Activity Grades 2–5

Break Tutoring Home

Number Shapes

Math Concepts: Products, divisibility, size of rectangles, areas
Materials: Bowl of small objects
Players: 1 to 4

Set up: Have a collection of 20 small, similar objects, such as Lego bricks.

Play: For each number, investigate which rectangles you can make with that many objects. 1 can only be made with a 1 by 1 rectangle, and 1 is called a *unit*. The numbers, such as 5, that only have 1 by 5 and 5 by 1 rectangles, are called *primes*. Numbers that are not a unit or prime are called *composite* - they are called that because they are composed of primes being multiplied together, such as 12 = 2 x 2 x 3. Numbers such as 16 are called *squares* because one of their rectangles is a square – one rectangle for 16 is the 4 by 4 square.

– DISCUSSION AND TIPS –

The dimensions of each rectangle are the values that evenly divide the number and multiply together to give the number. For example, rectangles for 10 objects are 1 by 10, 2 by 5, 5 by 2, and 1 by 10. 1, 2, 5, and 10 are the divisors of 10. Making rectangles is a direct way to experience divisibility.

For each number, have the group make a list of the sizes of the rectangles for it and a list of its divisors.