

<p>Multiplying by 0</p>	<p style="text-align: center;">"There's Always Nothing"</p> <p>When you multiply by 0 your answer is always 0. To help think of it as a word problem:</p> <p><i>Ms. Kennedy loves to make blueberry pancakes. Today she made 5 pancakes. Each had 0 blueberries. How many blueberry pancakes did she make?</i></p> <p style="text-align: center;">$5 \times 0 = 0$</p>								
<p>Multiplying by 1</p>	<p style="text-align: center;">"There's Just 1 Set"</p> <p>When you multiply by 1 your answer is always the other factor because you only have 1 set.</p> <p><i>Mrs. Kennedy started collecting marbles. She bought 1 bag of marbles that had 9 inside. How many marbles did she buy?</i></p> <p style="text-align: center;">$1 \times 9 = 9$</p>								
<p>Multiplying by 2</p>	<p style="text-align: center;">"DOUBLE IT!"</p> <p>When you multiply by 2 you can double the other factor.</p> <table style="width: 100%; border: none;"> <tr> <td style="text-align: center;">$2 \times 8 = 16$</td> <td style="text-align: center;">$7 \times 2 = 14$</td> </tr> <tr> <td style="text-align: center;">$(8 + 8 = 16)$</td> <td style="text-align: center;">$(7 + 7 = 14)$</td> </tr> </table>	$2 \times 8 = 16$	$7 \times 2 = 14$	$(8 + 8 = 16)$	$(7 + 7 = 14)$				
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<p>Multiplying by 3</p>	<p style="text-align: center;">"Double Plus a Set"</p> <p>When you multiply by 3 you can double the other factor and then add one more set.</p> <table style="width: 100%; border: none;"> <tr> <td style="text-align: center;">$3 \times 8 = 24$</td> <td style="text-align: center;">$3 \times 7 = 21$</td> </tr> <tr> <td style="text-align: center;">$(2 \times 8) + (1 \times 8)$</td> <td style="text-align: center;">$(2 \times 7) + (1 \times 7)$</td> </tr> <tr> <td style="text-align: center;">$8 + 8 = 16$</td> <td style="text-align: center;">$7 + 7 = 14$</td> </tr> <tr> <td style="text-align: center;">$16 + 8 = 24$</td> <td style="text-align: center;">$14 + 7 = 21$</td> </tr> </table>	$3 \times 8 = 24$	$3 \times 7 = 21$	$(2 \times 8) + (1 \times 8)$	$(2 \times 7) + (1 \times 7)$	$8 + 8 = 16$	$7 + 7 = 14$	$16 + 8 = 24$	$14 + 7 = 21$
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<p>Multiplying by 4</p>	<p style="text-align: center;">"Order a Double-Double!"</p> <p>When you multiply by 4 you can double the other factor twice.</p> <table style="width: 100%; border: none;"> <tr> <td style="text-align: center;">$5 \times 4 = 20$</td> <td style="text-align: center;">$4 \times 6 = 24$</td> </tr> <tr> <td style="text-align: center;">$5 + 5 = 10$</td> <td style="text-align: center;">$6 + 6 = 12$</td> </tr> <tr> <td style="text-align: center;">$10 + 10 = 20$</td> <td style="text-align: center;">$12 + 12 = 24$</td> </tr> </table>	$5 \times 4 = 20$	$4 \times 6 = 24$	$5 + 5 = 10$	$6 + 6 = 12$	$10 + 10 = 20$	$12 + 12 = 24$		
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<p>Multiplying by 5</p>	<p align="center">"Skip Count By 5's"</p> <p>When you multiply by 5 you can skip count to help solve.</p> $5 \times 6 = 30$ $3 \times 5 = 15$ <p>(5, 10, 15, 20, 25, 30) (5, 10, 15)</p>
<p>Multiplying by 6</p>	<p align="center">There are two strategies to multiply by 6</p> <p align="center">"Multiply by 5 then Add a Set"</p> <p>When you multiply by 6 you can skip count by 5's then add another set.</p> $6 \times 6 = 36$ $(5 \times 6) + (1 \times 6)$ $5 \times 6 = 30 \quad 1 \times 6 = 6$ $30 + 6 = 36$ $3 \times 6 = 18$ $(3 \times 5) + (3 \times 1)$ $3 \times 5 = 15 \quad 3 \times 1 = 3$ $15 + 3 = 18$ <p align="right"><i>Think: 5 groups of 3 plus one more group of 3</i></p> <p align="center">DOUBLE IT!</p> <p>If you know how to multiply by 3, then you can double the product.</p> $6 \times 6 = 36$ $4 \times 6 = 24$ $3 \times 6 = 18$ $4 \times 3 = 12$ $18 + 18 = 36$ $12 + 12 = 24$
<p>Multiplying by 7</p>	<p align="center">Break it up!</p> <p>When you multiply by 7, you can break it up to help you find the product.</p> $7 \times 6 = 42$ $(5 \times 6) + (2 \times 6)$ $5 \times 6 = 30, 2 \times 6 = 12$ $30 + 12 = 42$ $7 \times 3 = 15$ $(5 \times 3) + (2 \times 3)$ $5 \times 3 = 15, 2 \times 3 = 6$ $15 + 6 = 21$ <p align="center"><i>Think: 7 = 5+2</i></p>

	<p style="text-align: center;">Here are two strategies to multiply by 8</p>						
<p style="text-align: center;">Multiplying by 8</p>	<p style="text-align: center;">DOUBLE IT!</p> <p>If you know how to multiply by 4, then you can double the product.</p> <table style="width: 100%; border: none;"> <tr> <td style="text-align: center;">8 × 6 = 48</td> <td style="text-align: center;">4 × 8 = 32</td> </tr> <tr> <td style="text-align: center;">4 × 6 = 24</td> <td style="text-align: center;">4 × 4 = 16</td> </tr> <tr> <td style="text-align: center;">24 + 24 = 48</td> <td style="text-align: center;">16 + 16 = 32</td> </tr> </table>	8 × 6 = 48	4 × 8 = 32	4 × 6 = 24	4 × 4 = 16	24 + 24 = 48	16 + 16 = 32
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<p style="text-align: center;">Double-Double-Double!</p> <p>When you multiply by 8 you can double the other factor three times.</p> <p style="text-align: center;">8 × 5 = 40</p> <p style="text-align: center;">2 × 5 = 10 ← double once → 5 + 5 = 10</p> <p style="text-align: center;">2 × 10 = 20 ← double twice → 10 + 10 = 20</p> <p style="text-align: center;">2 × 20 = 40 ← double three times → 20 + 20 = 40</p>							
<p style="text-align: center;">Multiplying by 9</p>	<p style="text-align: center;">There are two strategies for Multiplying by 9</p>						
	<p style="text-align: center;">"Think 10"</p> <p>If I know how to multiply by ten, I know the product when multiplying by 9 is one decade less and the sum of the tens digit and the ones digit always equals nine.</p> <p style="text-align: center;">9 × 6 → I know 10 × 6 = 60 so... the product is in the 50's</p> <p style="text-align: center;">9 × 6 = <u>5</u>? I know 5 + 4 = 9 so... 9 × 6 = 54</p>						
	<p style="text-align: center;">"Multiply by 10 then Take a Set Away"</p> <p>When you multiply by 9 you can multiply by 10 then take a set away.</p> <table style="width: 100%; border: none;"> <tr> <td style="text-align: center;">9 × 6 = 54</td> <td style="text-align: center;">3 × 9 = 27</td> </tr> <tr> <td style="text-align: center;">(10 × 6 = 60, 60 - 6 = 54)</td> <td style="text-align: center;">(3 × 10 = 30, 30 - 3 = 27)</td> </tr> </table>	9 × 6 = 54	3 × 9 = 27	(10 × 6 = 60, 60 - 6 = 54)	(3 × 10 = 30, 30 - 3 = 27)		
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