

ESSENTIAL ELEMENT, LINKAGE LEVELS, AND MINI-MAP
SCIENCE: HIGH SCHOOL
SCI.EE.HS-LS1-2

State Standard for General Education	DLM Essential Element	Linkage Levels
<p>HS-LS1-2 Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms</p>	<p>EE.HS-LS1-2 Use a model to illustrate the organization and interaction of major organs into systems (e.g., circulatory, respiratory, digestive, sensory) in the body to provide specific functions</p>	<p>Initial:</p> <ul style="list-style-type: none"> • Recognize that different organs have different functions <p>Precursor:</p> <ul style="list-style-type: none"> • Identify which organs work for a specific function <p>Target:</p> <ul style="list-style-type: none"> • Use a model to illustrate the organization and interaction of major organs into systems (e.g., circulatory, respiratory, digestive, sensory) in the body to provide specific functions

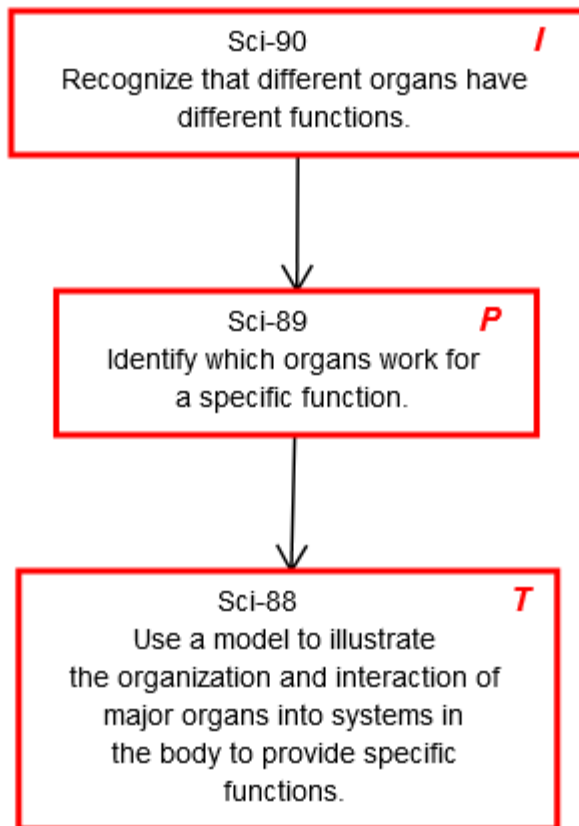
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A diagram showing the relationship of linkage levels in the mini-map appears below.

Key to map codes in upper right corner of linkage level boxes:

- I Initial
- P Precursor
- T Target

SCI.EE.HS-LS1-2 Use a model to illustrate the organization and interaction of major organs into systems (e.g., circulatory, respiratory, digestive, sensory) in the body to provide specific functions.



ESSENTIAL ELEMENT, LINKAGE LEVELS, AND MINI-MAP
SCIENCE: HIGH SCHOOL
SCI.EE.HS-LS2-2

State Standard for General Education	DLM Essential Element	Linkage Levels
<p>HS-LS2-2 Use mathematical representations to support and revise explanations based on evidence about factors affecting biodiversity and populations in ecosystems of different scales</p>	<p>EE.HS-LS2-2 Use a graphical representation to explain the dependence of an animal population on other organisms for food and their environment for shelter</p>	<p>Initial:</p> <ul style="list-style-type: none"> • Identify food and shelter needs for familiar wildlife <p>Precursor:</p> <ul style="list-style-type: none"> • Recognize the relationship between population size and available resources for food and shelter from a graphical representation <p>Target:</p> <ul style="list-style-type: none"> • Use a graphical representation to explain the dependence of an animal population on other organisms for food and their environment for shelter

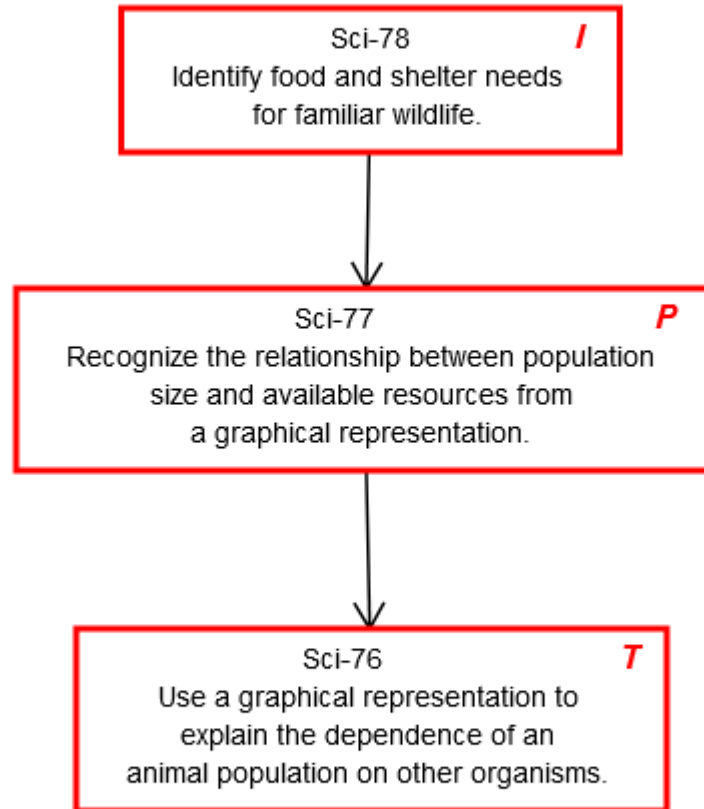
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SCI.EE.HS-LS2-2 Use a graphical representation to explain the dependence of an animal population on other organisms for food and their environment for shelter.





**ESSENTIAL ELEMENT, LINKAGE LEVELS, AND MINI-MAP
SCIENCE: HIGH SCHOOL
SCI.EE.HS-LS4-2**

State Standard for General Education	DLM Essential Element	Linkage Levels
<p>HS-LS4-2 Construct an explanation based on evidence that the process of evolution primarily results from four factors: (1) the potential for a species to increase in number, (2) the heritable genetic variation of individuals in a species due to mutation and sexual reproduction, (3) competition for limited resources, and (4) the proliferation of those organisms that are better able to survive and reproduce in the environment</p>	<p>EE.HS-LS4-2 Explain how the traits of particular species allow them to survive in their specific environments</p>	<p>Initial:</p> <ul style="list-style-type: none"> • Match particular species to their various environments <p>Precursor:</p> <ul style="list-style-type: none"> • Identify factors in an environment that require special traits to survive <p>Target:</p> <ul style="list-style-type: none"> • Explain how the traits of particular species allow them to survive in their specific environments

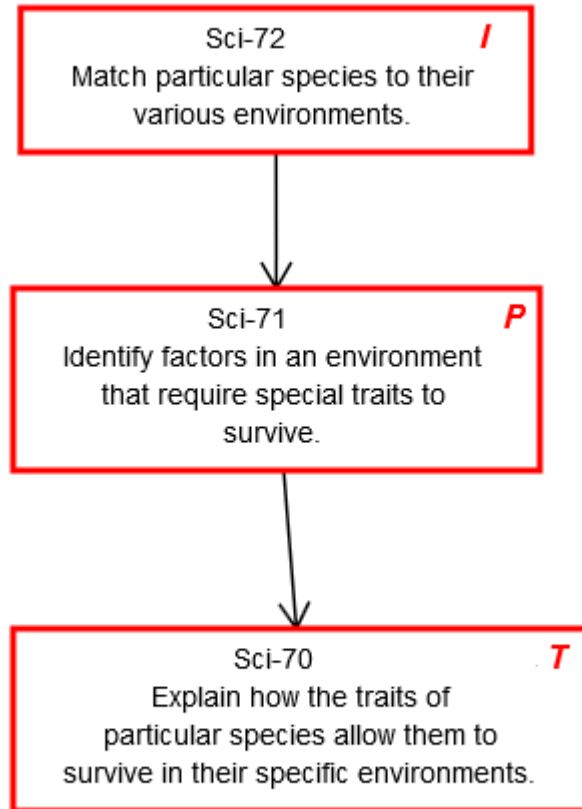
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SCI.EE.HS-LS4-2 Explain how the traits of particular species allow them to survive in their specific environments.



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SCIENCE: HIGH SCHOOL
SCI.EE.HS-PS1-2

State Standard for General Education	DLM Essential Element	Linkage Levels
<p>HS-PS1-2 Construct and revise an explanation for the outcome of a simple chemical reaction based on the outermost electron states of atoms, trends in the periodic table, and knowledge of the patterns of chemical properties</p>	<p>EE.HS-PS1-2 Make a claim supported by evidence to explain patterns of chemical properties that occur in a substance during a common chemical reaction (e.g., baking soda and vinegar)</p>	<p>Initial:</p> <ul style="list-style-type: none"> • Recognize that a change has occurred during a chemical reaction <p>Precursor:</p> <ul style="list-style-type: none"> • Identify the changes that have occurred during a chemical reaction (e.g., metal-rust, paper-burn) <p>Target:</p> <ul style="list-style-type: none"> • Make a claim supported by evidence to explain patterns of chemical properties that occur in a substance during a common chemical reaction (e.g., baking soda and vinegar)

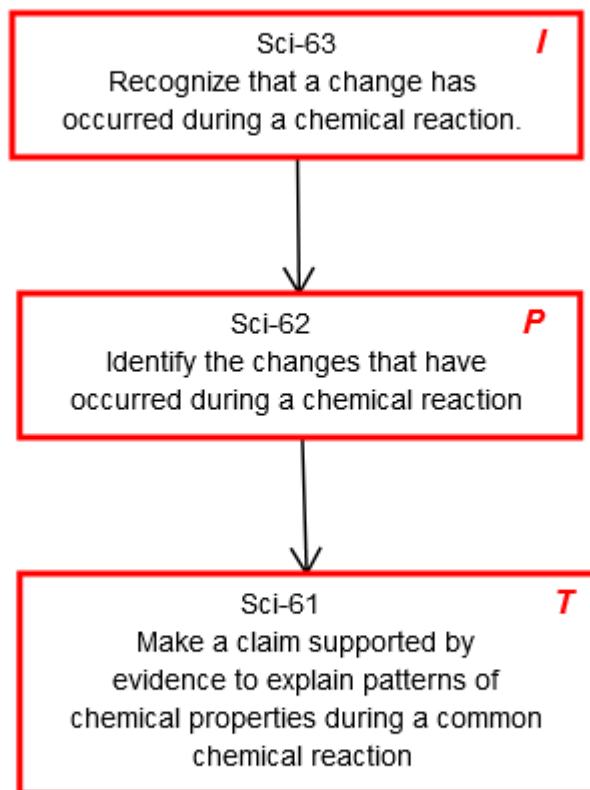
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SC1.EE.HS-PS1-2 – Make a claim supported by evidence to explain patterns of chemical properties that occur in a substance during a common chemical reaction (e.g., baking soda and vinegar).



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SCIENCE: HIGH SCHOOL
SCI.EE.HS-PS2-3

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<p>HS-PS2-3 Apply scientific and engineering ideas to design, evaluate, and refine a device that minimizes the force on a macroscopic object during a collision</p>	<p>EE.HS-PS2-3 Evaluate the effectiveness of safety devices and design a solution that could minimize the force of a collision</p>	<p>Initial:</p> <ul style="list-style-type: none"> Identify safety equipment devices that minimize force of a collision (e.g., floor mats, helmets, or steel-toed boots) <p>Precursor:</p> <ul style="list-style-type: none"> Use data to compare the effectiveness of safety devices to determine which best minimizes the force of a collision <p>Target:</p> <ul style="list-style-type: none"> Evaluate the effectiveness of safety devices and design a solution that could minimize the force of a collision

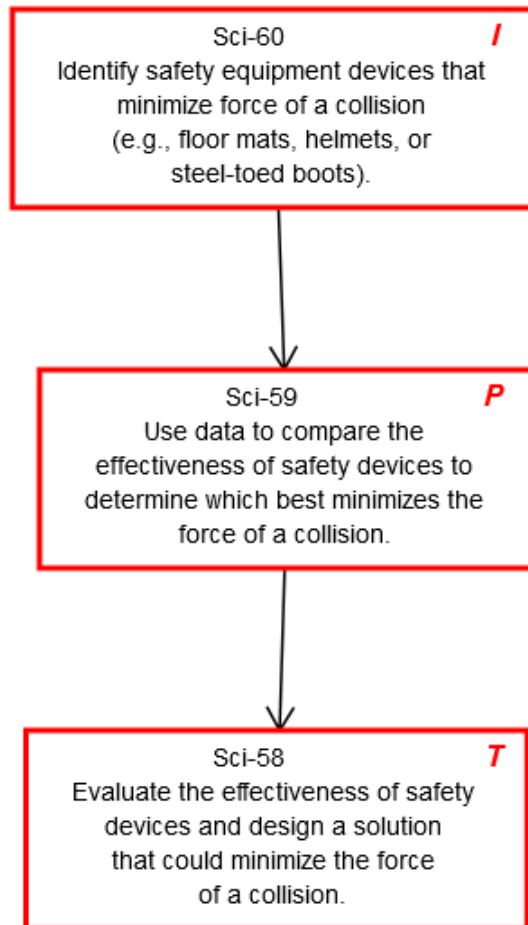
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SCI.EE.HS-PS2-3 Evaluate the effectiveness of safety devices and design a solution that could minimize the force of a collision.





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SCIENCE: HIGH SCHOOL
SCI.EE.HS-PS3-4**

State Standard for General Education	DLM Essential Element	Linkage Levels
<p>HS-PS3-4 Plan and conduct an investigation to provide evidence that the transfer of thermal energy when two components of different temperature are combined within a closed system results in a more uniform energy distribution among the components in the system</p>	<p>EE.HS-PS3-4 Investigate and predict the temperatures of two liquids before and after combining to show uniform energy distribution</p>	<p>Initial:</p> <ul style="list-style-type: none"> • Compare relative difference in temperature (warmth, coldness) of two liquids <p>Precursor:</p> <ul style="list-style-type: none"> • Compare the temperatures of two liquids of different temperatures before and after combining <p>Target:</p> <ul style="list-style-type: none"> • Investigate and predict the temperatures of two liquids before and after combining to show uniform energy distribution

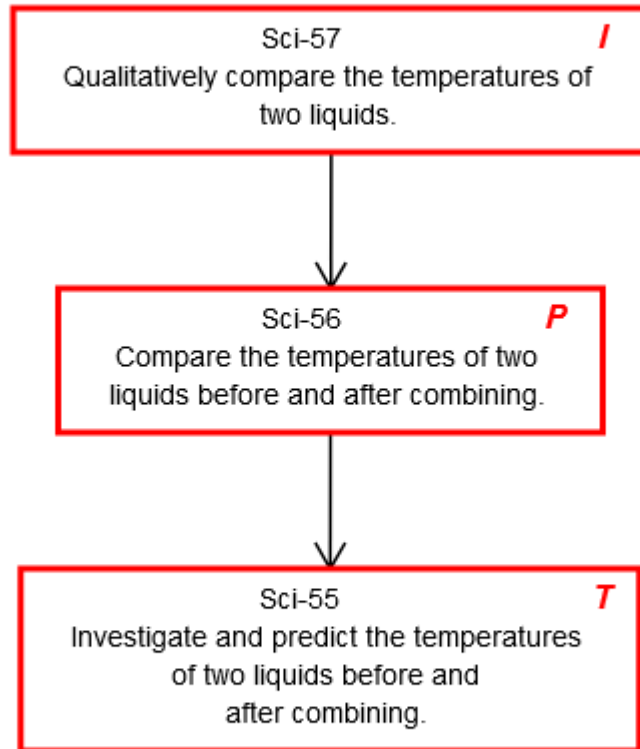
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SCI.EE.HS-PS3-4 Investigate and predict the temperatures of two liquids before and after combining to show uniform energy distribution.



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SCIENCE: HIGH SCHOOL
SCI.EE.HS-ESS1-4

State Standard for General Education	DLM Essential Element	Linkage Levels
<p>HS-ESS1-4 Use mathematical or computational representations to predict the motion of orbiting objects in the solar system</p>	<p>EE.HS-ESS1-4 Use a model of Earth and the Sun to show how Earth's tilt and orbit around the Sun cause changes in seasons</p>	<p>Initial:</p> <ul style="list-style-type: none"> • Identify characteristics of the seasons <p>Precursor:</p> <ul style="list-style-type: none"> • Use a model of Earth and sun to show how Earth's positions in its orbit around the Sun correspond with the four seasons <p>Target:</p> <ul style="list-style-type: none"> • Use a model of Earth and the Sun to show how Earth's tilt and orbit around the Sun cause changes in seasons

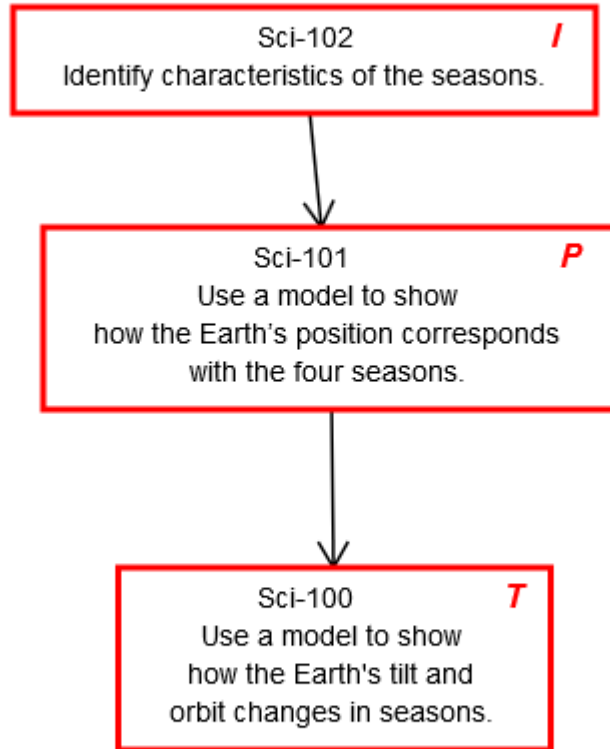
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SCI.EE.HS-ESS1-4 Use a model of Earth and the Sun to show how Earth's tilt and orbit around the Sun cause changes in seasons.



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SCI.EE.HS-ESS3-2

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<p>HS-ESS3-2 Evaluate competing design solutions for developing, managing, and utilizing energy and mineral resources based on cost-benefit ratios</p>	<p>EE.HS-ESS3-2 Construct an argument for a strategy to conserve, recycle, or reuse resources</p>	<p>Initial:</p> <ul style="list-style-type: none"> • Recognize strategies to manage objects (e.g., dispose, repurpose, or recycle) <p>Precursor:</p> <ul style="list-style-type: none"> • Describe the factors that would favor one strategy to conserve, recycle, or reuse resources over another <p>Target:</p> <ul style="list-style-type: none"> • Construct an argument for a strategy to conserve, recycle, or reuse resources

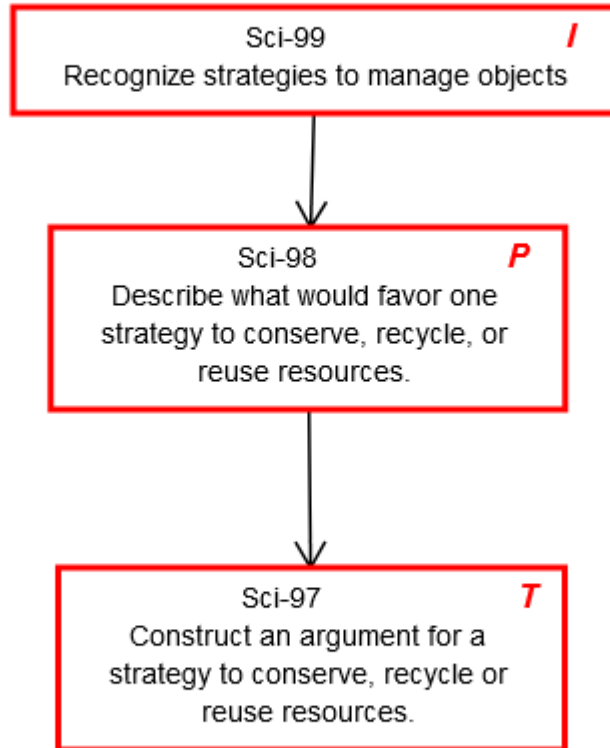
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SCI.EE.HS-ESS3-2 Construct an argument for a strategy to conserve, recycle, or reuse resources.



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SCIENCE: HIGH SCHOOL
SCI.EE.HS-ESS3-3

State Standard for General Education	DLM Essential Element	Linkage Levels
HS-ESS3-3 Create a computational simulation to illustrate the relationships among management of natural resources, the sustainability of human populations, and biodiversity	EE.HS-ESS3-3 Analyze data to determine the effects of a conservation strategy on the level of a natural resource	Initial: <ul style="list-style-type: none"> • Gather data on the effects of a local (e.g., class or school-wide) conservation strategy Precursor: <ul style="list-style-type: none"> • Organize data on the effects of conservation strategies (e.g., using less energy, using rechargeable batteries, recycling or repurposing materials) Target: <ul style="list-style-type: none"> • Analyze data to determine the effects of a conservation strategy on the level of a natural resource

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SCI.EE.HS-ESS3-3 Analyze data to determine the effects of a conservation strategy on the level of a natural resource.

