Additional Scenarios for Math Lesson 2b

Using an Inquiry-based Approach With Collaborative Practice

The main characteristic of the inquiry-based approach is the use of scaffolding questions to direct the students to the learning of a concept. The main role of the teacher and paraprofessional is to formulate these questions that will cause the students to think critically of the task on hand and lead them to the predetermined conclusions. Read the following scenarios and construct scaffolding questions that could be used to lead the students to each lesson’s goal.

Scenario 1 (Kindergarten – 4th Grade)
The students of a second grade class are being introduced to negative integers for the first time. The students are working in groups trying to locate integers on the number line. One group you are observing is not grasping the concept of the ordering of the negative integers, placing –2 three places to the left of –5. What questions can be asked of the students to lead them away from their misconception?

Scenario 2 (5th Grade – 8th Grade)
In a fifth grade math class, the students are learning to add and subtract fractions. They have been introduced to equivalent fractions and least common multiples. At this point in the lesson, the students are working in pairs on problems consisting of two fractions. The students are to find equivalent forms of the given fractions that will have the smallest common denominator. As you scan the classroom for students having problems, you notice that one pair is finding the common denominators, but are erring in the process of converting the fractions to equivalent fractions. They are multiplying integers into the denominator, but not the numerator. What questions could you ask the students that will correct their error?

Scenario 3 (High School)
An Algebra I class is learning to solve quadratic equations. They have previously learned how to factor the quadratic equations, and now are learning how to find the zeros of the linear factors. The students are working in groups of three and one group is arriving at solutions that are the opposite of the correct solution. If you are working as a paraprofessional in this classroom, what questions could you ask the students to make them realize their error and correct it?