Component Idea	Scope	Performance Expectation (PE)	Disciplinary Core Idea (DCI)	Science and Engineering Practice(s) (SEP)	Crosscutting Concepts (CCC)
PS1: Matter and Its Interactions					
Structures and Properties of Matter	**Structure of Matter**	MS-PS1-1	PS1.A	Developing and Using Models	Scale, Proportion, and Quantity
	Chemical Properties and Interactions	MS-PS1-2 | MS-PS1-3	PS1.A	Analyzing and Interpreting Data | Obtaining, Evaluating, and Communicating Information	Patterns
	Changes in Energy on the Molecular Level	MS-PS1-4	PS1.A	Developing and Using Models	Cause and Effect
Nuclear Processes	**Introduction to Fusion**	n/a	n/a	n/a	n/a
Chemical Reactions	**Characteristics of Chemical Reactions**	MS-PS1-2 | MS-PS1-3 | MS-PS1-5	PS1.B	Analyzing and Interpreting Data | Obtaining, Evaluating, and Communicating Information | Developing and Using Models	Patterns | Energy and Matter | Structure and Function
	Modeling Conservation of Matter	MS-PS1-5	PS1.B	Developing and Using Models	Energy and Matter
	Energy in Chemical Reactions	MS-PS1-6	PS1.B	Constructing Explanations and Designing Soltuions	Energy and Matter
Definition of Energy	**Heat and Matter**	MS-PS1-4	PS3.A	Developing and Using Models	Cause and Effect

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PS2: Motion and Stability: Forces and Interactions					
Forces and Motion	**Newton's Third Law of Motion**	MS-PS2-1	PS2.A	Constructing Explanations and Designing Solutions	Systems and System Models
	Changes in Motion, Force and Direction	MS-PS2-2	PS2.A | PS2.A	Planning and Carrying Out Investigations	Stability and Change
Types of Interactions	**Electromagnetic Forces**	MS-PS2-3	PS2.B	Asking Questions and Defining Problems	Cause and Effect
	Gravitational Forces	MS-PS2-4	PS2.B	Engaging in Argument from Evidence	Systems and System Models
	Force Fields	MS-PS2-5	PS2.B	Planning and Carrying Out Investigations	Cause and Effect
PS3: Energy					
Definitions of Energy	**Kinetic Energy**	MS-PS3-1	PS3.A	Analyzing and Interpreting Data	Scale, Proportion, and Quantity
	Potential Energy	MS-PS3-2	PS3.A	Developing and Using Models	Systems and System Models
	Thermal Energy Transfer	MS-PS3-3 | MS-PS3-4	PS3.A	Constructing Explanations and Designing Solutions | Planning and Carrying Out Investigations	Scale, Proportion, and Quantity | Energy and Matter
Conservation of Energy and Energy Transfer	**Energy Transfer in Motion**	MS-PS3-5	PS3.B	Engaging in Argument from Evidence	Energy and Matter
	Energy Transfer in Temperature	MS-PS3-4	PS3.B	Planning and Carrying Out Investigations	Scale, Proportion, and Quantity
	Energy Transfer Optimization	MS-PS3-3	PS3.B	Constructing Explanations and Designing Solutions	Energy and Matter
Relationship Between Energy and Forces	**Energy Transfer Between Objects**	MS-PS3-2	PS3.C	Unobservable Mechanisms	Models

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PS4: Waves and Their Applications in Technologies for Information Transfer					
Wave Properties	**Introduction to Properties of Waves**	MS-PS4-1	PS4.A	Using Mathematics and Computational Thinking	Patterns
	Modeling Waves through Various Mediums	MS-PS4-2	PS4.A	Developing and Using Models	Structure and Function
Electromagnetic Radiation	**Properties of Visible Light**	MS-PS4-2	PS4.B	Developing and Using Models	Structure and Function
	Modeling Electromagnetic Waves	MS-PS4-2	PS4.B	Developing and Using Models	Structure and Function
Technologies and Instrumentation	**Digital vs. Analog Signals**	MS-PS4-3	PS4.C	Obtaining, Evaluating, and Communicating Information	Structure and Function