



PART I: What I See

Directions: Record “What you see.” Make no judgments or inferences at this point. We are only recording data. (*Adapted from BSCS Highlights, Comments, and Captions*)

1. Look through a PDF version of the Next Generation Science Standards and select on performance expectation to be your focus for this activity.

K-PS3 Energy

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Students who demonstrate understanding can:		
K-PS3-1. Make observations to determine the effect of sunlight on Earth’s surface. [Clarification Statement: Examples of Earth’s surface could include sand, soil, rocks, and water] [Assessment Boundary: Assessment of temperature is limited to relative measures such as warmer/cooler.]		
K-PS3-2. Use tools and materials to design and build a structure that will reduce the warming effect of sunlight on an area.* [Clarification Statement: Examples of structures could include umbrellas, canopies, and tents that minimize the warming effect of the sun.]		
The performance expectations above were developed using the following elements from the NRC document <i>A Framework for K-12 Science Education</i> .		
Science and Engineering Practices Planning and Carrying Out Investigations Planning and carrying out investigations to answer questions or test solutions to problems in K-2 builds on prior experiences and progresses to simple investigations, based on fair tests, which provide data to support explanations or design solutions. <ul style="list-style-type: none"> Make observations (firsthand or from media) to collect data that can be used to make comparisons. (K-PS3-1) Constructing Explanations and Designing Solutions Constructing explanations and designing solutions in K-2 builds on prior experiences and progresses to the use of evidence and ideas in constructing evidence-based accounts of natural phenomena and designing solutions. <ul style="list-style-type: none"> Use tools and materials provided to design and build a device that solves a specific problem or a solution to a specific problem. (K-PS3-2) 	Disciplinary Core Ideas PS3.B: Conservation of Energy and Energy Transfer <ul style="list-style-type: none"> Sunlight warms Earth’s surface. (K-PS3-1),(K-PS3-2) 	Crosscutting Concepts Cause and Effect <ul style="list-style-type: none"> Events have causes that generate observable patterns. (K-PS3-1),(K-PS3-2)
----- Connections to Nature of Science		
Scientific Investigations Use a Variety of Methods <ul style="list-style-type: none"> Scientists use different ways to study the world. (K-PS3-1) 		
Connections to other DCIs in kindergarten: K.ETS1.A (K-PS3-2); K.ETS1.B (K-PS3-2)		
Articulation of DCIs across grade-levels: 1.PS4.B (K-PS3-1),(K-PS3-2); 2.ETS1.B (K-PS3-2); 3.ESS2.D (K-PS3-1); 4.ETS1.A (K-PS3-2)		
Common Core State Standards Connections:		
ELA/Literacy –		
W.K.7 Participate in shared research and writing projects (e.g., explore a number of books by a favorite author and express opinions about them). (K-PS3-1),(K-PS3-2)		
Mathematics –		
K.MD.A.2 Directly compare two objects with a measurable attribute in common, to see which object has “more of”/“less of” the attribute, and describe the difference. (K-PS3-1),(K-PS3-2)		

2. Across the top of your placemat record the grade level or grade band on which you are focusing. Also, fill in the broader Disciplinary Core Idea that is listed on the top of the Standards page as well as the Title of the standard.

K	PS3	Energy
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3. In the Performance Expectation (P.E.) box record the performance expectation and all of the black text. Then record any Assessment Boundary (AB) or Clarification Statements (CS) in the red box.

PE: K-PS3-1 Make observations to determine the effect of sunlight on Earth’s surface.	CS: Examples of Earth’s surface could include... AB: Assessment of temperature is limited...
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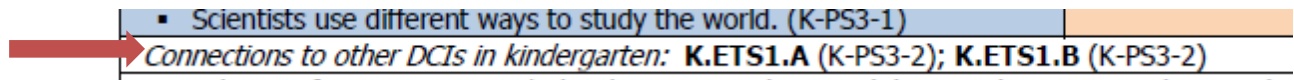


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- In the blue Science and Engineering Practice (SEP) box, record the related SEP listed in the blue foundation box found on the standard’s page. Do the same for the orange DCI box and the green Crosscutting Concept (CC) box.

<p>Planning and Carrying Out Investigations Planning and carrying out investigations to answer questions or test solutions to problems in K–2 builds on prior experiences and progresses to simple investigations, based on fair tests, which provide data to support explanations or design solutions.</p> <ul style="list-style-type: none"> Make observations (firsthand or from media) to collect data that can be used to make comparisons. (K-PS3-1) 	<p>PS3.B: Conservation of Energy and Energy Transfer</p> <ul style="list-style-type: none"> Sunlight warms Earth’s surface. (K-PS3-1) 	<p>Cause and Effect</p> <ul style="list-style-type: none"> Events have causes that generate observable patterns. (K-PS3-1)
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- Fill in the box below the foundation boxes on the Analysis Placemat, “Connections to other DCIs across grade level.” You can find that information in the white “Connection Box” below the colored foundation boxes on the page of the standard.



- In this next step, you will look at the “Articulation of DCIs across grade-levels” on the standards’ page. Fill in those connections that are in the grade level before on the left side of the Analysis Placemat and those connections that occur at later grade levels on the right side of the placemat. If there are no connections, leave this

Connections to other DCIs at prior grade levels:	Connection to other DCIs across grade level K.ETS1.A (K-PS3-2); K.ETS1.B (K-PS3-2)	Connection to other DCIs at later grade levels: 1.PS4.B (K-PS3-1), (K-PS3-2); 2.ETS1.B (K-PS3-2); 3.ESS2.D (K-PS3-1); 4.ETS1.A (K-PS3-2)
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- Finally, fill in the “Common Core State Standards Connections” at the bottom of the placemat from the last connection box. This is the final step for Part I:What I See

<p><i>Common Core State Standards Connections:</i> ELA/Literacy – W.K.7 Participate in shared research and writing projects (e.g., explore a number of books by a favorite author and express opinions about them). (K-PS3-1),(K-PS3-2) Mathematics – K.MD.A.2 Directly compare two objects with a measurable attribute in common, to see which object has “more of”/“less of” the attribute, and describe the difference. (K-PS3-1),(K-PS3-2)</p>
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Part II: What It Means

Directions: Now is the time to make inferences!

- Using sticky notes (one per idea) comment on what you are noticing on your placemat and what it means for you, your district, instruction, curriculum, etc.

For example:

<p>Planning and Carrying Out Investigations</p> <p>Plan to provide experiences and investigations that provide students with opportunities to:</p> <ul style="list-style-type: none">make observations and comparisons. I will have to teach these skills in multiple settings	<p>PS3.B: Conservation of Energy and Energy Transfer</p> <ul style="list-style-type: none">Sunlight warms Earth's surface. (K-PS3-1)	<p>Cause and Effect</p> <ul style="list-style-type: none">Events have causes that generate observable patterns. (K-PS3-1)
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Part III: Create a Caption

- At the bottom of the placemat. Create a short "caption" summarizing your findings. If you were to see your placemat in a book. What caption would you give it to explain what people are seeing? This should be one or two sentences.