



Constructing Understanding

Teaching Practices		NGSS Aligned Practices	
<p>Teacher provides:</p> <ul style="list-style-type: none"> -A brief review of previous days learning -Starts a new lesson with little to no connection to prior learning 	<p>Teacher provides a brief review of the previous days learning to make connections to the <u>current</u> learning goals</p>	<p>Teacher and students engage in discussion to review the previous learning and make connections to new ideas and understandings</p>	<p>Students share their ideas and emerging understandings by making connections to previous knowledge and future applications</p>
<p>Teacher clearly explains scientific content and principles using direct instruction, visual aids, and differentiated strategies.</p> <p>Students engage in activity that reinforces content being taught (e.g., lab sheets state the outcome of the activity)</p>	<p>Teacher clearly explains scientific content using phenomena as examples and provides sense-making opportunities for the students such as (but not limited to):</p> <ul style="list-style-type: none"> -Discourse -Modeling (design, refine, review, compare) -Questioning -Reading and/or writing -Investigations 	<p>Teacher scaffolds opportunities for students to make sense of phenomena by using protocols</p> <ul style="list-style-type: none"> -Think-Pair-Share about a science question that they have generated -Explaining their models to others (small group or whole class) -Students generating their own questions based on phenomena -Choosing their own questions to investigate - <u>Students</u> justifying an idea (explaining why one believes the idea) 	<p>Teacher observes and listens for ideas emerging from small groups and individuals and prompts the sharing of new ideas.</p> <p>Students support one another's sense making of phenomena through collective, small group, and individual tasks</p> <p>Peer-to-Peer interactions allow students to construct and communicate their understanding.</p> <p>Students are given opportunity to consider other ideas that support or refute their own ideas.</p> <p>Students have ample opportunities to revise their thinking (e.g., Revisiting initial models and making adjustments accordingly)</p>
<p>Students individually complete textbook questions and lab sheets to reinforce concepts taught</p> <p>Students fill in concept maps, charts, or diagrams</p> <p>Science activities focus on data collection, graphing, and answering post lab questions</p>	<p>Teacher's model and guide students as they complete assignments either individually or in partners</p> <ul style="list-style-type: none"> -Claim-Evidence-Reasoning (CER) organizer -Concept maps -Teacher provides investigation design and engineering parameters -Teacher uses Cross Cutting Concepts (CCC) to make connections 	<p>Students grapple with open ended assignments with others</p> <ul style="list-style-type: none"> -CER and/or Claim-Evidence-Reasoning- Rebuttal (CERR) -Concept maps -Changing experimental parameters -Define criteria/constraints for an engineering problem -Teacher probes students to make connections with one or more CCC 	<p>Students are engaging in the SEPs and CCC to construct their understanding (e.g., Students generating investigable questions based on a phenomenon or plan and carry out investigations)</p> <p>Teacher using multiple strategies to formatively assess student sense making</p>
<p>Teacher provides closure and feedback</p>	<p>Teacher provides closure and scaffolds students reflection and feedback with peers</p>	<p>Students are self-reflecting on process and ideas</p>	<p>Students are self-reflecting and make revisions based on their self reflection and feedback from peers and teachers</p>

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NGSS Shift Continuum:

Teacher _____ District _____
Site _____
Content (Big Idea) _____ Date _____ Grade Level _____

Field Notes:

Constructing Understanding Students had ample opportunity to make sense of the science concepts addressed and the conclusions reached by most students agree with current scientific knowledge.