http://www.insidemathematics.org/classroom-videos/public-lessons/9th-grade-math-modeling-through-geometry-circumference-of-a-cup-s-roll/pre-lesson-part-2

JIM KARDITZAS: How do you plan to monitor their progress?

MOLLY MCNINCH: So, as I'm walking around, I plan to monitor what stages of the problem they're kind of working on. And so, monitoring: are they comparing the two diameters? Are they comparing just the slant height? And then, really, what data are they collecting? So, I think that using the Rolling Cup calculator and the data that they're collecting would be really how I'm going to measure -- not measure, sorry -- monitor how they're working.

JIM KARDITZAS: Okay.

MOLLY MCNINCH: So, seeing, "Oh, okay, you have this and this and this." A lot of students in both classes were struggling with -- they had a good idea or a good argument, but then some had their argument and then were not able to justify it, or made calculations that didn't -- that were not supported by their argument. And so I think that fully understanding what they're stating.

JIM KARDITZAS: Okay. So, while they're working, if you see they're all stuck about in the same point, how do you plan to help move the mathematics forward?

MOLLY MCNINCH: So, I think moving the math forward would be -- we talked about different hints we could give them. So one of the things that we talked about is just adjusting one of the measures. So, what would happen if you just adjusted the wide, or just adjusted the narrow, or just adjusted the slant height? And drawing their attention to the examples given in the table.

JIM KARDITZAS: Okay. For an end product, what are you expecting the students to produce?

MOLLY MCNINCH: So, for the lesson, the end product is the "how did we work?" But, when you and I talked, we -- I thought it was a -- you had an idea of a *status poster*, which I really liked because I know that there's going to be some students who may not get all the way to the end of, "This is my solution. It's 100 percent correct." So I think having them create a status poster of where they ended up and their reasoning, where they ended up in their problem solving, why they were stuck or why they know 100 percent that this is the solution -- is the product that I want them to produce. So, a poster representing their thinking.

JIM KARDITZAS: Okay.

MOLLY MCNINCH: Yeah. These kids, so about the students, the class is an Enriched Geometry class. So, it's a slightly more rigorous class, and the students who are in Enriched Geometry are the upper level of Geometry students. The curriculum in both regular and Enriched Geometry is the same. We use the same textbook. The difference is, with Enriched, we go slightly further in the concepts and slightly deeper. And so that's why some of these students will get caught in a particular detail or a particular idea and -- will get caught in that piece and [be] unable to bring in the other elements. That's something they kind of struggle with is that reasoning abstractly, because they are very good students. So, they want to do what's asked of them. And so when you ask them to think outside of what's being asked, they're, it's not always the easiest. They can do it, but it takes a push.