Tracing Matter and Energy
Example Interviews

General Tracing Questions: Craig
General Tracing Questions: David
General Tracing Questions: Suzie

1) How would you rank Craig, David and Suzie in terms of their understanding of matter and energy and ability to trace matter and energy? How were their stories different?

2) During Craig’s interview Jennifer skips a section, why? (In David and Suzie’s interviews this section was not shown for brevity.)

Matter and Association Questions: David (matter) and Suzie (energy)

3) Watch for Jennifer’s (the interviewer) prompts. What did she say that was not on the script? Why? (the exception is the question “Can you change some of these into others (other than living branches becoming dead wood)?” has been changed since the interview to “Living branches can become dead wood. Are there materials here that can become living branches? What materials are they?”)

4) Does David conserve matter in his thinking? How is David’s thinking similar or different from your students’?

5) How does Suzie think about energy? How is Suzie’s thinking similar or different from your students’?

Mass and Energy Tracing Questions: Craig

6) Watch for prompts again that are not on the script. What is the flow of questions that Jennifer chooses to use?

7) How does Jennifer put the interviewers at ease in this section, as well as the next section on Vocab and Plant Structure with Suzie?

8) How does Craig trace matter and energy? How is Craig’s thinking similar or different from your students’?

Vocab and Plant Structure: Suzie

9) Give an example of non-scientific discourse and/or force-dynamic reasoning.

10) What does Jennifer omit from the script and why?

Comparing Events: Craig

11) Notice Jennifer’s prompts again, especially a good prompt towards the end of the segment.

Ecosphere: David

12) How does Jennifer introduce and explain the Ecosphere to David?
13) Watch for a point when David asks whether he is “right or wrong”... how does Jennifer respond?

14) How does student thinking become uncovered during the course of the interview?

**Global Carbon Cycle: Craig and David**

15) How does Jennifer introduce these questions? What level of information does she give about the graphic, and at what point does she give it?

16) How do you think your students will respond to these questions?

17) Overall—did you notice anything that Jennifer could do better?