

PRELIMINARY MIDDLE SCHOOL INTEGRATED

[MSI]

GRADE 6

- Energy
- Structure & Process
- Heredity
- Earth Systems
- Earth & Human Activity
- Engineering Design

GRADE 7

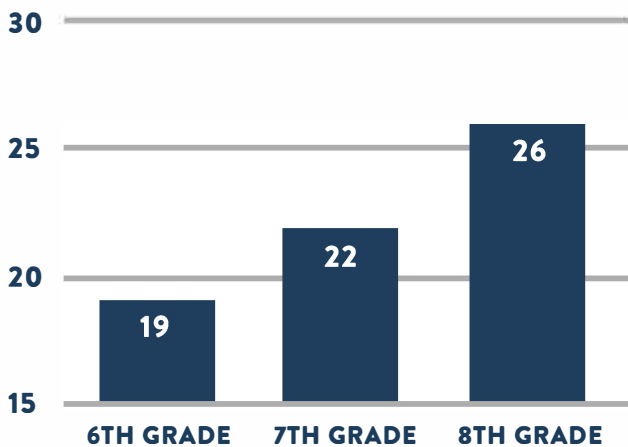
- Matter
- Structure & Process
- Ecosystems
- Earth's Systems
- Earth & Human Activity
- Engineering Design

GRADE 8

- Motion & Forces
- Energy
- Waves
- Heredity
- Evolution
- Earth's Place in the Universe
- Earth & Human Activity
- Engineering Design



NUMBER OF PE'S PER GRADE LEVEL



• PE's are aligned at each grade level to support content articulation and complexity, along with a balance of PE's in each grade.

• PE's are aligned with the Common Core State Standards in ELA and Math.

• Human impact is addressed across grade levels as a unifying theme. Examples could be **environment** in the 6th grade, **natural hazards** in 7th grade, **population growth and resource consumption** in 8th grade.

• NRC research indicates that an integrated model supports the making of connections for a more scientifically literate student.

MSI Course Map

Middle School

Integrated

6th Grade

DCI	Sub-Idea	19 PEs
PS3: Energy	PS3.A Definitions of Energy	MS-PS3-3 MS-PS3-4
	PS3.B Conservation of Energy and Energy Transfer	MS-PS3-5
LS1: Structure and Processes	LS1.A Structure and Function	MS-LS1-1 MS-LS1-2 MS-LS1-3
	LS1.B Growth and Development of Organisms	MS-LS1-4 MS-LS1-5
	LS1.D Information Processing	MS-LS1-8
LS3: Heredity	LS3.A Inheritance of Traits	MS-LS3-2
ESS2: Earth's Systems	ESS2.C Roles of Water in Earth's Surface Processes	MS-ESS2-4 MS-ESS2-5
	ESS2.D Weather and Climate	MS-ESS2-6
ESS3: Earth and Human Activity	ESS3.C Human Impacts on Earth Systems	MS-ESS3-3
	ESS3.D Global Climate Change	MS-ESS3-5
ETS1: Engineering Design	ETS1.A Defining and Delimiting an Engineering Problem	MS- ETS1-1
	ETS1.B Developing Possible Solutions	MS- ETS1-2 MS- ETS1-3 MS- ETS1-4
	ETS1.C Optimizing the Design Solutions	MS- ETS1-3* MS- ETS1-4*

7th Grade

DCI	Sub-Idea	22 PEs
PS1: Matter and its Interactions	PS1.A Structure and Properties of Matter	MS-PS1-1 MS-PS1-2 MS-PS1-3 MS-PS1-4
	PS1.B Chemical Reactions	MS-PS1-5 MS-PS1-6
LS1: Structure and Processes	LS1.C Organization for Matter and Energy Flow in Organisms	MS-LS1-6 MS-LS1-7
LS2: Ecosystems	LS2.A Interdependent Relationships in Organisms	MS-LS2-1 MS-LS2-2
	LS2.B Cycles of Matter and Energy Transfer in Organisms	MS-LS2-3
	LS2.C Ecosystems Dynamics, Functioning, and Resilience	MS-LS2-4 MS-LS2-5
ESS2: Earth's Systems	ESS2.A Earth Materials and Systems	MS-ESS2-1 MS-ESS2-2
	ESS2.B Plate Tectonics and Large Scale System Interactions	MS-ESS2-3
ESS3: Earth and Human Activity	ESS3.A Natural Resources	MS-ESS3-1
	ESS3.B Natural Hazards	MS-ESS3-2
ETS1: Engineering Design	ETS1.A Defining and Delimiting an Engineering Problem	MS- ETS1-1
	ETS1.B Developing Possible Solutions	MS- ETS1-2 MS- ETS1-3 MS- ETS1-4
	ETS1.C Optimizing the Design Solutions	MS- ETS1-3* MS- ETS1-4*

8th Grade

DCI	Sub-Idea	26 PEs
PS2: Motion and Forces	PS2.A Forces and Motion	MS-PS2-1 MS-PS2-2
	PS2.B Types of Interactions	MS-PS2-3 MS-PS2-4 MS-PS2-5
PS3: Energy	PS3.A Definitions of Energy	MS-PS3-1 MS-PS3-2
PS4: Waves	PS4.A Wave Properties	MS-PS4-1 MS-PS4-2
	PS4.C Information Technologies and instrumentation	MS-PS4-3
LS3: Heredity	LS3.A Inheritance of Traits	MS-LS3-1
LS4: Evolution	LS4.A Evidence of Common Ancestry and Diversity	MS-LS4-1 MS-LS4-2 MS-LS4-3
	LS4.B Natural Selection	MS-LS4-4 MS-LS4-5
	LS4.C Adaptation	MS-LS4-6
ESS1: Earth's Place in the Universe	ESS1.A Universe and Stars	MS-ESS1-1 MS-ESS1-2
	ESS1.B Solar System	MS-ESS1-3
	ESS1.C History of Planet Earth	MS-ESS1-4
ESS3: Earth and Human Activity	ESS3.C Human Impacts on Earth Systems	MS-ESS3-4
ETS1: Engineering Design	ETS1.A Defining and Delimiting an Engineering Problem	MS- ETS1-1
	ETS1.B Developing Possible Solutions	MS- ETS1-2 MS- ETS1-3 MS- ETS1-4
	ETS1.C Optimizing the Design Solutions	MS- ETS1-3* MS- ETS1-4*

*Repeated