Lesson Title: Owls

Grade: 3rd

Content Standard: 3.OA.7 Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division or properties of operations. By the end of grade3, know from memory all products of two one-digit numbers.

3.MD.7 Relate area to the operations of multiplication and addition: (a) find the area of a rectangle with whole number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths. Use tiling to show in a concrete case that the area of a rectangle with whole-number side lengths a and b + c is the sum of a x b and a x c. Use area models to represent the distributive property in mathematical reasoning. (d) recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real world problems.

Materials: 4 x 7 owls picture (meaning 4 rows of owls with 7 owls in each row) cut from 100owls doc. (any picture of repeating images will do. The attached 100owls doc can be cropped to any size of rows and columns and it is constructed with two distinct images of owls in two groups of five in each row of ten like a rekenrek) , precut half sheets of copy paper, scissors, glue, chart paper

Shared experience and procedure details: Give each group of students 10 4 x 7 owl pictures and 10 half sheets of blank paper. Ask students to perform the following task: Find as many ways to cut the owls into two pieces (two groups of owls) using a single horizontal or vertical cut. For each way they are able to accomplish this, they should glue the two pieces on the blank half sheet, leaving a distinct space between the two pieces. Instruct students to tape each result on one of the pieces (10?) of chart paper hung around the room, sorting them according to like results from other groups. When all results are displayed, have students carefully walk around the room and make note of any changes they think should be made in sorting. Discuss sorting and make adjustments by moving results. Sure to come up: Is a 4 x 6, 4 x 1 cut the same as a 4 x 1, 4 x 6 cut? Is a 4 x 2 piece of “angry” owls the same as a 4 X 2 piece of “zombie” owls?

Once the owls cut results have been resorted on chart paper, and the rules for sorting have been established as a class, lead a discussion of how each of the owl pieces can be uniquely and recognizably named. Be prepared with questions and examples that steer naming process to # of rows, # of columns naming model. For example, if a suggestion for naming is to name a piece by the number of owls in it, question whether that will uniquely name that piece or whether more than one piece would share that name.

At this point ask the students to recall the cut result created by a horizontal line creating 2 2 x 7 pieces. Ask them to draw a picture and write about creating this result.

Possible Picture: The picture may show 4 rows of 7 owls and then a second picture of two parts with 2 rows of 7 owls.
Possible People Talk:
Feature Talk: owls, 28 owls, scissors, glue, paper, multiply, add, split up, divide, 2 x 7 pieces, grouping, equal, angry owls, zombie owls, Using underlined feature words, have students write a sentence that tells what they did.
Possible Symbolic Representation: 4 x 7 = 2 x 7 + 2 x 7
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