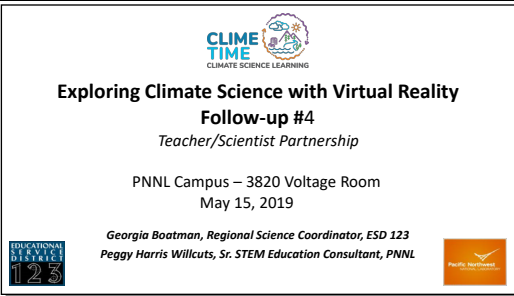
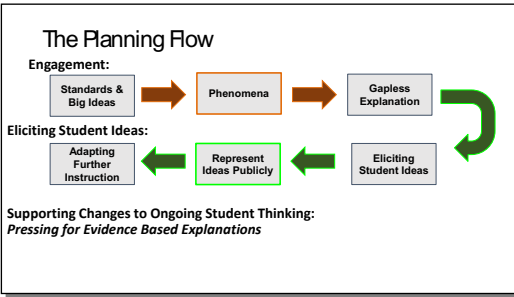
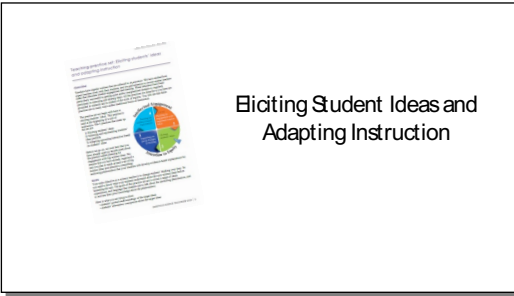


<p style="text-align: center;">Facilitation Guide Educational Service District 123 and Pacific Northwest National Laboratory Exploring Climate Science with Virtual Reality Follow-up 4 Eliciting Student Ideas and Adapting Instruction Planning for Formative Classroom Tasks</p>		
Slide 1		8:30-8:40 a.m. Welcome and Introductions (all teachers and all facilitators) (Peggy)
Slide 2		Slide 11 5 minutes The Planning Flow A brief reminder of where we are in the process We have worked on phenomena and student engagement and now are going to learn more about eliciting student ideas and then focus on the area of representing ideas publicly click to bring up the next blocks: Eliciting Student Ideas go through the next section of blocks under eliciting student ideas
Slide 3		Slides 12-18 60 minutes Introduce Article Pass out or follow link to document



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<p>Slide 4</p>	<p>Eliciting Student Ideas: Regular Routines = Practices</p> <ul style="list-style-type: none"> • Successful in getting quiet and/or marginalized students to participate and share ideas • Grounded in research • They are unlike many traditional forms of instruction <p>Practices include:</p> <ol style="list-style-type: none"> 1) Eliciting students' ideas 2) Selecting and representing students' ideas publicly 3) Adapting upcoming instruction based on students' ideas 	<p>Slides 12-18 60 minutes</p> <p>We will be engaging in guided reading through the Primer for Eliciting Student Ideas</p> <p>Let me summarize the big ideas of Overview section in a brief talk through. These bullet points are from that section. See if you can find them and underline or highlight them. Share that there are regular routines or practices that we can engage in that master teachers engage in that can be very Successful in getting quiet and/or marginalized students to participate and share ideas They are Grounded in research and They are unlike many traditional forms of instruction</p> <p>We have been thinking about the first two really all year and will touch on them today. We are going to dig a bit deeper into adapting instruction. The so now I know what they are understanding or not....what can I do about it?</p>
<p>Slide 5</p>	<p>Eliciting Student Ideas: Goals</p> <p>Your main objective as a science teacher is to change students' thinking over time.</p> <p>Here is what you are trying to elicit:</p> <ul style="list-style-type: none"> • students' partial understandings of the target ideas • students' alternative conceptions about the target ideas • students' everyday language that can be leveraged to help them understand scientific ideas • students' everyday experiences related to the core science idea that can be leveraged in later instruction 	<p>Slides 12-18 60 minutes</p> <p>Student learning is on a continuum. Students don't just learn x part about a concept and then stop acquiring understanding of the concept. If we know that our part in student learning is to push on their ideas, help them change and advance their thinking over time then we need to reveal what their ideas or conceptions are, what their experiences are and how they might influence student conceptions what kind of prior knowledge in other words and the language they use to express their ideas.</p> <p>Here's what we want to elicit: read the list and explain a bit</p>



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Slide
6

Planning for Eliciting Student Ideas

- Identify an anchoring phenomena
- Develop rich tasks for students about that phenomena
- Make it relatable and relevant for students

A rich task has two characteristics:

- Accessibility
- Power to reveal consequential ideas

Slides 12-18 50-60 minutes

Introduce Article

We have talked about the use of phenomena a lot and its role in being engaging and giving students a real world question or problem to develop their science learning around. But it is not as easy as giving students a puzzling phenomena and saying “go get ‘em”. We need to develop rich tasks around the phenomena that can really do that pushing on students’ thinking.

Two Characteristics: Accessibility and Power to Reveal Consequential Ideas

Read over the scenarios and core ideas....

Chart this: A rich task has two characteristics.

- **Accessibility.** Accessibility means that students can be expected to know enough about the task or question to reasonably speculate or hypothesize about it.
- **Power to reveal consequential ideas.** This means the task or question can get students talking about facets of understanding that will be crucial in developing the core ideas of the unit (i.e. reveals partial understandings, alternative conceptions, everyday language, everyday experiences related to the target idea).

Read over the scenarios and core ideas....

Think about your team’s idea. Is it headed down the right track? Have a brief conversation with an elbow partner.



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<p>Slide 7</p>	<p>How to Enact Eliciting Student Ideas</p> <ul style="list-style-type: none"> • Introducing the puzzling event and eliciting (only) observations • Eliciting hypotheses about “what might be going on” • Pressing for possible explanations 	<p>Slides 12-18 50-60 minutes Introduce Article</p> <p>Guided reading through the Primer for Eliciting Student Ideas</p> <p>There are three phases that are part of eliciting student ideas. Don’t skip any of them! Each accomplishes an important goal figuring out what students understandings are and extending their thinking.</p> <p>You should flow through the phases in this order. Read the Student Teacher ideas tables for each one at a time of 1, 2, 3 after little blurb</p> <p>The 1st one introducing a puzzling event and eliciting only student observations is a way to engage all students and make them feel safe contributing, perhaps in a turn and talk style. Read the table For how this might look.... Note the guiding questions above the table to push on our thinking.</p> <p>#2 is Eliciting hypotheses: This is different from just observations. Now we are asking kids to say “what if” or “what might be...” about the phenomena to reveal more of their thinking. We should have them be more public about their ideas, maybe in small group settings. Read the table for examples of how this conversation might go.</p> <p>The 3rd part of this is pressing for explanations. How you are asking for causal hypotheses...what’s going on that we cannot see and then perhaps engaging in an initial model. Read the table.</p>
<p>Slide 8</p>	<p>Eliciting Student Ideas: Representing Student Ideas Publicly</p> <ul style="list-style-type: none"> • Small group models • Whole class list of hypotheses • Whole class consensus model <p>Read this section. Stop and discuss with partner(s).</p>	<p>Slides 12-18 50-60 minutes Introduce Article</p> <p>Guided reading through the Primer for Eliciting Student Ideas</p> <p>Read this section, stop at the end of the section, discuss with a partner.</p>



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Slide 9	<p>Eliciting Student Ideas: Adapting Further Instruction</p> <p>Use what you learn from students' to adapt further instruction</p> <p>Read this section. Stop and discuss with partner(s).</p>	<p>Slides 12-18 50-60 minutes</p> <p>Introduce Article</p> <p>Guided reading through the Primer for Eliciting Student Ideas</p> <p>Read this section, stop at the end of the section, discuss with a partner Read, stop, discuss</p> <p><i>If there is any time left: stop and jot, whole group discussion</i></p>
Slide 10	<p>The Practice of Representing Student Ideas Publicly</p> <p>FORMATIVE ASSESSMENT TOOLS</p> 	<p>Slides 19- 30 15 minutes</p> <p>We have been thinking about how we can use student classroom tasks that can be embedded in our instruction in a formative way.</p> <p>A small piece of your life is going to literally now flash before your eyes! Quick review of Claims, Evidence, Reasoning and Models & Explanations that we are advocating for as a great way to do this. quickly flash through slides as a reminder of previous work, quickly reminding them of each item.</p> <p>Partner talk and decision about how they will engage in the practice of representing student ideas publicly. choices are CER, Models and Explanations</p>
Slide 11	<p>Collaborative Feedback...</p> <p>In pairs or trios complete the chart to provide us with collaborative feedback.</p> <p>Be ready to share out important tidbits.</p>	<p>Slide 11 15 minutes</p> <p>Use Reflection on Exploring Climate Science with Virtual reality as is or create posters for each of the sections for teacher sot visit and record on with partners</p>



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Slide
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