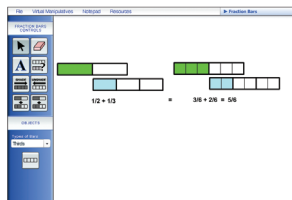




MATH ACTIVITY 5.3

Virtual Manipulatives

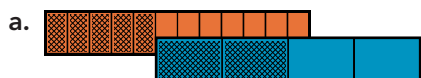
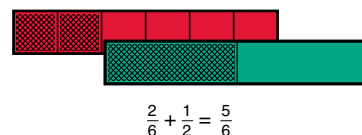


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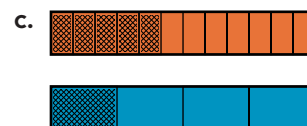
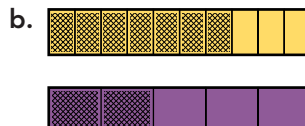
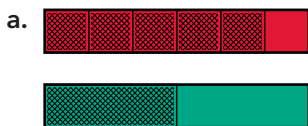
Operations with Fraction Bars

Materials: Fraction Bars in the Manipulative Kit or Virtual Manipulatives.

- The sum of two fractions is modeled by placing the shaded amounts of their bars end to end. The bars at the right show that the total shaded amount is $\frac{5}{6}$. Write addition equations for the fractions represented by the following pairs of bars.

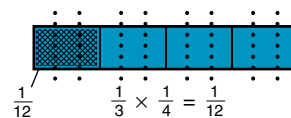


- The difference of two fractions is modeled by lining up their bars and comparing their shaded amounts. Write subtraction equations for the fractions represented by the following pairs of bars.



- Turn the shaded amounts of the Fraction Bars face down and select any two bars. If any fractions equal 0 or 1, place them aside and select others. Write equations for the sum and difference of these fractions. Then repeat this activity for three other pairs of bars.

- The product $\frac{1}{3} \times \frac{1}{4}$ means $\frac{1}{3}$ of $\frac{1}{4}$ and can be illustrated by splitting each part of a $\frac{1}{4}$ bar into 3 equal parts. One-third of the shaded amount is $\frac{1}{12}$, so $\frac{1}{3} \times \frac{1}{4} = \frac{1}{12}$. Draw sketches to illustrate and compute each of the following products.



- a. $\frac{1}{2} \times \frac{1}{2}$ b. $\frac{1}{3} \times \frac{1}{7}$ c. $\frac{1}{4} \times \frac{1}{2}$ d. $\frac{2}{3} \times \frac{1}{5}$

- The quotient of two fractions is modeled by lining up their bars and determining how many times greater the shaded amount of one is than the other. The bars at the right show that $\frac{1}{3}$ can be subtracted from (or “fits into”) $\frac{4}{6}$ twice. Write division equations for the fractions represented by the following pairs of bars.

