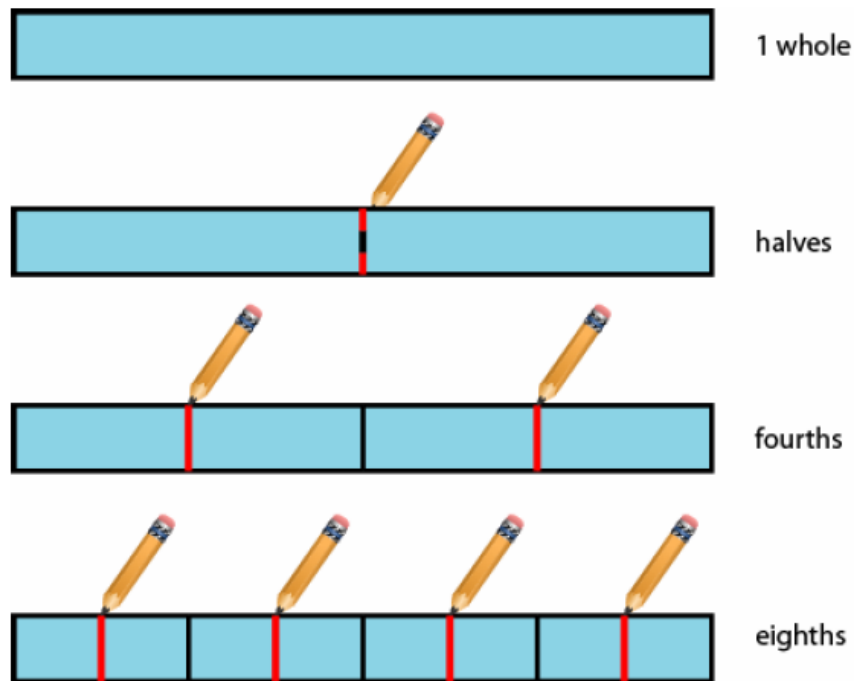


Sample Materials to Communicate Research

Algorithmic Halving

Students usually move easily from *sharing* to *algorithmic halving* which is the process of *continuing the halving process to obtain fourths, eighths, sixteenths, etc.* (Pothier, Y.M., and Sawada, D., 1990, cited in Bezuk and Bieck, (1993)). Fraction strips are used below as examples of the impact of algorithmic halving. Each fractional piece, starting with the whole strip, is *halved* to create the next smaller piece.



Partitioning regions, sets and lines into equal parts that are powers of two (i.e., fractions with denominators of 2, 4, 8, 16, 32...) is easier than partitioning that involves odd numbers or even numbers that have odd number factors. (Pothier, Y.M., and Sawada, D., 1990, cited in Bezuk and Bieck, (1993) This research suggests that students should be introduced to partitioning with fractions whose denominators are powers of two ($\frac{1}{2}, \frac{1}{4}, \frac{1}{8}, \frac{1}{16}, \dots$).

A Focus on Fractions: Bringing Research to the Classroom. Petit, Laird, and Marsden (spring 2010)