



Stackable Instructionally- embedded Portable Science (SIPS) Assessments Project

Grade 5 Science Unit 2 Range Performance Level Descriptors Matter and Energy in Organisms and Ecosystems September 2023

The SIPS Grade 5 Science Unit 2 Range Performance Level Descriptors, Matter and Energy in Organisms and Ecosystems was developed with funding from the U.S. Department of Education under the Competitive Grants for State Assessments Program, CFDA 84.368A. The contents of this paper do not represent the policy of the U.S. Department of Education, and no assumption of endorsement by the Federal government should be made.

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SIPS Grade 5 Unit 2 Range Performance Level Descriptors

Grade 5 Unit 2 EOU Assessment Performance Expectations

- 5-PS3-1.** Use models to describe that energy in animals' food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun. *[Clarification Statement: Examples of models could include diagrams and flow charts.]*
- 5-LS1-1.** Support an argument that plants get the materials they need for growth chiefly from air and water. *[Clarification Statement: Emphasis is on the idea that plant matter comes mostly from air and water, not from the soil.]*
- 5-LS2-1.** Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment. *[Clarification Statement: Emphasis is on the idea that matter that is not food (air, water, decomposed materials in soil) is changed by plants into matter that is food. Examples of systems could include organisms, ecosystems, and the Earth.] [Assessment Boundary: Assessment does not include molecular explanations.]*

SIPS Grade 5 Unit 2 Range Performance Level Descriptors

SIPS tasks require students to apply and transfer their science learning through engagement with science and engineering practices (SEPs) and application of the crosscutting concepts (CCCs) to demonstrate their understanding of disciplinary core ideas (DCIs) to make sense of and explain phenomena and/or to design solutions to phenomena-rooted engineering problems.

Level 1	Level 2	Level 3 (Target)	Level 4
<p>A student performing at this level produces evidence of three-dimensional science learning by their ability to:</p> <ul style="list-style-type: none"> identify components of a provided model to describe the flow of energy within an ecosystem. 	<p>A student performing at this level produces evidence of three-dimensional science learning by their ability to:</p> <ul style="list-style-type: none"> partially complete a model to show the flow of energy within an ecosystem starting with the sun providing the energy plants need to grow. 	<p>A student performing at this level produces evidence of three-dimensional science learning by their ability to:</p> <ul style="list-style-type: none"> complete a partial model to support an accurate and complete explanation of the flow of energy within an ecosystem, by tracing the energy flow across components of the model (e.g., plants, animals, decomposers) back to the sun. 	<p>A student performing at this level produces evidence of three-dimensional science learning by their ability to:</p> <ul style="list-style-type: none"> develop or complete a partial model to support a scientifically accurate and complete explanation of the flow of energy within an ecosystem, by tracing the energy flow across components of the model (e.g., plants, animals, decomposers) back to the sun.
<ul style="list-style-type: none"> complete a claim about the materials plants need to grow. 	<ul style="list-style-type: none"> use data to complete an accurate claim about the materials plants need to grow and partially support the claim with limited evidence. 	<ul style="list-style-type: none"> use data to complete an accurate claim about the materials plants need to grow and accurately support the claim with one relevant piece of quantitative or qualitative evidence. 	<ul style="list-style-type: none"> use data to develop an accurate claim about the materials plants need to grow and support the claim with at least two relevant pieces of quantitative or qualitative evidence.
<ul style="list-style-type: none"> use a provided model to develop a partial description related to the movement of matter or energy shown by the model. 	<ul style="list-style-type: none"> complete a model to support an explanation of how matter cycles or energy flows through organisms and ecosystems. 	<ul style="list-style-type: none"> develop and use models to support an accurate and complete explanation of how matter cycles and energy flows through organisms and ecosystems. 	<ul style="list-style-type: none"> develop and use accurate and complete models to support a scientifically accurate and complete explanation or prediction related to how matter cycles and energy flows through organisms and ecosystems.
<ul style="list-style-type: none"> identify how relationships, represented among different components of a food web, are affected by changes to a previously stable ecosystem. 	<ul style="list-style-type: none"> use provided evidence to develop an incomplete but accurate explanation of how changes to a previously stable 	<ul style="list-style-type: none"> use evidence to support a prediction related to how changes to a previously stable ecosystem affect the matter flow and energy cycle among the original 	<ul style="list-style-type: none"> use evidence to support a prediction related to how changes to a previously stable ecosystem affect the matter flow and energy cycle among the original

ecosystem affect the cycling of matter or flow of energy in a food web.

organisms in the system over a general sequence of events.

plants, animals, and decomposers in the system over the course of a clearly articulated sequence of events (e.g., cause & effect).
