



***Mathematics**

Counting with Whole Numbers

“Everything has order. Every animal in its place. Coming through two by two with majesty and grace.” These are words to live by for Noah who needs help counting the animals on the Ark. Here is an opportunity for everyone to pitch in and help keep track of all of them. It’s important not lose a one.

Kentucky Mathematics Arts

Number Computation (2.7, 2.8, 2.12) Grades K-3

Academic Expectations:

2.7 Students understand number concepts and use numbers appropriately and accurately.

2.8 Students understand various mathematical procedures and use them appropriately and accurately.

2.12 Students understand mathematical structure concepts including the properties and logic of various mathematical systems.

Ohio Mathematics Standards: Number, Number Sense and Operations

Benchmarks Grades K-2

F. Count using numerals and ordinal numbers.

G. Model, represent and explain addition as combining sets and counting on.

Grade 3

J. Estimate the results of whole number computations using a variety of strategies and judge the reasonableness.

Objective

Students will:

- Use whole numbers to count objects, identify the quantity of objects, and solve addition problems.

Assessment

Student will be able to:

- Count objects using whole numbers.
- Use whole numbers to identify the number of objects in a group
- Determine “how many” in sets (groups)

Sample selected response items to gauge student understanding:

1. How many dots are represented here? How did you go about counting the dots?



Answer: 30 (Count each individual dot, group dots to count by twos, threes, fours, fives, etc.)

2. A "set" is a grouping of things that are alike. Agree or disagree.
Answer: Agree. (A number of things belonging together)
3. Draw a picture of 7 animals in two groups or sets. Place 3 animals in one group and 4 animals in the other group. Tell why the animals belong together.

Vocabulary

- Grouping
- Set
- Whole numbers
- Sum

Materials

- A variety of animals (pictures, toys, stuffed animals, or a combination)
- Handout: "Animal Counter" recording sheet
- Pencils

Activity

Animal Counters

Teacher will:

1. Gather a variety of toy animals to use for this activity, or ask students to bring in pictures of animals (photographs, pictures from magazines, illustrations, etc.), or small, stuffed toy animals.
2. Assemble the animals into groups with a variety of types of animals ranging from 1-10 within each group (e.g., 3 cats, 4 horses, 2 pigs, etc.). Position the animal groupings around the room for student observation.
3. Label each set with a letter--A, B, C...
4. Label index cards 1-10, and distribute one set of cards to small student groups.
5. Engage students with the question, "What was on *Noah's* boat? (*Animals, two by two*)"
6. Explain that each pair of animals is considered a "set."
7. Have students observe the assembled animal grouping to classify like animals together to form a set or sets, and then count and record the number of each type of animal within a set in the labeled boxes on the Handout, "Animal Counter".
8. Have students count the number of animal within the set(s), and then select an index card with a corresponding whole number that matches the total number of animals within a specific set. Students will next add the total number of all animals in the various sets. (Totals will be the same for the total number of individual animals initially counted, and for the total number of animals within all sets.)
9. Facilitate student discussion of the benefit for Noah having animals in sets of two. Survey student opinion with the question prompts, "Did sets of two aid Noah in counting the animals in an efficient manner; why or why not?" "Do you believe such counting strategies help to make the task of counting easier, faster, etc.?"



Mathematics
Handout: Animal Counters

• Name: _____

Animal Counter

I am using animals in set _____. (Assigned Alphabet Letter)

I counted animals in this group.

Name: Animal Set	Number of Animals

Total number (sum) of all animals within the animal sets.