



## Advanced CER Course Class 3: Classroom Discussion Rubrics & Student Challenges

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## Agenda

- Overview
- Activity – Discuss Transcript
- Discussion – Lessons Learned
- Activity – Analyze erosion and deposition transcripts
- Activity – Analyze student writing from erosion and deposition lesson
- Discussion Video – Pendulum lesson
- Activity – Design next lesson
- Debrief and questions



## Last Assignment

- Before March 16 Workshop
  - Try another CER Learning Task with your students that supports discussion.
  - Audio or videotape the lesson.
  - Select an approximately 3 minute section to transcribe (1 page of transcript).
  - Bring in 5 copies next time to share with your colleagues to discuss the sample discussion.



## Activity: Analyze Transcripts

- Share transcripts of your lesson with your peers.
- Analyze the transcripts in terms of IRE versus student-to-student interactions.
- Analyze the transcripts in terms of supporting CER.
- What went well during the discussion?
- What suggestions would you have if teaching the lesson again?



## Discussion: Lessons Learned and Questions

- How did the process go taping and transcribing yourself? Did you learn anything new?
- What did you learn that you hope to address or apply in your next CER lesson?
  - Challenges? Successes?
- What did you learn from your discussion with your colleagues?



## Example below is the Base Rubric

	Claim	Evidence	Reasoning	Rebuttal
	<i>A statement or conclusion that answers the original question/problem.</i>	<i>Scientific data that supports the claim. The data needs to be appropriate and sufficient to support the claim.</i>	<i>A justification that connects the evidence to the claim. It shows why the data counts as evidence by using appropriate and sufficient scientific principles.</i>	<i>Recognizes and describes alternative explanations, and provides counter evidence and reasoning for why the alternative explanation is not appropriate.</i>
<b>0</b>	Does not make a claim, or makes an inaccurate claim.	Does not provide evidence, or only provides inappropriate evidence (Evidence that does not support claim).	Does not provide reasoning, or only provides inappropriate reasoning.	Does not recognize that alternative explanation exists and does not provide a rebuttal or makes an inaccurate rebuttal.
<b>1</b>	Makes an accurate but incomplete claim.	Provides appropriate, but insufficient evidence to support claim. May include some inappropriate evidence.	Provides reasoning that connects the evidence to the claim. May include some scientific principles or justification for why the evidence supports the claim, but not sufficient.	Recognizes alternative explanations and provides appropriate but insufficient counter evidence and reasoning in making a rebuttal.
<b>2</b>	Makes an accurate and complete claim.	Provides appropriate and sufficient evidence to support claim.	Provides reasoning that connects the evidence to the claim. Includes appropriate and sufficient scientific principles to explain why the evidence supports the claim.	Recognizes alternative explanations and provides appropriate and sufficient counter evidence and reasoning when making rebuttals.



**Activity:**  
**Assess Students' Writing #1 - Density**



- Score the four student responses using the specific rubric. For each student give them a separate score for:
  - Claim - 0, 1 or 2
  - Evidence - 0, 1, 2, 3, 4 or 5
  - Reasoning - 0, 1, 2, 3 or 4
- Provide feedback and strategies
  - What feedback would you provide this student? Why would that feedback be helpful?
  - What strategies might you use to help this student construct a stronger explanation?

**Activity: Develop a Rubric**



- Read the question and data.
- Read the "ideal" response for this data (Is this appropriate for a middle schooler?)
- Read the 3 sample student responses
- Using this information, work with a colleague(s) to design a CER rubric using the blank rubric
  - How many levels for claim? What is the ideal?
  - How many levels for evidence? What is the ideal?
  - How many levels for reasoning? What is the ideal?

**Activity – Question & Rubric for next Meeting**



- For April 13 meeting
  - Design another question to use with your students (either an investigation or an assessment)
  - Design a rubric for the question
  - Bring into the meeting:
    - Copy of your final rubric and question
    - 6 samples of student writing – 2 low, 2 medium and 2 high

**Contact information**



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