



CONSTRUCTING TASK: What Comes First? Chicken? Egg?

STANDARDS OF MATHEMATICAL CONTENT

MCC. 3.OA.4 Determine the unknown whole number in a multiplication or division equation relating three whole numbers.

STANDARDS OF MATHEMATICAL PRACTICE

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

BACKGROUND KNOWLEDGE

This task provides students with an opportunity to develop and discuss strategies for dividing a two- or three-digit number by a one-digit number. Possible strategies students may use to solve this type of problem include, using base 10 blocks, using their knowledge of multiplication and inverse operations, or using repeated subtraction. Third grade is students' first exposure to larger number division and it is important to allow students time to make sense of this operation, so that students will continue to be successful with division in later grades.

ESSENTIAL QUESTIONS

- How can multiplication and division be used to solve real world problems?
- How can we use patterns to solve problems?

MATERIALS

- “What Comes First?” recording sheet
- drawing paper
- interlocking cubes or other manipulative if necessary

GROUPING

Individual/Partner Task

TASK DESCRIPTION, DEVELOPMENT AND DISCUSSION

(adapted from Teaching Children Mathematics, Volume 15, Number 3, October 2008, p. 160).

Part I

Begin this task by reviewing their understanding of estimation from Unit 1. Discuss the word “approximate” and how it is used in estimating. Students should understand that rounding is not the only form of estimation.

Part II

Students will follow the directions on the “What Comes First” recording sheet. This should be solved using pictures, numbers, and words.

If most hens lay about 4 eggs each week, how many eggs does the average hen lay in one month? How many chickens would be needed to produce 50 eggs in one month? How many chickens would be needed to produce 70 eggs in one month? If 30 eggs were produced in one month, approximately how many chickens were needed to produce them?

FORMATIVE ASSESSMENT QUESTIONS

- How could you use patterns to help you solve this?
- How would a table be useful in solving this problem?
- How might you use multiplication/division to solve this problem?
- Could you write a number sentence to explain your picture/table?
- How can you use estimation to help you solve this problem?

DIFFERENTIATION

Extension

- You could increase the number of eggs up to 100 that are needed in a month
- Students could determine how many eggs a hen will lay in one year. (2 hens, 3 hens, etc.)

Intervention

- Decrease the number of eggs needed each month to numbers that 4 will divide into evenly such as (24, 36, 48)

Name _____ Date _____

What Comes First

If most hens lay about 4 eggs each week, how many eggs does the average hen lay in one month? How many chickens would be needed to produce 50 eggs in one month? How many chickens would be needed to produce 70 eggs in one month? If 30 eggs were produced in one month, approximately how many chickens were needed to produce them? Show your thinking using words, pictures, and numbers.

