Rigelman and Anders collaboratively developed a lesson using the Bring • Do • Leave instructional planning guide format, based on Investigation 4.1 of *Landmarks and Large Numbers* (Russell and Economopoulos 2008).

### TABLE 1
<table>
<thead>
<tr>
<th>BRING • DO • LEAVE Instructional Planning Guide</th>
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<tbody>
<tr>
<td>Common Core State Standards and Content Standards Addressed</td>
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<tr>
<td>2.2.2 Solve multidigit, whole-number problems by applying various meanings (e.g., taking away and comparing) and models (e.g., combining or separating sets, using number lines and hundred charts) of addition and subtraction.</td>
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<td>2.2.3 Develop fluency with efficient procedures for adding and subtracting multidigit whole numbers and understand why the procedures work on the basis of place value and number properties.</td>
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#### STUDENTS BRING (what concepts do students need to know to access the task?)
- Experience representing and solving problems as well as considering the generalizability of solution strategies
- Understanding of large numbers and the utility of breaking numbers apart
- Knowledge of the actions of addition and subtraction

#### TARGETS AND TOOLS
- What are the math learning targets for students?
- What are the thinking tools students will use?

#### SET-UP
- What is the learning context?
- How do I make the task meaningful to each student?
- How do I set up the task?

#### CLASSROOM ACTIONS AND INTERACTIONS
- What specific actions do students engage in (through learning and talk) as they interact with the task, the teacher, and other students?
  - What questions assess student understanding? What questions advance student understanding?
  - What moves highlight the learning targets for each student?
  - What moves support the students with making connections?
  - What moves support students in monitoring and controlling their own progress (metacognition)?

#### STUDENTS LEAVE
- How will I know what students know and can do (teacher and student self-assessments)?

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TABLE 1 (continued)

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<tr>
<th>TARGETS AND TOOLS</th>
<th>SET-UP</th>
<th>CLASSROOM ACTIONS AND INTERACTIONS</th>
<th>STUDENTS LEAVE</th>
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<td>Students develop mental images on the basis of the problem context. Students use sketches, number lines, or 1000 books to represent and solve multidigit subtraction problems. Students develop strategies for recording the actions of their strategies using numbers and math symbols. Students explain the solution strategies and their reasoning for the steps they took.</td>
<td>Students have just returned from spring break. • “Raise your hand if you took a trip over the break.” • “Did anyone drive? How far?” • “Did anyone drive more than ___ miles?” • Prepare mileage information for common trips students may have taken (e.g., to the beach, to the mountains). Materials available • Journal • Student Activity Book, pp. 51–52 • 1000 books</td>
<td>• Students silently read the task. Then they develop a mental image and draw a sketch to represent the actions of the situation. Look for number lines that represent what is happening. Share one or more with the whole group. • Students examine selected student representations. Look for number line models that connect to the action of addition and subtraction. Ask pairs to share where they see the various parts of the story in the model. • Students solve the problem and share their thinking with a partner. Listen for explanations that include both an explanation of the strategy and the reasoning behind the steps. Encourage students to question one another to make sense of the strategies. • Have students move to the carpet with their partner for a whole-group discussion about solution strategies. Surface strategies where students—add on an amount to make a “friendly” number; add on a “friendly” number to another number; and break numbers apart and then add or subtract the pieces. With each of these methods, connect back to the sketches of the situation. Record the strategies on chart paper so that they can be compared and used throughout the rest of the unit. • Ask students to compare and contrast approaches. For example, how is student A’s method the same or different from student B’s method? … extend approaches. What would happen if they instead decided to go to their aunt’s house that is 689 miles away? The intent of the next several days is to find general approaches that work to solve subtraction problems. • Students return to their tables to continue work with the subtraction situations on pages 51–52.</td>
<td>Monitor as students are sketching in their journals. Decide whom to call on for the whole group. Listen as students describe their understanding of the representations. Note the questions students ask of one another both in pairs and in the whole group. If students are not providing both their strategy and their reasoning, ask, “How did you decide…?” “Why do you think ___ did ____?” Look for appropriate use of the various approaches.</td>
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