

## Using Graph Paper to Multiply Whole Numbers or Fractions

Materials: graph paper, two colored markers

1. Choose a multiplication fact that is hard to remember.
2. Make the first number or factor equal the length of a rectangle and the second number or factor equal the width of a rectangle.
3. Draw the rectangle on the graph paper.
4. Count to see the product. Divide the rectangle into smaller rectangles, if that helps. Of course, the product is also the area of the rectangle.
5. To use graph paper to model fractions, assume the whole rectangle is equal to 1. The dimensions of the rectangle are the two denominators of the fractions. Now, color each fractional part, one vertically and one horizontally. The part of the rectangle included in both fractional parts is the product.

For instance:  $\frac{2}{3} \times \frac{4}{5} = \frac{8}{15}$  can be graphed as the intersection of Red and Blue or the Purple region.

Red	Purple	Purple	Purple	Purple
Red	Purple	Purple	Purple	Purple
	Blue	Blue	Blue	Blue