Math and Drop Bag Numbers--First Grade

Common Core Standards are listed first. The activities follow, in italics.

Reproduce the number needed of the booties pictures in the post.

Use the example of booties Jodi packed for the race. A set of booties is 4 booties. She packed the booties in groups of 18 sets of 4. One group = 72 booties. (Dogs wear booties to prevent snow & ice from balling up between their toes. Booties are made of a tough, cordura nylon fabric and velcro around the dog's wrist. Show the photo of the booties to students. Most first graders' hands will fit in a bootie, allowing the velcro to fasten around their wrists.)

Common Core Standards:

Operations and Algebraic Thinking 1.0A

Represent and solve problems involving addition and subtraction.
1. Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.
2. Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.
Understand and apply properties of operations and the relationship between addition and subtraction.
3. Apply properties of operations as strategies to add and subtract.3 *Examples: If 8 + 3 = 11 is known, then 3 + 8 = 11 is also known. (Commutative property of addition.) To add 2 + 6 + 4, the second two numbers can be added to make a ten, so 2 + 6 + 4 = 2 + 10 = 12. (Associative property of addition.)*

Number and Operations in Base Ten 1.NBT

Extend the counting sequence.
1. Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral

Measurement and Data 1.MD

Measure lengths indirectly and by iterating length units.

2. Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. *Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps.*

Represent and interpret data.
4. Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many
in each category, and how many more or less are in one category than in another

Using reproduced copies of the booties photos, students create representations of equations with the booties. Students solve word problems using the booties to represent the process.

Word problems (teachers create additional problems):

1) DeeDee has 8 pink booties. She found 8 more booties in her sled bag. How many booties does she have now?

2) Add 3 green booties to 12 black booties.

3) Take away 5 booties from 20 booties.

4) Add three colors of booties to equal 14 booties.

Use booties to represent equations which demonstrate the commutative and associative properties of addition. 8 + 3 = 11 therefore 3 + 8 = 11. 8 booties + 3 booties = 11 booties. Rearrange them: 3 booties + 8 booties = 11 booties. (Commutative)

2 + 4 + 6 = 12 Use 2 booties + 4 booties + 6 booties to understand that 6 and 4 is 10, and 10 + 2 = 12.

Use pictures of individual booties to count to 120, to count to other numbers, then write the numerals representing that number.

Use pictures of booties, end to end, to measure a desk edge, book edge, countertop edge, a line of students, etc.

Use 3 colors of booties. Students represent the number of each color on a bar graph.

Use the bootie with the paw print on it and the bootie with the Shell logo on it. Give students differing amounts of each. Students represent the number of each bootie on a bar graph.

Whole class--students choose their favorite booties out of 3 choices, determined by the teacher. Count the students who like each bootie. Students create a bar graph representing their class' favorite booties.