

Questioning Inquiry Unit

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Class: Boise State Science Writing Institute

Unit: Questioning - 4th grade general (application of scientific method)

Essential Question		Reflection (How does your EQ demonstrate the qualities of effective EQs? i.e. pique interest, have real-world relevancy)
How do our observations help us form questions and make inferences?		My EQ demonstrates the qualities of effective EQ's because it piques interest by relating to real-world relevancy. We are constantly asking questions in everyday situations to help us make sense of things.
Procedural Knowledge (PK)	Conceptual Knowledge (CK) & Practices	Reflection (Provide a rationale for your grouping of standards and objectives for this unit)
<p>A. CCSS.ELA-Literacy.RL.4.1 Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.</p> <p>B. CCSS.ELA-Literacy.RL.4.2 Determine a theme of a story, drama, or poem from details in the text; summarize the text.</p> <p>C. CCSS.ELA-Literacy.RL.4.3 Describe in depth a character, setting, or event in a story or drama, drawing on specific details in the text (e.g., a character's thoughts, words, or actions).</p> <p>D. CCSS.ELA-Literacy.W.4.9 Draw evidence from literary or informational texts to support analysis, reflection, and research.</p> <p>E. CCSS.ELA-Literacy.W.4.9.a Apply <i>grade 4 Reading standards</i> to literature (e.g., "Describe in depth a character, setting, or event in a story or drama, drawing on specific details in the text [e.g., a character's thoughts, words, or actions].").</p> <p>F. CCSS.ELA-Literacy.W.4.9.b Apply <i>grade 4 Reading standards</i> to informational texts (e.g., "Explain how an author uses reasons and evidence to support particular points in a text").</p> <p>G. Idaho State Science Standards In the fourth grade performance expectations, students are expected to demonstrate grade-appropriate proficiency in asking questions, developing and using models, planning and carrying out investigations,</p>	<p>A. students will understand the importance of different levels of questioning</p> <p>B. students will be able to distinguish between basic comprehension questions and higher level thinking questions</p> <p>C. students will learn to look beyond written text to find the "story outside the story"</p> <p>D. students will be able to distinguish between "on the lines" details and "between the lines" inferences (distinguishing between explicit text and inferential text)</p> <p>E. Practice: Asking questions and defining problems</p> <p>F. Practice: Analyzing and interpreting data</p> <p>G. Practice: Engaging in argument from evidence</p> <p>H. Practice: Obtaining, evaluating, and communicating information</p>	<p>The goal of this inquiry unit is to set my students up for a school year of higher level questioning. The questioning will come from me as their teacher, but the hope is that by focusing on higher level thinking skills, students will do more of this on their own as well. My hope is that the process of decomposing data and putting it back together again in a new way will be something they are excited to do because they see the application to everyday life. Common core standards focus mostly on making inferences from various texts. They also ask students to analyze, reflect, and explain. My students need this unit to show them the difference between "reading on the lines" (explicit text) and "reading between the lines" (inferential text.)</p>

analyzing and interpreting data, constructing explanations and designing solutions, engaging in argument from evidence, and obtaining, evaluating, and communicating information. Students are expected to use these practices to demonstrate understanding of the core ideas.		
Frontloading Activities		Reflection (How will your frontloading activity work to create genuine interest and relevancy for the work this unit will require?)
<ul style="list-style-type: none"> Tell students I'm going to show them how good I am at playing the computer game, Mario Brothers. www.dan-dare.org/FreeFun/Games/More/NewMarioFlash.htm. Continue making the same mistake right away at the beginning. As kids get frustrated, tell them I have a pet and the pets in this game just want me to say hi and pat their head. Continue until the kids go crazy! When they try to give hints, tell them I don't need to figure out the game...I know how life works and so I'll just do what I know. After a bit more, stop and connect my errors to me not asking questions about the game in my head to help me go further...(What can I do to stop dying? Are pets in Mario Brothers the same in real life? Are there buttons I need to push to be able to move forward in the game?) Ask what this example could possibly have to do with them as students. Connect questions that need to be figured out in the game to real life questions that need to be answered to figure out new things. Show students Austin's Butterfly: Building Excellence in Students' Work. https://vimeo.com/38247060. Talk about what the students saw, how questions were asked to make the butterfly better, and how they knew what to suggest and infer. This is such a great tool for getting students to see the power of observations and questioning to figure out problems. 		My frontloading activities should help my students see the relevancy of questions. I hope they see that questioning is not a scary thing. It's not something we only do at school when we're answering test questions. It's something we do all day long in order to make sense of our world.
Scaffold of Activities		Reflection (Provide a rationale for your sequence of activities, including how you will allow for the practice and revision of skills and which activities will serve as formative assessment and what they will measure.)
Activities	Connection to which PK and CK	Formative Assessment
<ul style="list-style-type: none"> DBI of photos (group work...scaffold easy to difficult) 	<ul style="list-style-type: none"> have students make observations ONLY at first Introduce types of questions that can be asked based on initial observations. talk about why asking questions is so important use observations to then introduce the idea of making inferences based on explicit details 	<ul style="list-style-type: none"> students should be making observations, talking with partner groups, and offering ideas and opinions to class discussion
<ul style="list-style-type: none"> Read <u>Cat and Fish</u> by Neil Curtis https://youtu.be/dD8Ftg2T7kU (mute sound before reading, and pause when making observations and discussing inferences) 	<ul style="list-style-type: none"> use this as an initial text introduction. as the story is read, ask students what they notice from the written words, and 	<ul style="list-style-type: none"> students should be making observations, talking with partner groups, and offering ideas and opinions to class discussion
		My activities are scaffolded to provide multiple opportunities for students to become confident in questioning. The activities begin with pure observation, and slowly move into questioning and making inferences. Activities build upon each other and use repeated practice to help students automatically move through the inquiry process. There is also analysis and synthesis built into this unit, which I'm hoping will be natural after moving through the prior steps so much.

	then have them look at the pictures and share “inferences” that can be made		
<ul style="list-style-type: none"> • Read <u>Journey</u> by Aaron Becker as a class 	<ul style="list-style-type: none"> • use an anchor chart to make explicit observations (single color, document pages) and ask questions • Use another color on the same anchor chart to make inferences based on the explicit observations 	<ul style="list-style-type: none"> • students should be making observations, talking with partner groups, and offering ideas and opinions to class discussion 	
<ul style="list-style-type: none"> • Show short film, “Take Me Home” (3 MIN) https://vimeo.com/72922772 	<ul style="list-style-type: none"> • Tell students their job is to just make observations during the video...what do they see and what do they wonder? • use a note catcher as a class • Brainstorm a list of observations • Brainstorm a list of questions. • Brainstorm a list of inferences based on explicit details list 	<ul style="list-style-type: none"> • students should be making observations, talking with partner groups, and offering ideas and opinions to class discussion • students will be completing a note-catcher with observations, questions and inferences. 	
<ul style="list-style-type: none"> • Show short film, “Stray” (5 MIN) https://vimeo.com/55791061 -What connections can we make between “Stray” and “Take Me Home”? 	<ul style="list-style-type: none"> • Tell students their job is to just make observations during the video...what do they see and what do they wonder? • Use a note catcher for partners to make observations about explicit and inferential details. • Brainstorm a list of observations • Brainstorm a list of questions. 	<ul style="list-style-type: none"> • students should be making observations, talking with partner groups, and offering ideas and opinions to class discussion • students will be completing a note-catcher with observations, questions and inferences. 	

	<ul style="list-style-type: none"> Brainstorm a list of inferences based on explicit details list 		
<ul style="list-style-type: none"> Inference Poetry DBI (group work) -Highlight explicit details -Annotate the inferential details derived from explicit details 	<ul style="list-style-type: none"> Hand out the DBI folder and have kids go through the poems. 	<ul style="list-style-type: none"> group participation highlighted and annotated poems 	
<ul style="list-style-type: none"> “Emotion Inference” skits -Students will work together in groups to come up with a short skit that leaves a character with an emotion at the end. The rest of the class has to “infer” which emotion the character is conveying, and back up their “inference” with “explicit details” from the skit. 	<ul style="list-style-type: none"> Assign kids to groups Possibly give each group a different emotion they need to portray in their skit 	<ul style="list-style-type: none"> group participation skits that give enough information for the class to make inferences class discussion 	
Culminating Projects			Reflection (How will your CP allow students to express their new understandings related to the EQ, act as a measure of Summative Assessment, and provide for real-world publication?)
Project Description	Sequence for Project	Summative Assessment(s)	
<p>1. Group anchor chart on process of moving from “on the lines” to “between the lines”</p>	<ul style="list-style-type: none"> Review strategies for identifying “on the line” details to “between the lines” inferences students will then make anchor charts to show what they know Students can refer back to items used in unit activities. 	<ul style="list-style-type: none"> completed anchor charts that can be shared with the class students will walk the walls to view other groups’ work students will make positive comments and ask clarifying questions 	<p>The culminating projects are scaffolded so students will have the support of their peers for the initial anchor chart project. This project should serve as a good review for all students to solidify the process of understanding explicit details, asking questions, and forming inferences. The second project will require students to apply what they have learned to a new activity. They will need to work together, agree on inferences, and be able to present their ideas in a clear way. The final project will be an individual assessment to check mastery. Each student will be turning in a note-catcher to show they understand the process that leads up to inference.</p>
<p>2. “Birds on a Wire” thought bubbles as groups https://www.youtube.com/watch?v=k2PJ6T7U2eU</p>	<ul style="list-style-type: none"> Show the short film to the class have students get in groups and come up with thought bubbles for each scene students will put their thought bubbles up in front of the class discuss as a class the similarities and differences between group presentations 	<ul style="list-style-type: none"> students will have thought bubbles that fit logically with the short film students will work together cooperatively by giving input and using good listening skills 	