JAKE DISSTON: That we can provide an opportunity that gets them talking to each other about, sort of the big ideas. That we.. that we hoped it would. The big ideas that we're hoping to get out are having students classify and organize different, different functions, really. So, looking at graphical, and table, and equation representations of different functions. Linear, non-linear… What salient features do they attend to, what language do they use to sort them, and how do they make connections between them? What types of vocabulary, what types of connections between these different representations, and does this format provide them an opportunity to do that? Maybe they can… what Suzanne's referring to is the cards, so we've been playing with cards a lot.

Believing that putting cards out in front of kids rather than paper and pencil gives them, motivates them or gives them an opportunity to talk to each other. And kind of come up with ideas verbally. Something about the movement of the cards facilitates that. Whereas a single work, each kid having a single worksheet and doing that separates them into, away from each other. So we're curious whether, in a classroom where that may not have been going on during the course of the year, does it provide them that opportunity?

JESSE RGENT: So the structure of the lesson has two main parts. The third or fourth page in, you'll see a set of graphs. We'll give each group of kids the entire set of graphs, separated out. And ask them to sort these graphs whatever way is meaningful to them, and there could be more than one way that they'll sort them. Give them some time for that, then have a whole class discussion, where we'll ask a group, how did you sort? How did you sort them? And we'll put up, ask them, "What was the reason you put these up? You put these up together?" "These all were straight lines." What's another name for that? "These are linear. Well, these ones weren't linear, or they're curved." So we'll try to get some language up on the board. These have positive slope, these have negative slope. Try to get some common language on the board for them to use later. That's the first part of the lesson.

Then, they'll go back to their groups, and with that same set of graphs we'll also give them equations and tables. And ask them, "Now, one at a time, look through the entire set of cards on your table, and see if you can match them." Can you get one equation that matches with one graph that matches with one table? That makes a set? And they'll be given a protocol where we want them to think out loud. So if it's my turn, I'll be saying, "Let's see. I see that in this equation it's 3x and I'm looking at the table and, no, I'm not sure." So we want them to think out loud, we want them to start using the language that was generated by the class.

To make a set of graph, table, equation. So the matcher has to be thinking out loud, trying to use the language from the class discussion earlier, And the other group members have to listen closely, and if they disagree or they don't understand, they have to ask some sort of probing question. They can't say, "That doesn't make sense!" They can say "Can you tell me more about that?" or "I'm not sure how that would work with something like this." So again, the idea is to promote the discussion and it's kind of a tricky thing. As Linda and Jake and I … we've never taught this lesson. We haven't used this in a class yet. But while Linda and Jake and I were doing the second part, the grouping.

It's kind of tricky to think out loud, and as you're thinking out loud, you can sort of rearrange your thoughts, and change a thing. "Oh, I thought it had to be linear, but now I see that.." So we want that to be going on. Now that requires sort of a safe environment, and an amount of trust within each group, and we don't know how much group work they've done and how safe it'll be for them to do that. But hopefully with the language that was put up already, the groupings of graphs that were made, It'll give them things to think about and things to be looking for. Although those graph sorts and groupings were free from any tables or equations. So how they make connections from the tables to the equations to the graphs will be interesting for us to see.

JAKE DISSTON: And then right at the end, we'll have them do a written reflection about that matching game. Trying to get them to describe any strategies that they may have used, and just reflect a little about what they were thinking about while they played the game. How they felt while they were playing the game. Quick reflection.

JESSE RAGENT: And our goals really kind of evolved as we heard that we had 37 minutes in the class. Is that how long it is? 37 minutes. So, so.

JAKE DISSTON: You guys were told it was 80, right?

JESSE RAGENT: So originally we wanted to see, and I think it's mentioned in the beginning here, if kids could make generalizations, and go from specifics to generalizations. I think that's a little too lofty a goal for this time frame, so we've modified that, and aren't expecting that. As much as we can see of that, great. But that's not the main focus of the lesson.

JAKE DISSTON: Yeah, I think it is sort of, given that it's the end of the year and a whole lot of learning has taken place, In what ways do they, in what ways does this lesson provide opportunities for them to put ideas together and make connections? What kind of language can be, um, through the class discussion, through working with the cards, through this protocol with the groups. In what ways does the language get refined, and in what ways do kids sort of refine the ways that they're making connections between things?
And on the second page, there are five data collection points, which I think are specific to the different parts of the lesson.
So what features are they looking for in graphs and tables, in equations? I think the second question is an interesting one to think about through the course of the lesson.
In what ways does the language and the, sort of, types of language that kids are using, deepen or develop during the lesson, and how is it related to say, the cards, or the way that the board gets organized, or the facilitation that we do as instructors.
And we're going to kind of team, team up on this one.

JESSE RAGENT: Yeah, and I think that "B" one, on changing the type of language, can they go a bit from kid-friendly language, you know, "curved and straight" to "linear and non-linear," or "nonlinear and linear". That would be interesting for me to see.

JAKE DISSTON: Or are they already there?

JESSE RAGENT: Yeah, who knows.

JAKE DISSTON: They may well be there, and, you know, as the lesson develops, the language will change, necessarily. How is that changing? In 37 minutes.