

Math Festival Stations Correlation

to the COMMON CORE Standards in Mathematics

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Math Festival: Algebra

2, 3, 4, 5, 6, 7, 8

Bunches of Beans

Grade Span

Materials used with this activity:

Task Cards

Plastic or Real Beans painted Red, White, and Brown

Task Cards in Sheet Protectors

Comments:

These problems are essentially two equations (or three) with two (or three) unknowns. They can be done by younger students using guess & check, or by older students using algebraic thinking and/or simultaneous equations.

Standard(s) for Mathematical Practice

- 1) Make sense of problems, persevere in solving them.
- 2) Reason abstractly and quantitatively.
- 4) Model with mathematics.
- 6) Attend to precision.

Related K, 1, 2, 3, 4, 5, 6, 7, or 8th grade Standards:

CC: Counting & Cardinality OA: Operations & Algebraic Thinking NBT: Number & Operations in Base Ten
MD: Measurement & Data G: Geometry NF: Number & Operations—Fractions NS: The Number System
EE: Expressions & Equations SP: Statistics & Probability RP: Ratio & Proportion Relationships F: Functions

K.OA.2 Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem.

1.OA.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.

1.OA.4 Understand subtraction as an unknown-addend problem. Add and subtract within 20.1

2.OA.1 Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.

3.OA.8 Solve two-step word problems using the four operations. 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.

4.OA.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.

5.OA.2 Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them.

6.EE.3 Apply the properties of operations to generate equivalent expressions.

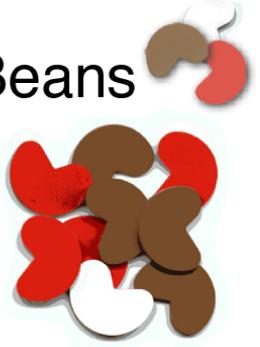
6.EE.5 Understand solving an equation or inequality as a process of answering a question: which values from a specified set, if any, make the equation or inequality true? Use substitution to determine whether a given number in a specified set makes an equation or inequality true.



Bunches of Beans

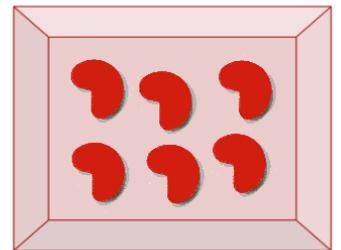
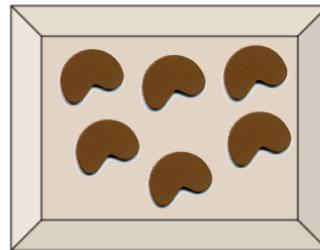
Use the math clues **AND** red, white, and brown beans to make the clues **AGREE**.

Look at the math clues for this bunch of beans:



In this bunch, you have **TWO** kinds of beans, 12 beans **IN ALL**. You have the same number of  beans as you have  beans. How many of each kind of bean do you have?

You can use the beans and **FIGURE IT OUT!**



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ALGEBRA FESTIVAL

Activity Card # 1