Multiplication

Estimating

<u>Main Idea</u>: Estimating is a valuable life tool. It provides quick numbers when an exact number is not required. Estimates are useful in planning and predicting outcomes.

Example A Round to the whole number.

$$4.75 \approx 5$$

$$\times 0.80 \approx \times 1$$

$$\approx 5$$

Example B Round to the largest place value.

$$\begin{array}{cccc}
68 & \approx & 70 \\
\underline{x & 23} & \approx & \underline{x & 20} \\
\approx & 1,400
\end{array}$$

Keep it Simple

Unless told otherwise, round to the largest place value and then solve.

<u>Directions</u>: Round to the largest place value and multiply. Show work. Lightly shade the box if the answer is over 10,000 and follow the path.

Why is it illegal to lock your car in Churchill, Canada?

Start

1.	2.	3.	4.
871 ≈ 900	317 ≈	841 ≈	949 ≈
$x 38 \approx x 40$	<u>x 49</u> ≈	<u>x 65</u> ≈	<u>x 54</u> ≈
Psst Here's a secret. What's 9x4? How many zeros? Therefore: 36 + 000 = 36,000			
5.	6.	7.	8.
650 ≈	334 x 777 ≈	9.9 ≈	809 x 1,500 ≈
<u>x 4.9</u> ≈		<u>x 8.3</u> ≈	
9.	10.	11.	12.
4,180 x 6,499 ≈	290 ≈	3.39 x 76 ≈	94.249 ≈
	<u>x 56</u> ≈		<u>x 5. 704</u> ≈
13.	14.	15.	16.
79 ≈	581 x 239 ≈	743 ≈	555 ≈
<u>x 64</u> ≈		<u>x 35</u> ≈	<u>x 55</u> ≈
47	40	10	20
17.	18 . 9.90 ≈	19 . 833 x 412 ≈	20 . 17 ≈
31 x 26 ≈		833 X 412 ≈	
	<u>x 64</u> ≈		<u>x 68</u> ≈
<u> </u>	1	<u> </u>	
There are no locksmiths	s People do not use keys	To escape polar bears	All cars are free to use



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$$\times 0.80 \approx \times 1$$

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$\underline{x \ 38} \approx \underline{x \ 40}$	<u>x 49</u> ≈	<u>x 65</u> ≈	<u>x 54</u> ≈
36,000	15,000	56,000	45,000
Psst Here's a secret. What's 9x4? How many zeros? Therefore: 36 + 000 = 36,000		30,000	,
5.	6.	7.	8.
650 ≈	334 x 777 ≈	9.9 ≈	809 x 1,500 ≈
<u>x 4.9</u> ≈	040.000	<u>x 8.3</u> ≈	4 (00 000
3,500	240,000	80	1,600,000
9.	10.	11.	12.
4,180 x 6,499 ≈	290 ≈	3.39 x 76 ≈	94.249 ≈
	<u>x 56</u> ≈		<u>x 5.704</u> ≈
24,000,000	40.000	240	F40
	18,000		540
13.	14.	15.	16.
79 ≈	581 x 239 ≈	743 ≈	555 ≈
<u>x 64</u> ≈	100.000	<u>x 35</u> ≈	<u>x 55</u> ≈
4 800	120,000	20,000	36,000
4,800		28,000	36,000
17.	18.	19.	20.
31 x 26 ≈	9.90 ≈	833 x 412 ≈	17 ≈
900	<u>x 64</u> ≈	320,000	<u>x 68</u> ≈
900	600	320,000	1,400
There are no locksmiths	People do not use keys	To escape polar bears	All cars are free to use