

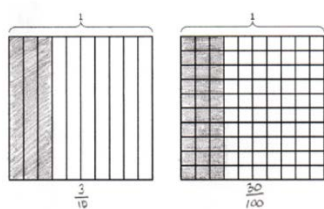
Standard 4.NF.5 Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100. For example, express $\frac{3}{10}$ as $\frac{30}{100}$, and add $\frac{3}{10} + \frac{4}{100} = \frac{34}{100}$.

Please Note: Understand decimal notation to the hundredths and compare decimal fractions with denominators of 10 and 100 (Standards 4.NF.5–7).

Denominators for fourth grade are limited to 2, 3, 4, 5, 6, 8, 10, 12, and 100.

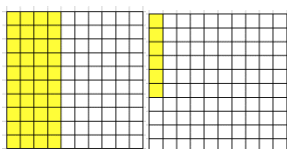
Key Elements: A common denominator must be used in order to add fractions. When adding fractions they must refer to the same whole.

Using 10x10 grid to represent tenths and hundredths to show equivalence.



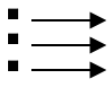
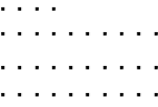
This representation shows how $\frac{3}{10}$ is equivalent to $\frac{30}{100}$

This representation shows why you need to make the fractions equivalent to add. The yellow shading shows $\frac{4}{10}$ or $\frac{40}{100}$ when you add the two together you have $\frac{34}{100}$ shaded yellow.



$$\frac{4}{10} + \frac{6}{100} = \frac{40}{100} + \frac{6}{100} = \frac{46}{100}$$

Place Value Chart: This model shows how you can decomposed 1 tenth into 10 hundredths. The 3 tenths were decomposed into 30 hundredths.

ones	●	tenths	hundredths
			

$$\frac{3}{10} \times \frac{10}{10} = \frac{30}{100} + \frac{4}{100} = \frac{34}{100}$$