

## Rapid Surveys of Student Thinking

Analyzing student thinking is the primary way to make adaptations to your current curriculum and to guide instructional decisions. Below are steps to follow that will help you through this process.

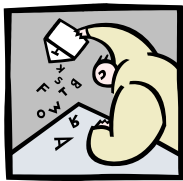


1. Decide what the big ideas are that relate to the topic you are currently teaching. Consider how you will elicit those ideas. These may be ideas that you've *just taught*— you may want to “take the students’ temperature” before you feel you can move on. These may also be ideas that you are *going to teach*— and you want to understand what kids already know. Make sure you get a written record of individual student thinking during class (e.g. answers to questions in index cards, drawings of models the kids are thinking with, KWL charts, concept maps).



2. Write down what you think the “ideal” student response would be to the questions/tasks. If this student were perfectly knowledgeable for their age group, how might they respond?

3. With this “ideal” in mind, now look at students’ work. Make notes about



- what they DO know (perhaps this is fragmented knowledge, but count it anyway)
- what alternative conceptions they may have
- what kind of vocabulary they use or what kind of everyday experiences they relate to the big ideas.

4. After you record students ideas in these three areas, what trends emerge in the student understanding, language, or experience?



5. If you are collecting data *after* instruction, how were these patterns connected to instructional decisions that were made?

6. How could you change instructional decisions for the future, given this data?

- What can I build on that they already know or already relate from their everyday experience?
- What ideas seem to need connecting or better integration (perhaps they seem only to have “vocabulary level” understanding of some ideas)?
- How can I make kids dissatisfied with the alternative conceptions they bring to class?





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1. What was the big science idea that your question(s) or task(s) probed?

2. What is the ideal, most elaborated response a student might give?

3a. List the facets of understanding your students DO have. These may be only fragments or partial understandings, but record them anyway.

3b. What kinds of alternative conceptions do your students [still] have?

3c. What kinds of vocabulary are they [still] using to express these ideas? And what kinds of everyday experiences are they using to relate to these ideas?

4. What trends or patterns emerge in student understanding?	Other notes?
5. If you are administering RSST after an episode of instruction, how were these patterns of student response connected to instructional decisions that were made?	
6. How should you change instructional decisions for the next lesson given this data? Examples: Create situations to make students dissatisfied with an alternative conception? Re-teach using different kinds of experiences/models? Provide special scaffolding? Build on existing partial understandings? Use particular shared experiences by kids to anchor classroom discourse?	