

## **The Candy Jar: What Happened in Class?**

Mr. Donnelly monitors his students as they work in small groups on the Candy Jar task, providing support as needed and taking note of their strategies.

He decides to have the groups who created solutions B, A, and D present their work (in this order), since these groups used the strategies that he is targeting (i.e., scaling up, scale factor, and unit rate). This sequencing reflects the sophistication and frequency of strategies (i.e., most groups used a version of the scaling up strategy, and only one group used the unit rate strategy).

During the discussion, Mr. Donnelly asks the presenters to explain what they did and why, and he invites other students to consider whether the approach makes sense and to ask questions. He makes a point of labeling each of the three strategies, asking students which one is most efficient in solving this particular task, and he poses questions that help students make connections among the strategies and with the key ideas that he is targeting.

Specifically, he wants students to see that the scale factor is the same as the number of entries in the table used for scaling up. In other words, it would take 20 candy jars with the same number of Jolly Ranchers and jawbreakers as the original jar to make the new candy jar. Mr. Donnelly then will have his students compare this result with the unit rate, which is the factor that relates the number of Jolly Ranchers and the number of jawbreakers in each column of the table in solution 1 (e.g.,  $5 \times 2.6 = 13$ , just as  $55 \times 2.6 = 143$ , just as  $100 \times 2.6 = 260$ ).

Toward the end of the lesson, Mr. Donnelly places solution C on the document camera in the classroom and asks students to decide whether or not this is a viable approach to solving the task and to justify their answers.

Mr. Donnelly gives the students five minutes to write a response, and he collects their responses as they leave the room to go to the next class. He expects their responses to give him some insight into whether they are coming to understand that for ratios to remain constant, their numerators and denominators must grow at a rate that is multiplicative, not additive.