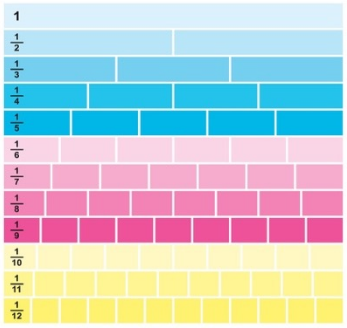
Adding Fractions Using Fractions Strips

A student adds the fractions $\frac{1}{8} + \frac{3}{8}$ using fraction strips.



I'll explore the steps of their solution path.

The student begins by drawing two strips that are equal in size.

- What does each strip represent?

- Why is it important to begin with two strips the same size?

Next, the student divides each strip into eight equal parts, or *eighths*.

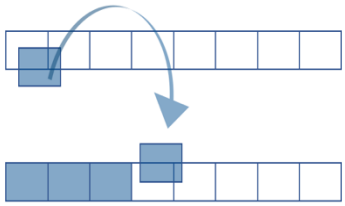
- *Why does the student perform this step?*

- *How did they decide on eight equal parts?*

The student shades part of each strip.

- How did the student determine the amount to shade on each strip?

- How would I describe or explain what the student is doing at this step?

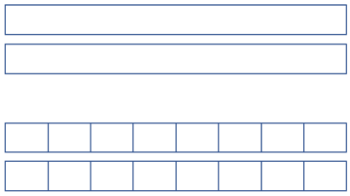


The student completes their solution by writing the fraction *four-eighths…* as *one-half*.

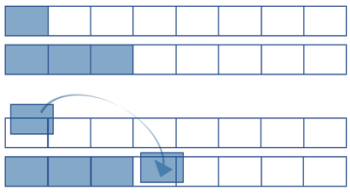
$$\frac{1}{8}+\frac{3}{3}=\frac{4}{8}=\frac{1}{2}$$

- How could I show this final solution step using the fraction strips?

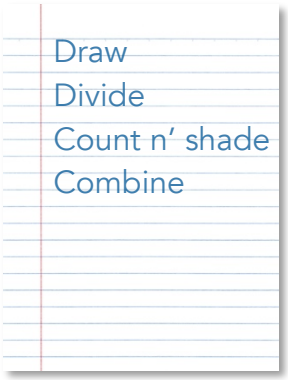
- How would I summarize the previous fraction strip solution?



- How do the fraction strips show why we need common denominators to add fractions?

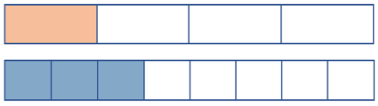


- Would it be possible to use the same fraction strip solution to solve… $\frac{1}{4} + \frac{3}{8}$?



- Can I predict where my solution might involve an extra step?

- How would I explain and demonstrate the extra step required to determine the sum using fraction strips?



- What important step am I performing when I represent *one-fourth* as *two-eighths*?

$$\frac{2}{8} + \frac{3}{8} = \frac{5}{8}$$

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