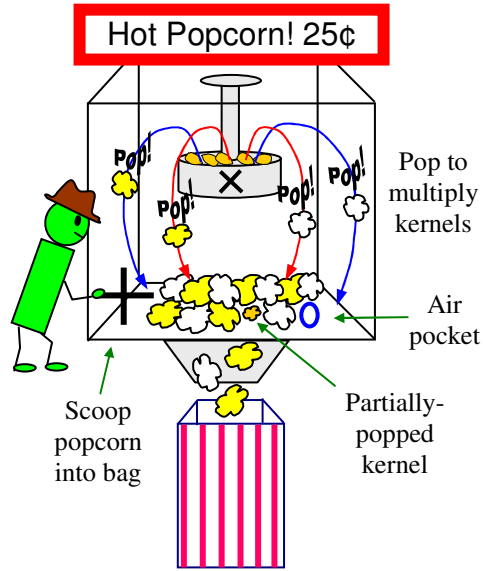


Popcorn Multiplication!

Multi-digit multiplication can be as much fun as the popcorn machine at the movies!



Imagine the digits to be multiplied are unpopped kernels.

$$\begin{array}{r} 89 \\ \times 76 \\ \hline \end{array}$$

Pop! 54

Use a magnifying glass to heat 6 times 9 kernels until they pop to 54.

$$\begin{array}{r} 89 \\ \times 76 \\ \hline \end{array}$$

5 kernels partially pop 4 kernels fully pop

$$\begin{array}{r} 89 \\ \times 76 \\ \hline \end{array}$$

Pop! 48

Magnify 6 times 8 kernels to pop 48.

$$\begin{array}{r} 89 \\ \times 76 \\ \hline 534 \end{array}$$

48 hot kernels heat & pop 5 partial kernels to make 53. 3 covers 5 so the 5 is not added again later.

$$\begin{array}{r} 89 \\ \times 76 \\ \hline 534 \\ 630 \\ \hline \end{array}$$

Magnify 7 (really 70) times 9 kernels. Pop! 63

6 kernels partially pop 3 kernels fully pop Air pocket (0) forms

$$\begin{array}{r} 89 \\ \times 76 \\ \hline 534 \\ 6230 \\ \hline \end{array}$$

Pop! 56

Magnify 7 times 8 kernels to pop 56, which heat & pop 6 partials to make 62. 2 covers 6 so the 6 is not added again later.

$$\begin{array}{r} 89 \\ \times 76 \\ \hline 534 \\ + 6230 \\ \hline 6764 \end{array}$$

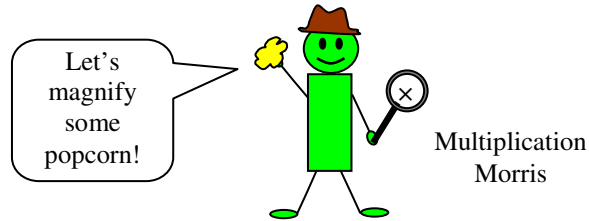
Add up and scoop 6,764 kernels into the bag. Eat & enjoy!

Your turn!

$$\begin{array}{r} 98 \\ \times 59 \\ \hline \end{array}$$

Popcorn Multiplication FunSheet

Have fun with magnifying glasses, arcs, full & partial pops, air pockets, and scoops!



Draw magnifying glasses and arcs as popped corn falls.
Be sure to add an air pocket (zero) for the first layer down.

1)

$$\begin{array}{r} 26 \\ \times 34 \\ \hline \end{array}$$

2)

$$\begin{array}{r} 85 \\ \times 76 \\ \hline \end{array}$$

3)

$$\begin{array}{r} 69 \\ \times 40 \\ \hline \end{array}$$

Make the motions, but to avoid clutter, do *not* draw magnifying glasses and arcs.
Remember to add *two* air pockets (zeros) for the second layer down.

4)

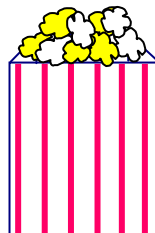
$$\begin{array}{r} 908 \\ \times 146 \\ \hline \end{array}$$

5)

$$\begin{array}{r} 622 \\ \times 375 \\ \hline \end{array}$$

6)

$$\begin{array}{r} 1432 \\ \times 587 \\ \hline \end{array}$$



Ans: 1) 884 2) 6460 3) 2760 4) 132,568 5) 233,250 6) 840,584