

Component Idea	Scope	Performance Expectation (PE)	Disciplinary Core Idea (DCI)	Science and Engineering Practice(s) (SEP)	Crosscutting Concepts (CCC)
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PS3: Energy

Definitions of Energy	Energy and Speed	4-PS3-1	PS3.A	Constructing Explanations and Designing Solutions	Energy and Matter
Conservation of Energy and Energy Transfer	Transfer of Energy in Collision	4-PS3-2 4-PS3-3	PS3.A PS3.B	Asking Questions and Defining Problems Planning and Carrying Out Investigations	Energy and Matter
	Energy and Electric Currents	4-PS3-2 4-PS3-4	PS3.B ETS1.A	Planning and Carrying Out Investigations Constructing Explanations and Designing Solutions	Energy and Matter
Relationship Between Energy and Forces	Energy and Collision	4-PS3-3	PS3.C	Asking Questions and Defining Problems	Energy and Matter
Energy in Chemical Processes and Everyday Life	Chemical Processes	4-PS3-4	PS3.D	Constructing Explanations and Designing Solutions	Energy and Matter



PS4: Waves and Their Applications in Technologies for Information Transfer

Wave Properties	Motion of Waves	4-PS4-1	PS4.A	Developing and Using Models	Patterns
	Wavelength and Amplitude	4-PS4-1	PS4.A	Developing and Using Models	Patterns
Electromagnetic Radiation	Light Reflection	4-PS3-2 4-PS4-2	PS3B PS4.B	Planning and Carrying Out Investigations	Energy and Matter Cause and Effect
Information Technologies and Instrumentation	Information Technologies	4-PS4-3	PS4.C ETS1.C	Constructing Explanations and Designing Solutions	Patterns

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 LS1: From Molecules to Organisms: Structures and Processes					
Structure and Function	Plant and Animal Parts	4-LS1-1	LS1.A	Engaging in Argument from Evidence	Systems and System Models
Information Processing	Sense Receptors	4-LS1-2	LS1.D	Engaging in Argument from Evidence	Systems and System Models
 ESS1: Earth's Place in the Universe					
The History of Planet Earth	Rock Patterns	4-ESS1-1	ESS1.C	Constructing Explanations and Designing Solutions	Patterns
 ESS2: Earth's Systems					
Earth's Materials and Systems	Changing Land	4-ESS2-1	ESS2.A	Planning and Carrying Out Investigations	Cause and Effect
Plate Tectonics and Large-Scale System Interactions	Plate Tectonics	4-ESS2-2	ESS2.B	Analyzing and Interpreting Data	Patterns
Biogeology	Plants' Effect on Regions	4-ESS2-1	ESS2.E	Planning and Carrying Out Investigations	Cause and Effect
 ESS3: Earth and Human Activity					
Natural Resources	Renewable and Non-Renewable Resources	4-ESS3-1	ESS3.A	Obtaining, Evaluating, and Communicating Information	Cause and Effect
Natural Hazards	Natural Processes	4-ESS3-2	ESS3.B ETS1.B	Constructing Explanations and Designing Solutions	Cause and Effect