Multiplication Magic
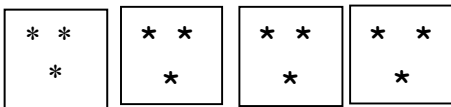
Pictures and Models

Seeing what is happening when you multiply can help with understanding.
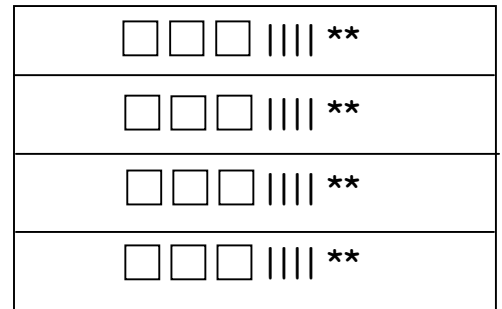
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4 x 3 = four groups with three in each group

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4 x 34 = four groups with thirty-four in each group

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4 x 342 = four groups with 342 in each group

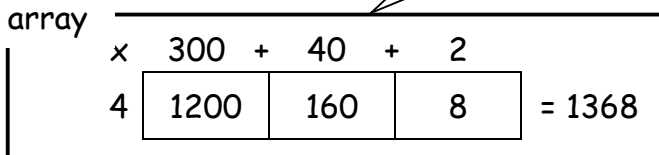| □ □ □ |||| ** |
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Place Value Method

Take a large number, write it in expanded form, and then multiply each part.

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342 =  300 +  40  +  2
x  4 =              x 4
       1200 + 160 +  8
              = 1368
```

For some children. drawing an <u>array</u> makes it easier to understand.

array

x	300	+	40	+	2	
4	1200		160		8	= 1368

Traditional Algorithm

Place Value Method	Short-Cut Method
342 x 4 8 (4 x 2) 160 (4 x 40) + 1200 (4 x 300) 1368 (add)	¹ 342 x 4 1368

Working With Decimals

When multiplying with decimals, all you need to do is count the number of decimal places there are in the problem, then move the decimal over that far in the answer.

For example, in 3.42 x 4, the decimal is two places over, so the answer would be 13.68.
If the problem were 3.42 x 0.4, the decimal is three places over (looking at both numbers), so the answer would be 1.368, or three places over.