Math and Drop Bag Numbers--Fourth Grade

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

Print the photos of dog booties, in the post, to use for fraction work.

Common Core Standards:

Operations and Algebraic Thinking 4.OA

Use the four operations with whole numbers to solve problems.

2. Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.1
3. Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.

Use place value understanding and properties of operations to perform multi-digit arithmetic.

4. Fluently add and subtract multi-digit whole numbers using the standard algorithm.
5. Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.
6. Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

Number and Operations—Fractions3 4NF.

Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.

b. Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions, e.g., by using a visual fraction model. *Examples: 3/8 = 1/8 + 1/8 + 1/8 ; 3/8 = 1/8 + 2/8 ; 2 1/8 = 1 + 1 + 1/8 = 8/8 + 8/8 + 1/8.*

Students read Jodi's post and record all the information pertaining to food for dogs. They also record all the information pertaining to food/drink for Jodi. ***FYI--kibble is dry dog food.***

Using the information recorded, students first estimate the total pounds of food for dogs. Then, students calculate the total pounds of food for dogs. Students should write their own problems, adding only pairs of dog food numbers. Students should work with a partner to find a strategy

to find the total pounds, but only adding two numbers at a time. They should evaluate if it would be easier to add all the numbers at once, or in pairs to get the total.

With a partner, students create a graph showing the kinds and amounts of food for dogs.

Which food item for the dogs is not measured in pounds? Divide that answer by 2. Write a fraction which represents the answer. Write an equation which represents adding the fractions together to find the total number of salmon packed for the dogs.

Find the total number of dog booties Jodi sent out on the trail. (A set of booties = 4. 18 sets = 72 booties.) Jodi sent 25 sets of booties. How many booties are in her drop bags?

Use 2 sets of booties (8 individual booties) to practice Standard Fractions 3b. Or use the pizzas Jodi packed for herself to eat to practice this.

Determine how many total pairs of socks, work gloves, and glove liners Jodi packed. Then determine how many individual socks and gloves that equals.

Jodi has two kinds of gloves, work gloves and glove liners. She has one kind of socks. Write fractions which represent these three types of clothing for her. (Gloves are 2/3 of this clothing and socks are 1/3.)