G4-M5-Lesson 17

1. Use the three fractions $\frac{8}{8}, \frac{3}{8}$, and $\frac{5}{8}$ to write two addition and two subtraction number sentences.

$$\frac{3}{8} + \frac{5}{8} = \frac{8}{8} \qquad \frac{8}{8} - \frac{5}{8} = \frac{3}{8}$$

$$\frac{5}{8} + \frac{3}{8} = \frac{8}{8} \qquad \frac{8}{8} - \frac{3}{8} = \frac{5}{8}$$

> This is like the relationship between 3, 5, and 8:
> $$3 + 5 = 8 \qquad 8 - 5 = 3$$
> $$5 + 3 = 8 \qquad 8 - 3 = 5$$
> except these fractions have units of eighths.

2. Solve by subtracting and counting up. Model with a number line.
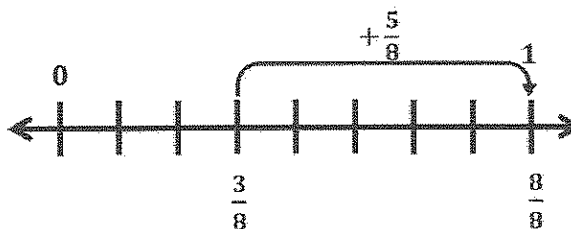
$$1 - \frac{3}{8}$$

$$\frac{8}{8} - \frac{3}{8} = \frac{5}{8}$$

> I rename 1 as $\frac{8}{8}$. Now, I have like units, eighths, and I can subtract.

> Or, I count up by thinking about how many eighths it takes to get from $\frac{3}{8}$ to $\frac{8}{8}$.
> $$\frac{3}{8} + x = \frac{8}{8}$$
> $$x = \frac{5}{8}$$

> A number line shows how to count up from $\frac{3}{8}$ to $\frac{8}{8}$. I can also start at 1 and show the subtraction of $\frac{3}{8}$ on the number line.

Lesson 17:   Use visual models to add and subtract two fractions with the same units, including subtracting from one whole.

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3. Find the difference in two ways. Use a number bond to decompose the whole.

$$1\frac{5}{8} - \frac{7}{8}$$

$$\frac{8}{8} \qquad \frac{5}{8}$$

I can use a number bond to rename $1\frac{5}{8}$ as $\frac{8}{8}$ and $\frac{5}{8}$.

$$\frac{8}{8} + \frac{5}{8} = \frac{13}{8}$$

$$\frac{13}{8} - \frac{7}{8} = \frac{6}{8}$$

I rename $1\frac{5}{8}$ as a fraction greater than 1. I have like units, so I can subtract $\frac{7}{8}$ from $\frac{13}{8}$.

$$\frac{8}{8} - \frac{7}{8} = \frac{1}{8}$$

$$\frac{1}{8} + \frac{5}{8} = \frac{6}{8}$$

Or, I can subtract $\frac{7}{8}$ from $\frac{8}{8}$, or 1, first and then add the remaining part of the number bond, $\frac{5}{8}$.

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                                 units, including subtracting from one whole.

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