Mini-Map for SCI.EE.MS.LS1-3

Subject: Science
Life
Grade: 6–8

Learning Outcome

DLM Essential Element	Grade-Level Standard
SCI.EE.MS.LS1-3 Make a claim about how a structure (e.g., organs and organ systems) and its related function supports survival of animals (circulatory, digestive, and respiratory systems).	**MS-LS1-3** Use argument supported by evidence for how the body is a system of interacting subsystems composed of groups of cells.

Linkage Level Descriptions

Initial	Precursor	Target
Recognize major organs of animals.	Use a model to demonstrate how organs are connected in major organ systems.	Make a claim about how a structure (e.g., organs and organ systems) and its related function supports survival of animals (circulatory, digestive, and respiratory systems).

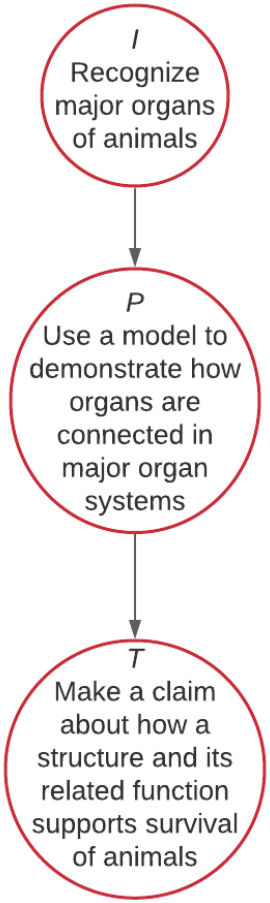
Instructional Resources

Linkage Level	Instructional Activities
Initial/Precursor/Target	N/A
Connections	
Science and Engineering Practices	Engaging in Argument from Evidence
Crosscutting Concepts	Systems and System Models
Released Testlets	
See the Guide to Practice Activities and Released Testlets.	

Link to Text-Only Map

SCI.EE.MS.LS1-3 Make a claim about how a structure (e.g., organs and organ systems) and its related function supports survival of animals (circulatory, digestive, and respiratory systems).

Map Key	
I	Initial
P	Precursor
T	Target



Mini-Map for SCI.EE.MS.LS1-5

Subject: Science
Life
Grade: 6–8

Learning Outcome

DLM Essential Element	Grade-Level Standard
SCI.EE.MS.LS1-5 Interpret data to show that environmental resources (e.g., food, light, space, water) influence growth of organisms (e.g., drought decreasing plant growth, fertilizer increasing plant growth, different varieties of plant seeds growing at different rates in different conditions, fish growing larger in large ponds than small ponds).	**MS-LS1-5** Construct a scientific explanation based on evidence for how environmental and genetic factors influence the growth of organisms.

Linkage Level Descriptions

Initial	Precursor	Target
Match organisms to their correct habitat when given two choices.	Identify factors that influence growth of organisms.	Interpret data to show that environmental resources (e.g., food, light, space, water) influence growth of organisms (e.g., drought decreasing plant growth, fertilizer increasing plant growth, different varieties of plant seeds growing at different rates in different conditions, fish growing larger in large ponds than small ponds).

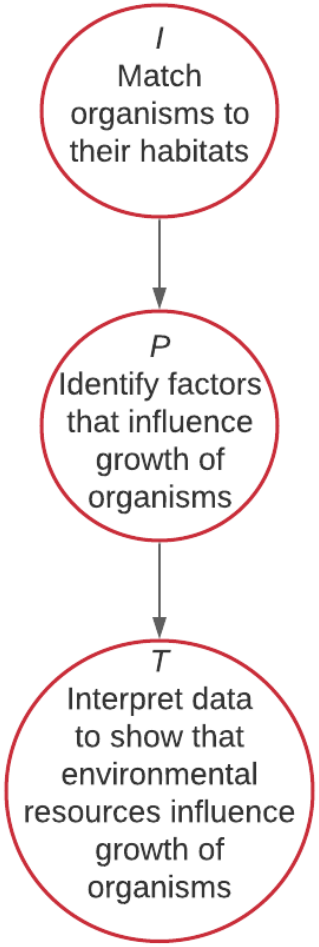
Instructional Resources

Linkage Level	Instructional Activities
Initial/Precursor/Target	N/A
Connections	
Science and Engineering Practices	Constructing Explanations and Designing Solutions
Crosscutting Concepts	Cause and Effect
Mathematics Essential Elements	**M.EE.6.SP.1-2**: Display data on a graph or table that shows variability in the data.
Released Testlets	
See the Guide to Practice Activities and Released Testlets.	

Link to Text-Only Map

SCI.EE.MS.LS1-5 Interpret data to show that environmental resources (e.g., food, light, space, water) influence growth of organisms (e.g., drought decreasing plant growth, fertilizer increasing plant growth, different varieties of plant seeds growing at different rates in different conditions, fish growing larger in large ponds than small ponds).

Map Key	
I	Initial
P	Precursor
T	Target



Mini-Map for SCI.EE.MS.LS2-2

Subject: Science
Life
Grade: 6–8

Learning Outcome

DLM Essential Element	Grade-Level Standard
SCI.EE.MS.LS2-2 Use models of food chains/webs to identify producers and consumers in aquatic and terrestrial ecosystems.	**MS-LS2-2** Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems.

Linkage Level Descriptions

Initial	Precursor	Target
Identify food that animals eat (foods could be general [e.g., meat, plants] or more specific).	Classify animals based on what they eat (e.g., herbivore, omnivore, carnivore).	Use models of food chains/webs to identify producers and consumers in aquatic and terrestrial ecosystems.

Instructional Resources

Linkage Level	Instructional Activities
Initial/Precursor/Target	What Animals Eat
Connections	
Science and Engineering Practices	Constructing Explanations and Designing Solutions
Crosscutting Concepts	Patterns
ELA Essential Elements	**ELA.EE.SL.8.1**: Engage in collaborative discussions: (a) Come to discussions prepared to share information previously studied, (b) Follow simple rules and carry out assigned roles during discussions, (c) Remain on the topic of the discussion when asking or answering questions or making other contributions to a discussion, (d) Acknowledge new information expressed by others in a discussion and relate it to own ideas. **ELA.EE.SL.8.4**: Present descriptions, facts, or details supporting specific points made on a topic.
Mathematics Essential Elements	**M.EE.6.SP.5**: Summarize data distributions shown in graphs or tables.
Released Testlets	
See the Guide to Practice Activities and Released Testlets.	

[Link to Text-Only Map]

SCI.EE.MS.LS2-2 Use models of food chains/webs to identify producers and consumers in aquatic and terrestrial ecosystems.

Map Key	
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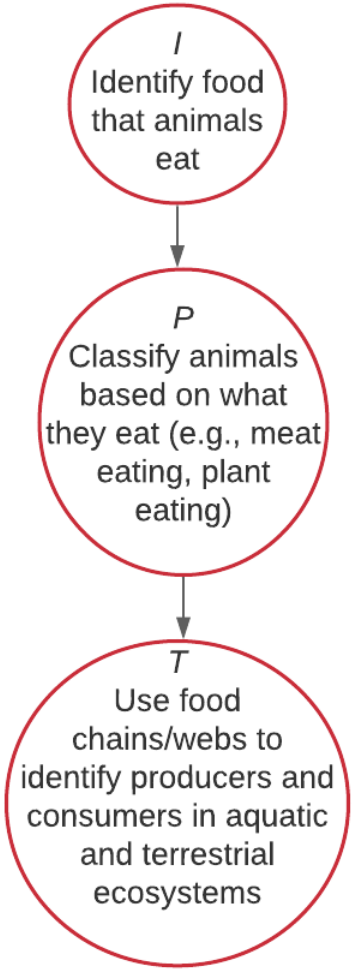
P	Precursor
T	Target



Mini-Map for SCI.EE.MS.PS1-2

Subject: Science
Physical
Grade: 6–8

Learning Outcome

DLM Essential Element	Grade-Level Standard
SCI.EE.MS.PS1-2 Interpret and analyze data on the properties (e.g., color, texture, odor, and state of matter) of substances before and after chemical changes have occurred (e.g., burning sugar or burning steel wool, rust, effervescent tablets).	**MS-PS1-2** Analyze and interpret data on the properties of substances before and after the substances interact to determine if a chemical reaction has occurred.

Linkage Level Descriptions

Initial	Precursor	Target
Observe and identify examples of change (e.g., state of matter, color, temperature, and odor).	Gather data on the properties (e.g., color, texture, odor, and state of matter) of substances before and after chemical changes have occurred (e.g., burning sugar or burning steel wool, rust, effervescent tablets, baking soda and vinegar).	Interpret and analyze data on the properties (e.g., color, texture, odor, and state of matter) of substances before and after chemical changes have occurred (e.g., burning sugar or burning steel wool, rust, effervescent tablets, baking soda and vinegar).

Instructional Resources

Linkage Level	Instructional Activities
Initial/Precursor/Target	Chemical Changes
Connections	
Science and Engineering Practices	Analyzing and Interpreting Data
Crosscutting Concepts	Patterns
Mathematics Essential Elements	**M.EE.6.SP.5**: Summarize data distributions shown in graphs or tables. **M.EE.1.MD.4**: Organize data into categories by sorting.
Released Testlets	
See the Guide to Practice Activities and Released Testlets.	

Link to Text-Only Map

SCI.EE.MS.PS1-2 Interpret and analyze data on the properties (e.g., color, texture, odor, and state of matter) of substances before and after chemical changes have occurred (e.g., burning sugar or burning steel wool, rust, effervescent tablets).

Map Key	
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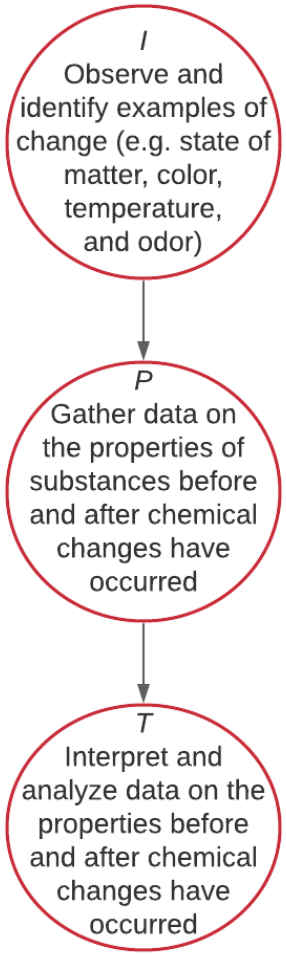


Mini-Map for SCI.EE.MS.PS2-2

Subject: Science
Physical
Grade: 6–8

Learning Outcome

DLM Essential Element	Grade-Level Standard
SCI.EE.MS.PS2-2 Investigate and predict the change in motion of objects based on the forces acting on those objects.	**MS-PS2-2** Plan an investigation to provide evidence that the change in an object's motion depends on the sum of the forces on the object and the mass of the object.

Linkage Level Descriptions

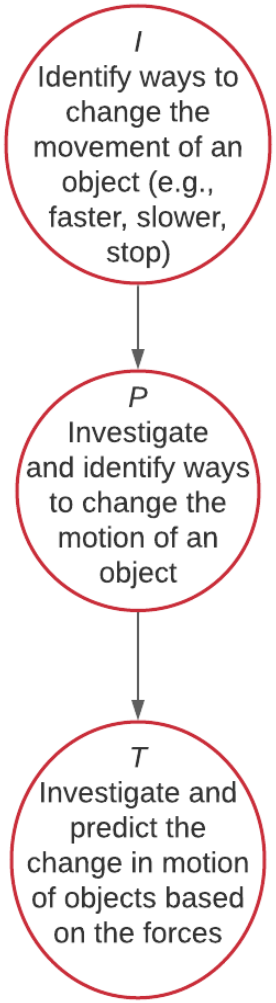
Initial	Precursor	Target
Identify ways to change the motion of an object (e.g., faster, slower, stop).	Investigate and identify ways to change the motion of an object (e.g., change an incline's slope or push/pull to make an object go slower, faster, farther).	Investigate and predict the change in motion of objects based on the forces acting on those objects.

Instructional Resources

Linkage Level	Instructional Activities
Initial/Precursor/Target	N/A
Connections	
Science and Engineering Practices	Planning and Carrying Out Investigations
Crosscutting Concepts	Stability and Change
Mathematics Essential Elements	**M.EE.6.EE.1-2**: Identify equivalent number sentences. **M.EE.7.EE.4**: Use the concept of equality with models to solve one-step additionand subtraction equations.
Released Testlets	
See the Guide to Practice Activities and Released Testlets.	

Link to Text-Only Map

SCI.EE.MS.PS2-2 Investigate and predict the change in motion of objects based on the forces acting on those objects.



Map Key	
I	Initial
P	Precursor
T	Target

Mini-Map for SCI.EE.MS.PS3-3

Subject: Science
Physical
Grade: 6–8

Learning Outcome

DLM Essential Element	Grade-Level Standard
SCI.EE.MS.PS3-3 Test and refine a device (e.g., foam cup, insulated box, or thermos) to either minimize or maximize thermal energy transfer (e.g., keeping liquids hot or cold, preventing liquids from freezing, keeping hands warm in cold temperatures).	**MS-PS3-3** Apply scientific principles to design, construct, and test a device that either minimizes or maximizes thermal energy transfer.

Linkage Level Descriptions

Initial	Precursor	Target
Identify objects/materials used to minimize or maximize thermal energy transfer (e.g., gloves, vacuum flask, insulated hot pad holder, or foam cup).	Investigate objects/materials and predict their ability to maximize or minimize thermal energy transfer.	Test and refine a device (e.g., foam cup, insulated box, or thermos) to either minimize or maximize thermal energy transfer (e.g., keeping liquids hot or cold, preventing liquids from freezing, keeping hands warm in cold temperatures).

Instructional Resources

Linkage Level	Instructional Activities
Initial/Precursor/Target	N/A
Connections	
Science and Engineering Practices	Constructing Explanations and Designing Solutions
Crosscutting Concepts	Energy and Matter
Released Testlets	
See the Guide to Practice Activities and Released Testlets.	

[Link to Text-Only Map]

SCI.EE.MS.PS3-3 Test and refine a device (e.g., foam cup, insulated box, or thermos) to either minimize or maximize thermal energy transfer (e.g., keeping liquids hot or cold, preventing liquids from freezing, keeping hands warm in cold temperatures).

Map Key	
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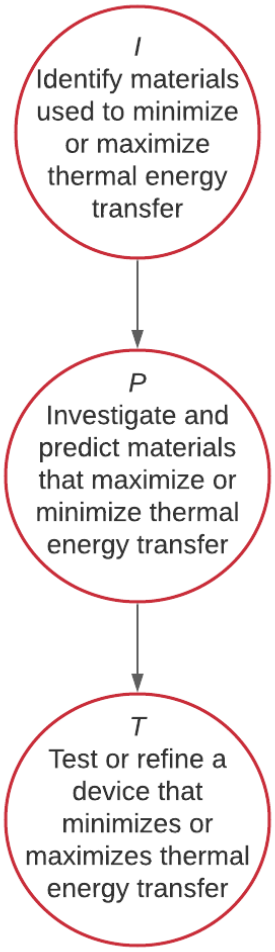


Mini-Map for SCI.EE.MS.ESS2-2

Subject: Science
Earth and Space
Grade: 6–8

Learning Outcome

DLM Essential Element	Grade-Level Standard
SCI.EE.MS.ESS2-2 Explain how geoscience processes that occur daily (e.g., wind, rain, runoff) slowly change the surface of Earth, while catastrophic events (e.g., earthquakes, tornadoes, floods) can quickly change the surface of Earth.	**MS-ESS2-2** Construct an explanation based on evidence for how geoscience processes have changed Earth's surface at varying time and spatial scales.

Linkage Level Descriptions

Initial	Precursor	Target
Identify differences in weather conditions (e.g., sunny, rainy, cloudy) from day to day.	Identify geoscience processes (e.g., wind, rain, runoff) that have an impact on landforms (e.g., landslides, erosion such as gullies).	Explain how geoscience processes that occur daily (e.g., wind, rain, runoff) slowly change the surface of Earth, while catastrophic events (e.g., earthquakes, tornadoes, floods) can quickly change the surface of Earth.

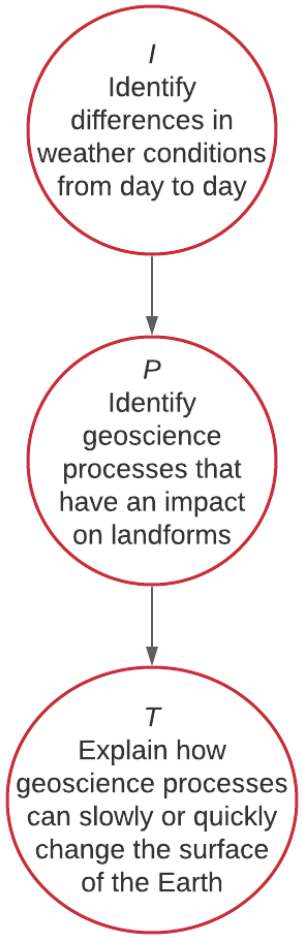
Instructional Resources

Linkage Level	Instructional Activities
Initial/Precursor/Target	N/A
Connections	
Science and Engineering Practices	Constructing Explanations and Designing Solutions
Crosscutting Concepts	Scale, Proportion, and Quantity
ELA Essential Elements	**ELA.EE.SL.8.5**: Include multimedia and visual information into presentations.
Mathematics Essential Elements	**M.EE.6.EE.5-7**: Match an equation to a real-world problem in which variables areused to represent numbers. **M.EE.7.EE.4**: Use the concept of equality with models to solve one-step additionand subtraction equations.
Released Testlets	
See the Guide to Practice Activities and Released Testlets.	

Link to Text-Only Map

SCI.EE.MS.ESS2-2 Explain how geoscience processes that occur daily (e.g., wind, rain, runoff) slowly change the surface of Earth, while catastrophic events (e.g., earthquakes, tornadoes, floods) can quickly change the surface of Earth.

Map Key	
I	Initial
P	Precursor
T	Target



Mini-Map for SCI.EE.MS.ESS2-6

Subject: Science
Earth and Space
Grade: 6–8

Learning Outcome

DLM Essential Element	Grade-Level Standard
SCI.EE.MS.ESS2-6 Interpret basic weather information (e.g., radar, map) to make predictions about future conditions (e.g., precipitation, temperature, wind).	**MS-ESS2-6** Develop and use a model to describe how unequal heating and rotation of the earth cause patterns of atmospheric and oceanic circulation that determine regional climates.

Linkage Level Descriptions

Initial	Precursor	Target
Interpret basic weather information (e.g., radar, map) to identify weather conditions.	Interpret basic weather information (e.g., radar, map) to compare weather conditions (either over several days at the same location or different locations on the same day).	Interpret basic weather information (e.g., radar, map) to make predictions about future conditions (e.g., precipitation, temperature, wind).

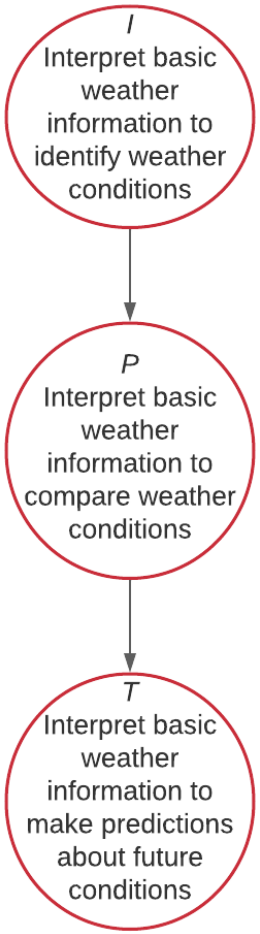
Instructional Resources

Linkage Level	Instructional Activities
Initial/Precursor/Target	Weather Watchers
Connections	
Science and Engineering Practices	Developing and Using Models
Crosscutting Concepts	Systems and System Models
ELA Essential Elements	**ELA.EE.SL.8.5**: Include multimedia and visual information into presentations.
Released Testlets	
See the Guide to Practice Activities and Released Testlets.	

Link to Text-Only Map

SCI.EE.MS.ESS2-6 Interpret basic weather information (e.g., radar, map) to make predictions about future conditions (e.g., precipitation, temperature, wind).

Map Key	
I	Initial
P	Precursor
T	Target



Mini-Map for SCI.EE.MS.ESS3-3

Subject: Science
Earth and Space
Grade: 6–8

Learning Outcome

DLM Essential Element	Grade-Level Standard
SCI.EE.MS.ESS3-3 Develop a plan to monitor and minimize a human impact on the local environment (e.g., water, land, pollution).	**MS-ESS3-3** Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.

Linkage Level Descriptions

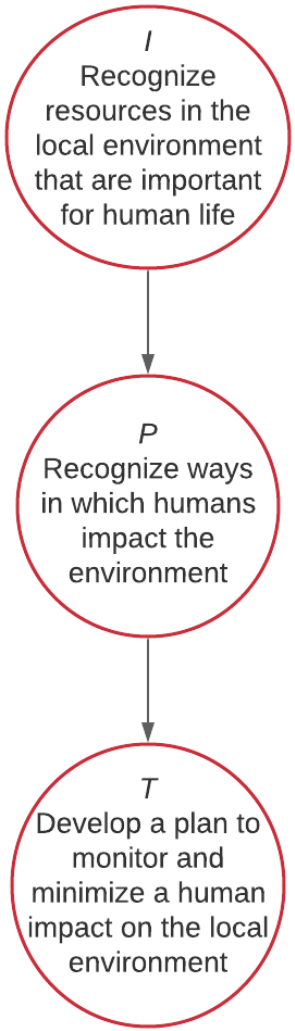
Initial	Precursor	Target
Recognize resources (e.g., food, water, air, land, materials) in the local environment that are important for human life.	Recognize ways in which humans impact the environment (e.g., agriculture, pollution, recycling, city growth).	Develop a plan to monitor and minimize a human impact on the local environment (e.g., water, land, pollution).

Instructional Resources

Linkage Level	Instructional Activities
Initial/Precursor/Target	N/A
Connections	
Science and Engineering Practices	Constructing Explanations and Designing Solutions
Crosscutting Concepts	Cause and Effect
Mathematics Essential Elements	**M.EE.6.RP.1**: Demonstrate a simple ratio relationship. **M.EE.7.RP.1-3**: Use a ratio to model or describe a relationship. **M.EE.6.EE.5-7**: Match an equation to a real-world problem in which variables areused to represent numbers. **M.EE.7.EE.4**: Use the concept of equality.
Released Testlets	
See the Guide to Practice Activities and Released Testlets.	

Link to Text-Only Map

SCI.EE.MS.ESS3-3 Develop a plan to monitor and minimize a human impact on the local environment (e.g., water, land, pollution).



Map Key	
I	Initial
P	Precursor
T	Target