

## Overall Open Response Question

--"use models" is too vague of a term and mostly used in these standards as "regurgitate with a visual aide" rather than use to make predications and test those predictions...it would be much more useful to students identify the value, data used to create

--rather the same verbs at different grade levels, but meaning different things (sometimes even within levels), it would be helpful to use the language that is specific to the grade band. For example rather than saying "Asking questions" at all levels, at the K-2 level, use "Develop simple descriptive questions about \_\_\_\_ that can be tested" otherwise asking questions just becomes a KWL activity. Use the verbs from the grade band description of the

--more alignment is needed between the naming of standards between grade bands, especially between K-5 and the MS/HS

--really would like the term engaging in scientific discourse to be a part of argumentation--we are firmly grounded in awareness of what argumentation is and the role that it plays and the research behind it, but the lift of distinguishing between arguing and argumentation will likely sabotage implementation with fidelity to the standards; even though argumentation is used in the framework and is used in common core...

--would like more about evaluating the credibility of resources as a part of evaluating the validity of claims and argumnts

--we like language that focuses teacher and students on evidence supporting claims and the argument being the language that connects the evidence to the claim rather than saying that "evidence supports an argument"

--a preponderance of "obtaining" or "obtaining and communicating" about topics, but a scarcity of evaluating...this speaks to breadth over depth

--the use of investigation is not consistent--sometimes it implies discovery, sometimes do an experiment, sometimes it just means gather information from a variety of sources--this needs clarification and consistency. Rather than using the same word in multiple contexts to mean different things, It would be good to sample from the other verbs (more than just the ones in the titles) from the practices for clarification.

--something to remember in looking at K-12 progression of practices...planning and carrying out investigations, in order to be the most instructionally valuable, will likely incorporate most if not all of the other practices

--Kansas DEFINITELY wants the engineering PEs integrated into the other content areas at middle school and high school. Replace one or more of the existing PEs with one that is focused on engineering. We still want to be able to sort the engineering out, but they should be incorporated with the other DCIs or we will likely just re-live what happened with inquiry--the engineering will either be ignored, or taught in a separate unit if there is time. The intent of the framework from our reading is to look at the integration of science and engineering--that won't happen if they are just listed in a separate

--In some standards (as noted in the individual standards) there are too many PEs that result in a return to breadth of coverage over depth. In general, those that moved past 5 PEs seemed to be sliding down the slope toward coverage.

--In general, we liked the clarification statements and examples as they did add clarity, but wondered if they weren't too limiting sometimes. Visually they sometimes added to the clutter. It might be nice to either be able to have a view that turns them off, or have an icon to click to show them.

--There needs to be a concerted effort to evaluate the grain size of both standards and PEs. Not to say that they all need to be equal, but some PEs are

--There are several pieces of content that appear in several PEs--horizontally and vertically. Future revisions should look at these connections carefully to make sure that they really are building off each other rather than just repeating. For example, it seemed like there were quite a number of times that students were creating a model of the carbon cycle. Let's make it once and then start using it to make predictions.

Suggestions for future feedback surveys:

--It would be MUCH easier to answer all questions about each performance expectation one at a time rather than having to keep jumping back to re-evaluate several questions about the same expectation at different times. We want to give a global/overall rating for a performance expectation and then select/explain the reasons for the rating. Our tendency was to end up rating an expectation similarly on both questions...in other words, if a PE is actually clearly written, but the practices don't really match up with the content, it is likely to get rated low twice, whereas, if we could rate it overall and then give an explanation for the rating (checkboxes for clarity/practices/other and a textbox). We also think this would lead to more targeted and

--the previous button should go to the standard before it rather than jumping all the way back to the beginning

--the checks in the STOC clear if the previous button is clicked more than once...frustrating;