

## MODELING: STORY BASED CENTERS

ELIZABETH CLEARY-BEWLEY: What kind of math did you hear?

STUDENT: 50 cents.

CLEARY-BEWLEY: How is that math?

Because it's money.

CLEARY-BEWLEY: Okay, what else? Emily?

STUDENT: Um, the caps on his head? You could count them.

LIFE LeGEROS: So in this lesson, we see a teacher skillfully using literature to set a context for students to explore many mathematical ideas. Mathematical modeling in the early grades involves connecting real-world situations to mathematical representations. And stories are a fantastic way to do this. They can provide context for students to latch on their mathematical concepts. We're about to see an excerpt where we'll actually see a student representing a situation from the book through words, diagram, and through a number sentence.

(students talking)

We see Jasmine providing multiple representations of the same situation and publicly sharing her thinking. That's a very brave move for a young mathematical thinker, and it's a great start in terms of mathematical modeling. The next step here would be to ask Jasmine and the other students in the class to connect the different representations, see how they connect to each other, how they connect to the situation, and what is gained and lost by those different representations. So for example, Jasmine's number sentence, "17 minus seven equals ten" is a fantastic, concise representation, or model, of a specific situation, but it loses all of

the context as an abstraction of the actual story. So it has both benefits and drawbacks. Once students manipulate these representations to solve problems, move forward their own mathematical thinking, and interpret the results, they'll be engaging in the full modeling cycle.

JASMINE: 17 minus seven equals ten.