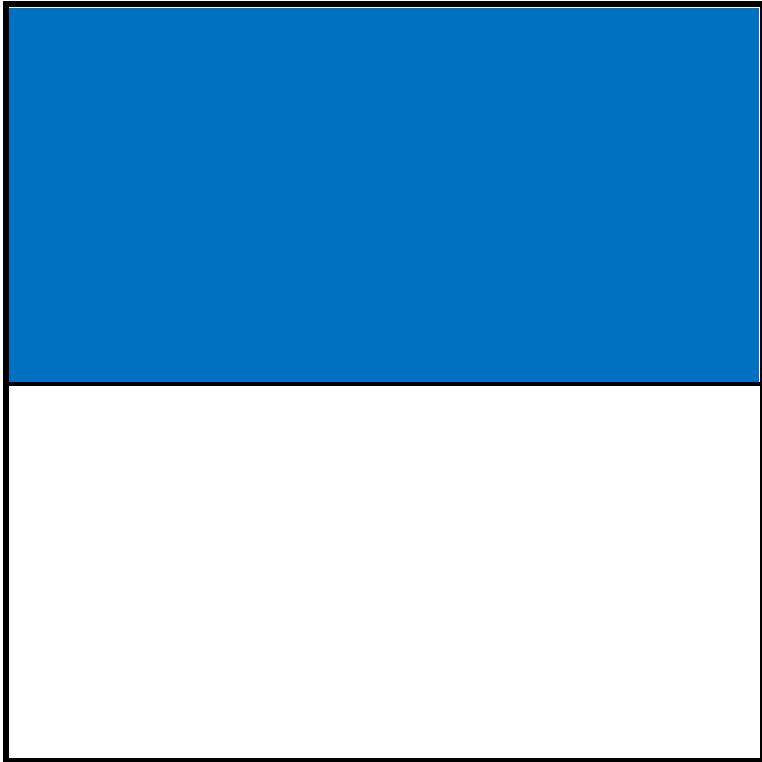
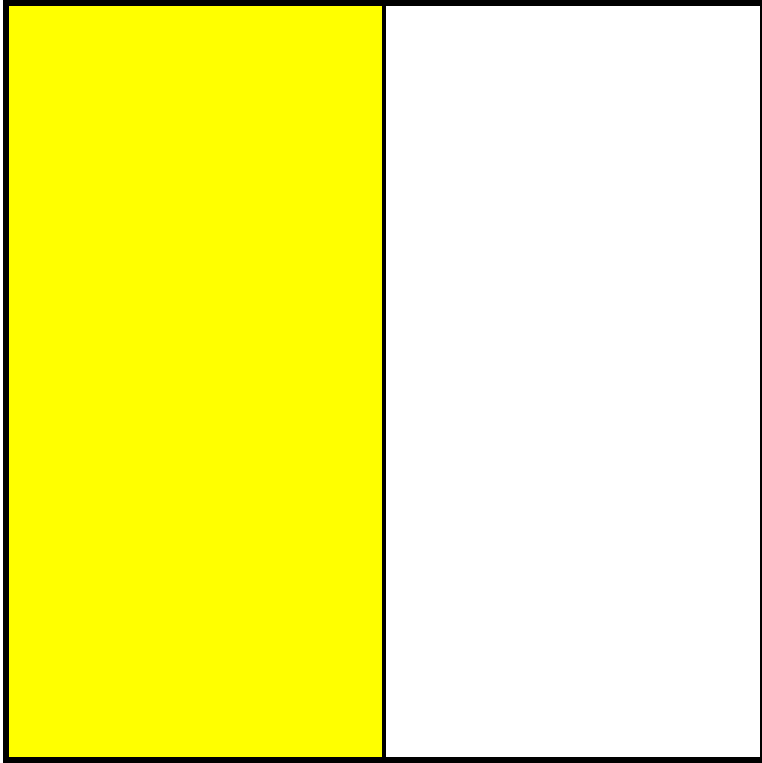


Partial Set of Tiles for Demonstrating Multiplication of Proper Fractions by Proper Fractions (using an area model)

INSTRUCTIONS FOR USE

1. These tiles can be used as one way to help you explain the product of two proper fractions, such as $\frac{1}{2} \times \frac{3}{4}$. Such fraction computations don't work well with the repeated addition meaning of multiplication.
2. Print out or photocopy the tiles you need onto acetate sheets using a colour printer or photocopier. This document contains only halves, thirds and quarters. Another file is available with fifths, sixths, eighths, ninths and tenths as well as halves, thirds and quarters.
3. Cut out each square tile by cutting just outside the thick boundary line of each square. Do not cut the tiles into individual fraction strips because you want to keep a reference all the time to what the whole unit is.
4. The tiles can be used on an overhead projector. In small group settings they can also be used on a sheet of white paper.
5. To illustrate what $\frac{1}{2} \times \frac{3}{4}$, for example, means place the yellow $\frac{3}{4}$ tile (with the columns in a vertical direction) directly over the blue $\frac{1}{2}$ tile (with the columns in a horizontal direction) and the area of the square that is covered by a combination of both yellow and blue is the product of the two fractions (commonly referred to as half of a quarter, or a quarter of a half).
6. The small rectangles formed by the intersecting lines of the horizontal and vertical tile will make it easy to calculate the fraction of the whole square unit that is covered by the yellow/blue tiles (in the above example it will be $\frac{1}{8}$ of the whole unit).
7. The tiles may also be used to illustrate why $\frac{1}{3} \times \frac{2}{4}$ is the same as $\frac{1}{3} \times \frac{1}{2}$, by showing how the $\frac{2}{4}$ tile resembles the $\frac{1}{2}$ tile.
8. It would also be interesting to ask the children how **they** would illustrate calculations such as $\frac{1}{2}$ of a $\frac{3}{4}$.
9. If you come up with any other suggestions (or questions) on how to use the tiles, please post your comment on www.seandelaney.com.



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