



## Pounds Of Peanuts

### Objectives:

Students will be able to:

- interpret actual peanut yield information.
- calculate total pounds of peanuts produced on a fictional farm using real production data.

### National Learning Standards:

Common Core Mathematics

- Operations and Algebraic Thinking 3.OA.2: Interpret whole-number quotients of whole numbers, e.g., interpret  $56 \div 8$  as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. For example, describe a context in which a number of shares or a number of groups can be expressed as  $56 \div 8$ .
- Operations and Algebraic Thinking 3.OA.3: Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.

**Activity Description:** With average yield information per acre, students will use paper squares/beads (each representing 1,000 lbs.) to help visualize how many pounds of peanuts are produced from one field of a set number of acres.

### Materials

- Peanuts, tiles, or other easily accessible small countable objects (about 50 per student/group)
- One pound of pre-weighed peanuts

### Activity Steps

Activity Prep: Note that the USDA Economic Research Service reported a peanut yield of 3,862 pounds per planted acre but for ease of calculating for students we have rounded to 4,000 pounds. <sup>1</sup>

Step 1: Explain to students that “yield,” when discussed

in agriculture, describes the amount of a commodity produced per acre of planted cropland. In this case, the yield of a peanut is measured in pounds per acre. Hold up one pound of peanuts to show quantity. Have students pass it around the class.

Step 2: Write the number “3,862” on the board. This is the average peanut production yield in the U.S. in 2014. Have students round this number to the nearest thousand (4,000).

Step 3: Hand out peanuts, beads, tiles, or other easily accessible small countable objects to individuals or small working groups. Give each student/group 50 objects. Explain that each object represents 1,000 pounds of peanuts.

Step 4: Write the number “1” on the board. This is the number of acres on each of the students’ farms. Using the countable objects, have students count the total pounds of peanuts that could be produced on their farm (4 tiles/4,000 lbs.). Have students continue calculating peanut yield per acre using the following sample problems.

- a) Assume you have a five-acre farm. What is your estimated peanut yield? (20 tiles/20,000 lbs.)
- b) Assume you have a seven-acre farm. What is your estimated peanut yield? (28 tiles/28,000 lbs.)
- c) Assume you have a 10-acre farm. What is your estimated peanut yield? (40 tiles/40,000 lbs.)
- d) Assume you have a 12-acre farm. What is your estimated peanut yield? (48 tiles/48,000 lbs.)

### Processing Questions:

1. What things might cause a farmer to have a higher yield, or more peanuts, grow in an acre?
  - a. Listen for good weather, the right amount of water, nutrients in the soil, absence of pests, etc.
2. What things might cause a farmer to have a lower yield, or less peanuts, grow in an acre?
  - a. Listen for bad weather, a lack of water or nutrients, pests, etc.

## It's A Fact!

Peanut plants are good for the ground. Through a process called nitrogen fixation, they put nitrogen back in the soil that other plants need to grow!