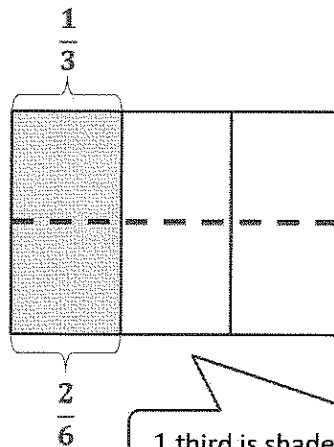


G4-M5-Lesson 5

1. Draw horizontal line(s) to decompose the rectangle into 2 rows. Use the model to name the shaded area as both a sum of unit fractions and as a multiplication sentence.

I draw 1 horizontal line to decompose the whole into 2 equal rows. Now there are 6 equal units in all. 2 sixths is the same as 1 third.



$$\frac{1}{3} = \frac{2}{6}$$

$$\frac{1}{3} = \frac{1}{6} + \frac{1}{6} = \frac{2}{6}$$

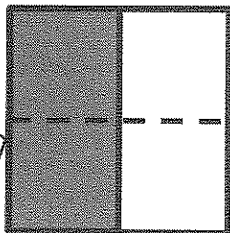
$$\frac{1}{3} = 2 \times \frac{1}{6} = \frac{2}{6}$$

1 third is shaded. Or, 2 sixths is shaded.

2. Draw area models to show the decompositions represented by the number sentences below. Represent the decomposition as a sum of unit fractions and as a multiplication sentence.

a. $\frac{1}{2} = \frac{2}{4}$

There were 2 units, but now there are 4.

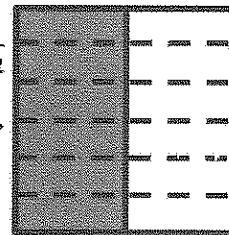


$$\frac{1}{2} = \frac{1}{4} + \frac{1}{4} = \frac{2}{4}$$

$$\frac{1}{2} = 2 \times \frac{1}{4} = \frac{2}{4}$$

b. $\frac{1}{2} = \frac{6}{12}$

After decomposing, there are *more* units, and they are *smaller*.



To make twelfths, I partition each half into 6 units.

$$\frac{1}{2} = \frac{1}{12} + \frac{1}{12} + \frac{1}{12} + \frac{1}{12} + \frac{1}{12} + \frac{1}{12} = \frac{6}{12}$$

$$\frac{1}{2} = 6 \times \frac{1}{12} = \frac{6}{12}$$

3. Explain why $\frac{1}{12} + \frac{1}{12} + \frac{1}{12} + \frac{1}{12} + \frac{1}{12} + \frac{1}{12}$ is the same as $\frac{1}{2}$.

Sample Student Response:

I see in the area model that I drew that 6 twelfths takes up the same space as 1 half. 6 twelfths and 1 half have exactly the same area.