Wind Interactivity: Biogas Farming Interactivity: Renewable Resources Ranges Quest: Renewable Energy Engineer It: Micro-Hydro Power	
	24	5			Lesson 3: Mineral Resources & Lesson 4: Water Resources	Investigate Lab: Cool Crystals Interactivity: Distribution of Minerals Interactivity: Resources in Use Quest: Surviving on Minerals Case Study: Phosphorus Fiasco Interactivity: Drinkable Water Interactivity: Distribution of Water Resources Investigate Lab: An Artesian Well Interactivity: Wetland Restoration Interactivity: Water Worth Quest: Surviving on Water Demonstrate Lab: To Drill or Not to Drill	
	25	5	Changing Earth and Human Activity	Topic 3: Human Impacts on the Environment	Lesson 1: Population Growth and Resource Consumption	Connect Lab: Finding a Solution for Your Pollution Hands-On Lab: Growth Spurt Interactivity: Human Population Growth Interactivity: Modern Life Investigate Lab: Doubling Time Interactivity: Sources of Resources Quest: More Trash, Less Space	
	26	4			Lesson 2: Air Pollution	Hands-On Lab: How Does the Scent Spread? Investigate Lab: It's All in the Air Interactivity: Damage from the Skies Interactivity: Air Pollution Sources and Solutions Quest: Trash vs. Water	
	27	5			Lesson 3: Impacts on Land & Lesson 4: Water Pollution	Interactivity: Using Land Investigate Lab: Mining Matters Interactivity: Farming Lessons Interactivity: Ride the Light Rail Quest: Life of a Landfill Case Study: Nothing Goes to Waste Interactivity: How You Use Water Interactivity: Water Cycle Interrupted Interactivity: Mutation Mystery Investigate Lab: Getting Clean Interactivity: Research Water Pollution Quest: Reducing Waste Engineer It: From Wastewater to Tap Water Demonstrate It: Washing Away	
	28	5	Systems, Reproduction, and Growth	Topic 1: Living Things in the Biosphere	Lesson 1: Living Things	Connect Lab: It It an Animal? Hands-On Lab: All Wound Up Investigate Lab: Cheek Cells Interactivity: What All Living Things Have in Common Interactivity: Mom's Car Must Be Alive Quest: Under the Microscope Case Study: The Tough and Tiny Tardigrade	
	29	5			Lesson 2: Classification Systems	Hands-On Lab: Clean Up That Junk Drawer! Interactivity: Classify It Investigate Lab: Living Mysteries Hands-On Lab: A Mystery Organism No More! Quest: Classifying Seeds	
	Spring Break						
		30	5	ns, Reproduction, and	Topic 1: Living Things in the Biosphere	Lesson 3: Viruses, Bacteria, Protists, and Fungi & Lesson 4: Plants and Animals	Hands-On Lab: Viruses by the Numbers Interactivity: Bacteriophage Treatments Interactivity: Vaccines and Populations Interactivity: Life as a Single Cell Investigate Lab: Life in a Drop of Pond Water Interactivity: There's Something Going Around Quest: Discovering Rainforest Organisms Engineer It: A Disease Becomes a Cure Interactivity: So Many Cells Investigate Lab: Algae and Other Plants Interactivity: Different Cells, Different Jobs Interactivity: Identifying an Organism Interactivity: Organization of Organisms Quest: Multicellular Rainforest Organisms Demonstrate It: It's Alive

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Quarter 4		31	5	Systems, Reproduction, and Growth	Topic 2: The Cell System	Lesson 1: Structure and Function of Cells	Connect Lab: What Can You See? Interactivity: In Common Interactivity: Functions of All Cells Investigate Lab: Observing Cells Interactivity: Through a Microscope Interactivity: A Strange Specimen
		32	5			Lesson 2: Cell Structures	Hands-On Lab: How Large Are Cells? Investigate Lab: Comparing Cells Interactivity: Build a Cell Interactivity: Structure Function Junction Interactivity: Specialized Cells Quest: Make a Cell Model
		33	5			Lesson 4: Cell Division	Interactivity: Active Cell Division Investigate Lab: Modeling Mitosis Interactivity: A Cell Divides Interactivity: How Does a Broken Bone Heal? Interactivity: The Cell Cycle Quest: The Importance of Cells Demonstrate Lab: Design and Build a Microscope
		34	4*	Systems, Reproduction, and Growth	Topic 4: Reproduction and Growth	Lesson 1: Patterns of Reproduction	Connect Lab: To Care or Not To Care Interactivity: Your Physical Traits Interactivity: Animal Reproduction Investigate Lab: Comparing Methods of Reproduction Interactivity: Inheritance of Traits Investigate Lab: Is It All in the Genes? Interactivity: Twin Studies
		35	5*			Lesson 2: Plant Structures for Reproduction	Interactivity: Designer Flowers Investigate Lab: Modeling Flowers Interactivity: Plants and Pollinators Quest: Protect the Plants Engineer It: Gardening In Space
		36	5			Lesson 3: Animal Behaviors for Reproduction	Hands-On Lab: Communicating Without Words Interactivity: They're Acting Like Animals! Investigate Lab: Behavior Cycles Interactivity: Fireflies Quest: The Mating Game
		37	5			Lesson 4: Factors Influencing Growth	Interactivity: Growing and Thriving Investigate Lab: What Are the Factors? Investigate Lab: Watching Roots Grow Interactivity: Breeding Bigger Bovines Interactivity: See How They Grow Interactivity: Growing Crops Quest: Make Your Construction Case Case Study: Warmer Waters, Fewer Fish Demonstrate Lab: Clean and Green
		38	4	Final Exams	Final Exams	Final Exams	