

Sample Academic Conversation Lesson Plan for Math

In the following lesson plan, students are asked to model the “taking apart” of a number to understand that other numbers can be added together to make a number. The language function is to explain mathematical thinking by sequencing steps. A secondary language objective could be to ask questions to prompt further explanation of problem solving. Students need to be able to ask, “How did you take them apart?” (inserting the direct pronoun in the phrase) and “What did you do next?” How would you include language in the objective?

Grade: Kindergarten

Standards Addressed

K.OA.I: Represent addition and subtraction with objects, fingers, mental images, drawings, sounds.

Objectives

Represent decomposition addition stories to six with blocks with no unknown.

Performance Assessment

Paired conversations about the concept of taking apart a number.

Lesson Sequence

Introduce skill, build background, and create an idea

- Introduce language and content objectives.
- Build background—Remind students about how we “put together” numbers previously.
- Teach phrase and gesture for “take apart” and say, “Today we will take apart the number six.”
- Draw on board: *If six teddy bears are sitting on the bed and three fall off, how many are left sitting on the bed?*
- Students write on their white boards and also practice with linking cubes.
- What did we get? A student comes up and shows how to get three. “Notice how we can take six apart and get three and three.”
- Then say that there are other numbers we can get when we take six apart. For example, “If two teddy bears fall off the bed, how many are left?” Let’s have conversations.

- Fishbowl modeling: Teacher and a student introduce prompts: “What did you take apart? Why did you take it apart? How did you take it apart?” and “Are there any other ways to take it apart?”

Student: What did you take apart and how you did it?

Teacher: For the first problem I took apart six and got three and three.

Student: Why?

Teacher: Because in the problem it says that three fell off the bed. What about you?

Student: How did you do it?

Teacher: I counted three blocks and moved them from the bed to the floor like this: one, two, three. And counted the ones that were left, one, two, three. So what did you take apart when two fell off the bed?

Student: Six.

Teacher: Why did you do that?

Student: Cuz six bears started on the bed.

Teacher: How did you get your answer?

Student: I erased two bears from my board. See? And got four left.

Teacher: I like your thinking. Are there any other ways to take six apart?

Student: I don't know.

Teacher: What if five bears fall from the bed?

- Teacher asks class: “What did you notice from this conversation?” (Asked each other what, why, and how questions to understand math thinking and reasons for doing things. Each person had different strategies for solving.)
- Prompts and sentence starters for “take apart” are displayed up front. Students also have boards with dry erase markers to show their work.
- Students engage in paired conversations similar to the fishbowl model. (Teacher introduces a new problem starting with six balls on a shelf.)
- Teacher observes and provides feedback to pairs.

Review and Assessment

Teacher informally analyzes use of term “take apart” and completed number groups that make up the number 6.