

Using the Area Model to Understand Multiplication of Fractions

Suppose we want to multiply $\frac{1}{4} \times \frac{1}{3}$. This can be represented as an area of a rectangle.

- To represent $\frac{1}{4}$ draw a horizontal line segment on the Communicator® and divide it into four equal parts
- To represent $\frac{1}{3}$ draw a vertical unit segment and mark the segment into thirds.
- Draw the vertical and horizontal lines to form rectangles.
- If the area of the large square is 1, what is the area of each of the smaller rectangles?
- What are the dimensions of each rectangle.
- Each rectangle measures $\frac{1}{4}$ by $\frac{1}{3}$ so the area is the multiplication of these two fractions. Each rectangle is $\frac{1}{12}$ of the unit square.

$$\text{Therefore, } \frac{1}{4} \times \frac{1}{3} = \frac{1}{12}$$

