Inviting an interesting response

(T) Fossils of earthworms are found in South America, Africa, India, and Australia as well as the islands of Madagascar and New Guinea. How many of you said those fossils could be evidence? Did anybody say they weren’t evidence? OK...
(S) I said they weren’t evidence
(T) You said fossils weren’t evidence? How are fossils not evidence?
(S) Because why couldn’t earthworms live everywhere?
(T) Right, but what this is just saying is that they found them in South America, Africa, India and Australia
(S) How do you know they couldn’t have been from when they were separated?
(T) Oh, so your statement is that you could have those earthworms
(S) It could be from separate...
(T) Just because they’re always around. Because you can always find worms.
(S) Yeah...like
(T) Interesting

Cutting Off Using Disciplinary Knowledge

(T) Yes (to student raising his hand)
(S2) An earthworm is an earthworm – it’s not a specific type of worm, it’s just a worm
(T) Oh, but wait
(Student’s talking – one says to others “this is like an African giant worm”)
(T) But wait. This is a very specific type of earthworm
(Student’s talking)
(S3) this ain’t just any earthworm
(S) But like, what’s it called – what is it
(T) Ok. This is not just any earthworm – this is a very specific
(S) But we don’t...
(T) Earthworm
(S) Is this just like the earthworms we can go in our back yards and dig up?
(T) But it’s not
(S) it’s like...
(S4) look...
(S) it’s just an earthworm
(S4) it’s a mega-scoliscina- scoli (reading from the book)

Inviting and mirroring a new idea

(T) Ok, yes (to another student who is raising her hand)
(S5) Earthworms though like dig into the ground and then travel under the ocean, or would they burn?
(S) Are we gonna debate?
(T) We are not gonna go there right yet, ok?
(T) So you want to know if earthworms can go under the ocean
(Students talking)

Parking ideas on the side (honoring good listeners)

(T) Ok Alan, what’s your question?
(Students talking)
(T) Sh. You need to be good listeners to each other. If you have a question or a concern you raise your hand but we need to be good respectful listeners. (writing on the side of the board)
(T) Ok, that’s the question. We’ll keep that there. Ok, Edward.
(S7) How in the world do you find a fossil of an earthworm
(laughter from another student)
(S8) That’s a good question

Responding about worms, ignoring submarines

(T) Ok, Tish
(S) I have a question about (a student’s idea) about the fossils like why they thought it was evidence against – because had a scientist known like what they’d made could be exactly right
(T) Ok so your question is about how do we know that the evidence they’re giving us is accurate evidence? Ok.
(S1)...you find a fossil of a worm- uh – well you really can’t like see their bones...maybe only the imprint on a rock
(T as she writes) ok. So you’re talking about trace fossils (still writing) or imprints on rock
(T) Alright. Um.

Restating doubts about scientists and their evidence

(T) Ok, Tish
(S) I have a question about (a student’s idea) about the fossils like why they thought it was evidence against – because had a scientist known like what they’d made could be exactly right
(T) Ok so your question is about how do we know that the evidence they’re giving us is accurate evidence? Ok.
(S1)...you find a fossil of a worm- uh – well you really can’t like see their bones...maybe only the imprint on a rock
(T as she writes) ok. So you’re talking about trace fossils (still writing) or imprints on rock
(T) Alright. Um.

Loving the building of an alternative explanation

(S) Wait. I have something...
(T) Ok what do you have to say? (sounds excited)
We’re running out of time.
(S) what if the worms were like, if they were giant worms wouldn’t they be able to dig faster?
(lots of students starting to respond one says “I think slower”)
(T) I love how you guys think.
(S) Really really fast down and then go under the ocean. And pop up in like India.
(S) It would be like the best thing that...
(S) I know.
(S) It would be like a drill...

Post-instruction Interview about episode

(T) I didn’t want them to get side tracked... with, because I know it’s not just earthworms that are found everywhere, that there were very specific earthworms, or very specific worms, but, so I didn’t want them to get side tracked. So, that’s why we sort of created that board of, O.K., we need to write this stuff here, and so, then we could come back to it and have that conversation. But, that class would have gone with that earthworm thing and they would remember nothing else except the worms all over the earth. So, that must have totally negated the evidence that we have. So, I wanted to keep them, I was glad, I mean, because I want them to question theories. That’s what they should be doing. As scientists they should say, well wait a second, what about this, or what about that. That’s good thinking, that’s good science thinking. And so, I wanted to validate that. But, I didn’t want it to go so far off track that it became a discussion of fishing in the summer and digging for worms.