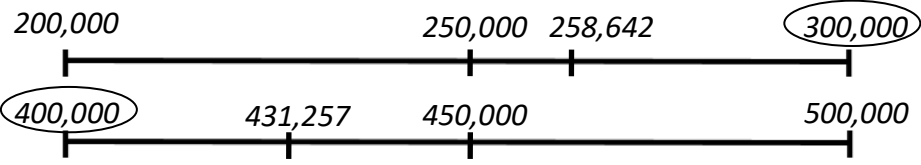


Adding and Subtracting Multi-Digit Numbers

Check out the "Parent Quick Smarts" video for this unit by using this link: <https://goo.gl/5rfFVD>

<p style="text-align: center;">Overarching Student Learning Goals</p> <p style="text-align: center;">In this unit, your child will work to build an understanding of the following:</p>	<p style="text-align: center;">Resources/Tasks to support your child at home.</p>																																
<p>Making connections between place value strategies and the standard algorithms for addition or subtraction (within 1,000,000).</p> <p>Students understand that the location of a digit depends on its location or place value. This understanding is applied to add and subtract whole numbers to 1,000,000 with or without regrouping. A place value chart is a good tool to use to organize the digits into their places before solving.</p> <p><i>Example: 258,642 + 431,257</i></p> <table border="1" style="width: 100%; text-align: center; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;"></th> <th style="width: 12.5%;">million</th> <th style="width: 12.5%;">hundred thousands</th> <th style="width: 12.5%;">ten thousands</th> <th style="width: 12.5%;">thousands</th> <th style="width: 12.5%;">hundreds</th> <th style="width: 12.5%;">tens</th> <th style="width: 12.5%;">ones</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td>2</td> <td>5</td> <td>8</td> <td>6</td> <td>4</td> <td>2</td> </tr> <tr> <td style="text-align: right;">+</td> <td></td> <td>4</td> <td>3</td> <td>1</td> <td>2</td> <td>5</td> <td>7</td> </tr> <tr> <td></td> <td>6</td> <td>8</td> <td>9</td> <td>,</td> <td>8</td> <td>9</td> <td>9</td> </tr> </tbody> </table>		million	hundred thousands	ten thousands	thousands	hundreds	tens	ones			2	5	8	6	4	2	+		4	3	1	2	5	7		6	8	9	,	8	9	9	<ul style="list-style-type: none"> Using a deck of cards, create two 6-digit numbers. Find the difference by subtracting the two numbers. Find the sum by adding the two numbers. Use a place value chart to focus on lining up the place values of both numbers. Khan Academy: Relate Place Value to Standard Algorithm for Multi-Digit Addition https://goo.gl/T5X448 Khan Academy: Relate Place Value to Standard Algorithm for Multi-Digit Subtraction https://goo.gl/j13fHf
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<p>Estimate to determine reasonableness of sums and differences (within 1,000,000).</p> <p>Students use estimation strategies to determine an estimate of their sum or difference will be before solving. A number line can be used to estimate the numbers involved before estimating the sum or difference.</p> <p><i>Example: 258,642 + 431,257</i></p> <p>Step 1 – Round or Estimate both numbers in the problem.</p>  <p>Step 2 – Estimate the sum or difference: $300,000 + 400,000 = 700,000$.</p>	<ul style="list-style-type: none"> Using a deck of cards, create two 6-digit numbers. Estimate both of the numbers created using a number line. Then estimate the sum or difference. Solve to find the actual sum or difference and compare to the estimate. Encourage your child to do this anytime they solve an addition or subtraction problem. Khan Academy: Round to Estimate Sums https://goo.gl/c4euBF 																																

For more information on the learning goals and your child's progress, please contact your child's teacher.

Reason and explain the notation of the standard algorithms (within 1,000,000).

Students are able to explain the steps for the standard algorithm of addition or subtraction, within 1,000,000, and with understanding using place value language. This could include regrouping across more than one place, as shown below.

$$\begin{array}{r}
 8,000 \\
 - 3,644 \\
 \hline
 \end{array}$$

Not enough ones - need to regroup a ten.
There are no tens and no hundreds!

$$\begin{array}{r}
 8,000 \\
 - 3,644 \\
 \hline
 \end{array}$$

8 thousands regrouped makes 800 tens.

$$\begin{array}{r}
 7\ 9\ 9\ 10 \\
 \cancel{8}\ \cancel{0}\ \cancel{0}\ \cancel{0} \\
 - 3,644 \\
 \hline
 4,356
 \end{array}$$

Regroup 1 ten to make 10 ones and 799 tens.

- Using a deck of cards, create two 6-digit numbers. Estimate the sum and difference of the numbers. Then have your child use the place value language of: *ones, tens, hundreds, thousands, ten thousands and hundred thousands* to describe the steps they will take using the standard algorithm to solve for the actual sum and difference.
- Khan Academy: Multi-digit Addition
<https://goo.gl/AQgD9y>
- Khan Academy: Multi-digit Subtraction
<https://goo.gl/htKxbz>