Bumps or No Bumps

Adapted From Van de Walle and Lovin,
Teaching Student-Centered Mathematics: Grades K-3, page 242

"The categorization of numbers as odd or even is an important regularity in our number system. All too often students are simply told that the even numbers are those that end in 0, 2, 4, 6, or 8 and odd numbers are those that end in 1, 3, 5, 7, or 9. While of course this is true, it is only an attribute of even and odd numbers rather than a definition that explains what even or not even (i.e., odd) really means."

After concluding this task, "students should be able to classify numbers into the categories that we call odd and even. After they have conceptualized these classes of numbers, the appropriate labels of odd and even can be applied."

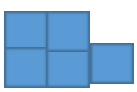
MATERIALS

- Color Tiles

Part I

Have students make rectangles with two rows using 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 color tiles. Explain how each rectangle (except the single square) is made of two columns of squares. Have students work in pairs or small groups to see how many things they can find to tell about each rectangle. (For example: Some are like rectangles. Some have a square sticking out.) For those who might need a start, suggest that they put the pieces in order from one square to ten. Have students share with the whole group what they have discovered.

For example:

1	"bump" odd	
2	"no bump" even	
3	"bump" odd	
4	"no bump" even	
5	"bump" odd	

Part II

Next, have students sort rectangles into two groups. Some students will sort their rectangles into “bumps” (odd) and “no bumps” (even).

Have students share their groupings and have them make a conjecture about the categories.

Part III

Next, assign groups of students three or four numbers between 13 and 40 or 50 and have students decide whether two-column cards for these numbers would be “bumps” or “no bumps”. They can use words and pictures to explain their conclusions.

ASSESSMENT QUESTIONS

- What did you notice about the rectangles?
- How do the rectangles differ from each other? What do the rectangles have in common?
- What characteristics did you use to sort your rectangles?

DIFFERENTIATION

Extension

• Have students create their own rectangles to represent various numbers. Then trade their pieces with a classmate and they will describe the pieces as “bumps” or “no bumps”.