Math Lesson

Lesson Title: Flies and Spiders
Content Standard: 1.OA.6 Add and subtract within 20, demonstrating fluency for addition and subtraction within 10.   Grade Level: One
Materials: Bags of 20 each of red, yellow, green, blue, purple and orange bugs, etc., blank paper, five step curricular process paper, projector, chart paper
Shared Experience and procedure details: Teacher relates a story about collecting bugs for Math Camp. S/he had special bags to use to collect the bug specimens. Each group is given a bag with 20 assorted plastic bugs. Questions: What could I have in my bag? What else? How many different representations can you make using the bugs in your bag to demonstrate your total number of bugs?   Students work in teams of four or less with manipulatives and blank paper to create combinations. Students may choose to use the color to cluster the bugs, yielding one representation of the total. Students may use the type of bug in the bag representing another combination of the total number of bags. Teacher asks questions to make sure their pictures and possible number sentences show the combinations clearly, i.e., "How do I know which is each type of bug? Can you make more combinations?"   Gather together to share solutions. Teacher charts answers; students share their pictures. Elicit multiple combinations; possible list them in order; discuss the differences or similarities of the representation of the 20 bugs.   Ask students to draw and write about the experience and share their pictures and people talk.   Have a discussion about the features: What are all the 'things', 'ingredients', etc. that we need to share this activity with others?   Discuss symbols. Symbolic representation may have been used in some drawings; share those examples, and encourage the class to use symbols to show the combinations for 20.
Prediction of Possible Pictures: Literal pictures of peas and carrots in the correct colors, dots to represent the bugs, numbers, tally marks.
Prediction of Possible People Talk: Numbers, adds up, counted, drawings, all together, add, combinations, equal, total
Feature Talk:

Add, total, plus, equals, equation, sum,(addend), combinations
Prediction of Possible Symbolic Representation:
Numbers, plus sign, equal sign
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Extensions and revisions

For the second lesson, the teacher used the total of 5. The reduction of the total possible combinations resulted in a more complete list of equations.

This lesson was brought to a second grade class using 'strawberries and blueberries', and the sum of 15.