



## Science: Energy and Matter

**Competency:** Making connections and predictive claims to understand and analyze the flow of matter and energy.

<b>Grade Level Competency: Grades 5-6:</b>				
Students will construct and analyze models to make connections and support claims about the flow of matter and energy in familiar and novel systems.				
Criteria	Extending	Proficient	In Progress	Beginning
<b>Design a Model</b>	A complex performance or application of learning that is transferred to new or novel situations beyond the content area, makes extended or abstract connections to authentic, real-world, multifaceted situations, and/or constructs entirely new ideas that are transformational.	<p>I can design complete conceptual models to demonstrate an accurate understanding of the transfer and flow of energy and matter within systems. I can apply this knowledge to new situations.</p> <p>Note: Models may be graphical, mathematical, diagrams, etc.</p> <p><input type="checkbox"/> Grade 5 <input type="checkbox"/> Grade 6</p>	<p>I can design simple models to demonstrate a partial understanding of the transfer and flow of matter and energy in a system. I can apply this knowledge to given situations.</p> <p><input type="checkbox"/> Grade 5 <input type="checkbox"/> Grade 6</p>	<p>I can use models to explain the transfer and flow of matter and energy in a system.</p> <p><input type="checkbox"/> Grade 5 <input type="checkbox"/> Grade 6</p>
		<p>I can analyze evidence and use it to support claims about the flow of energy and matter in a system. I can justify my claim using relevant evidence and attempt to connect it to scientific concepts.</p> <p>Note: Evidence can be observations, readings, models, data, etc.</p> <p><input type="checkbox"/> Grade 5 <input type="checkbox"/> Grade 6</p>	<p>I can identify evidence and use it to support claims about the flow of energy and matter in a system. I can support my claim using evidence.</p> <p><input type="checkbox"/> Grade 5 <input type="checkbox"/> Grade 6</p>	<p>I can explain the flow of energy and matter in a system and attempt to support my claim with evidence.</p> <p><input type="checkbox"/> Grade 5 <input type="checkbox"/> Grade 6</p>
<b>Analyze and Justify</b>				



## Science: Energy and Matter

**Competency:** Making connections and predictive claims to understand and analyze the flow of matter and energy.

### Grade Level Competency: Grades 7-8

Students will construct and analyze models to make connections, and support claims about the flow of matter and energy in familiar and novel systems.

Criteria	Extending	Proficient	In Progress	Beginning
<b>Design Model</b>	A complex performance or application of learning that is transferred to new or novel situations beyond the content area, makes extended or abstract connections to authentic, real-world, multifaceted situations, and/or constructs entirely new ideas that are transformational.	<p>I can design a complete and accurate conceptual model of energy and matter based on scientific evidence</p> <p>I can explain the major components or connections and revise the model to include new information.</p> <p>Note: Models may be physical, mathematical, computer, etc.</p> <p><input type="checkbox"/> Grade 7 <input type="checkbox"/> Grade 8</p>	<p>I can design an incomplete, but accurate model based on scientific evidence.</p> <p>I can explain the major components or connections in the model.</p> <p><input type="checkbox"/> Grade 7 <input type="checkbox"/> Grade 8</p>	<p>I am acquiring the knowledge and skills necessary to create an accurate model.</p> <p><input type="checkbox"/> Grade 7 <input type="checkbox"/> Grade 8</p>
<b>Analyze and Justify</b>		<p>I can analyze energy and matter in a novel situation to make a claim supported by scientifically-reliable evidence and justify it using science concepts.</p> <p>Note: Evidence can be observations, readings, models, data, etc.</p> <p><input type="checkbox"/> Grade 7 <input type="checkbox"/> Grade 8</p>	<p>I can make a claim and attempt to give evidence to justify my reasoning.</p> <p><input type="checkbox"/> Grade 7 <input type="checkbox"/> Grade 8</p>	<p>I am acquiring the knowledge and skills necessary to make claims supported with evidence.</p> <p><input type="checkbox"/> Grade 7 <input type="checkbox"/> Grade 8</p>



## Science: Energy and Matter

**Competency:** Making connections and predictive claims to understand and analyze the flow of matter and energy.

### Grade Level Competency: Grades 9-12

Students construct and analyze models and synthesize information about the flow of matter and energy at the microscopic and macroscopic level to make predictions in familiar and novel situations.

Criteria	Extending	Proficient	In Progress	Beginning
<b>Design/Model</b>	A complex performance or application of learning that is transferred to new or novel situations beyond the content area, makes extended or abstract connections to authentic, real-world, multifaceted situations, and/or constructs entirely new ideas that are transformational.	I can design comprehensive models to simulate systems in the natural or designed world, and use the models to predict the transfer and flow of matter and energy.  Note: Models may be physical, mathematical, computer, etc.	I can design models to simulate systems in the natural or designed world, and use them to predict the transfer and flow of matter and energy .  Note: Models may be physical, mathematical, computer, etc.	I can use models to simulate systems in the natural or designed world, and use them to predict the transfer and flow of matter and energy.  Note: Models may be physical, mathematical, computer, etc.
<b>Analyze and Justify</b>		I can identify and analyze collected evidence (observations, readings, models, data) to support claims about the flow of energy and matter in different systems.	I can identify and analyze collected evidence (observations, readings, models, data) and use it to support claims about the flow of energy and matter in different systems.	I can identify and analyze collected evidence (observations, readings, models, data) about the flow of energy and matter in different systems.