SPEAKER: Structured share-out of scientific models is a practice that teachers can use after students have drawn and engaged in scientific modeling. In many classrooms, only examples of student work that are right or best are shared with the whole class. But this practice helps to strategically select representations that could help lead to productive conversations in which students are learning from and with each other.

Scientific knowledge is tentative and is developed through sharing and revising theories over time. So kids are getting to do the same thing. And if you are mindfully selecting student work that can be shared with others, you can counter narratives about who's smart in your class.

In this fifth grade classroom, you will see students sharing their models on the overhead projector about this scientific artifact that's about 1,000 years old, and kids are trying to figure out which constellations might be represented on the artifact. Notice how the teacher encourages multiple ideas, and presses students to share their evidence, and how she conveys the idea that scientific knowledge is tentative.

SPEAKER: And this is Orion right here. It is [INAUDIBLE]. Pegasus is this constellation.

SPEAKER: So I want you to back up, how do you know that that one's Orion?

SPEAKER: Cause [INAUDIBLE] Orion but [INAUDIBLE].

SPEAKER: Does anybody want to add [INAUDIBLE] Orion?

[INTERPOSING VOICES]

SPEAKER: Can I just add--

SPEAKER: Here, I'm just going to [INAUDIBLE] number for just a minute. Here, [INAUDIBLE].

SPEAKER: What? No!

[INTERPOSING VOICES]

SPEAKER: So if you flip into page 25 in your book, you'll find a blah, blah, blah-- I can't pronounce it. But [INAUDIBLE] for, like, the bottom one [INAUDIBLE].

SPEAKER: Yeah.

SPEAKER: And you can go to Orion, and you see that there's a three and then the two up like that, which works for the--

SPEAKER: And we talked about that yesterday. Do you remember what that was called in Orion?

SPEAKER: Orion's belt.

SPEAKER: Orion's belt.

SPEAKER: And maybe, like--

SPEAKER: [INAUDIBLE] a square.

SPEAKER: If that was-- this artifact was probably made a really long time ago. So it was-- so maybe the stars have moved. I don't know.

SPEAKER: And, like, in all the different seasons, his [INAUDIBLE] constantly rotating. You see different constellations in different seasons. So you can see Orion in winter, and like the other constellations in the other seasons. And [INAUDIBLE].

SPEAKER: OK.

SPEAKER: So we were thinking, if these were all-- if this was right, and if Orion was the top one on the artifact, then that must mean that Pegasus and-- I don't know how to pronounce that one-- so that means that probably on the missing spot of the artifact, it's probably [INAUDIBLE].

[INTERPOSING VOICES]

SPEAKER: OK.

SPEAKER: Well, we don't actually know.

[INTERPOSING VOICES]

SPEAKER: OK. Thank you very much. Liam, do you want to come up and--

[INTERPOSING VOICES]

SPEAKER: Because these guys have something different that goes with that. So we'll go to this next.

SPEAKER: So how did this--

SPEAKER: I'm just going to fix this really quick.

SPEAKER: --bottom constellation in your model that you showed, how does this look like the thing that was shown here?

SPEAKER: [INAUDIBLE] is that better?

SPEAKER: So if you were to look at it without the lines, almost--

SPEAKER: You can see it.

SPEAKER: --you'd see that. So, for example, if you were to not realize that Pegasus-- if you were to not-- if you were to only see the stars, in the sky, you wouldn't see the lines aligning them like that. But if you were to see Pegasus, you'd see it across the top. It could have possibly-- if this was possibly Pegasus, you'd see that as a square.

SPEAKER: Let's stop right there.

[INTERPOSING VOICES]

SPEAKER: How many people think this is Pegasus? How many people think this one is Pegasus?

[INTERPOSING VOICES]

SPEAKER: I'm not saying it would be. Is there anybody who thinks this is definitely not Pegasus?

SPEAKER: Yeah.

SPEAKER: You think it's definitely not Pegasus, Sebastian?

SPEAKER: No.

SPEAKER: You don't think it's Pegasus?

SPEAKER: Well, [INAUDIBLE]. It's because it's the square. So the square is part of the constellation of Pegasus. And the thing is that they didn't have-- the people who made that thing. So they didn't have enough space for the tail. So I think that's-- so it's actually [INAUDIBLE].

SPEAKER: OK, cool. So do you guys think we should put that on the [INAUDIBLE] model that this one is Pegasus?

[INTERPOSING VOICES]

SPEAKER: No. I don't--

SPEAKER: Why don't you think we should put that on there?

SPEAKER: --other constellation [INAUDIBLE].

SPEAKER: I personally would like to challenge that. This square isn't really a square. This is a direct square, and this doesn't look quite like a square.

SPEAKER: All right. So we have an idea that this square is Pegasus, and possibly, it could be Hercules. So maybe that's something we could put on our model. If we find out that it's not Pegasus, can we change it on the model?

[INTERPOSING VOICES]

SPEAKER: Yeah, right? Because that's what a model is. You can always change your model. When you find out more information, you look at what you have, and you take that information and fit it with your model. And then if it doesn't fit, you change your model. So let's go ahead and make sure that one's on there. So, you guys, do you have that on a sticky note?

SPEAKER: No.

SPEAKER: No? Let's make sure that gets on a sticky note that the square, it might be the square of Pegasus. Or it maybe could be Hercules.