








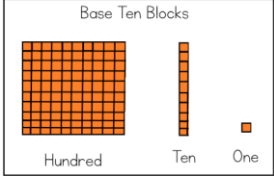
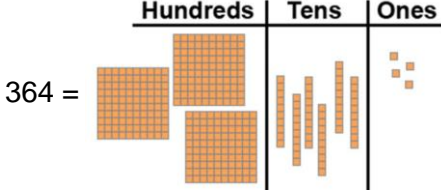


Math: Grade 4


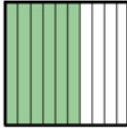
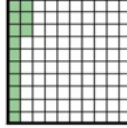
Quarter	Math Understanding	The student can...	Support Information																							
1	Understand Place Value to 1,000,000	<p>*identify the value of a digit in a number.</p> <p>*write numbers in standard form, word form, and expanded form.</p> <p>*round numbers to the nearest 10; 100; 1,000; 10,000; 100,000; 1,000,000.</p> <p>*compare numbers using symbols <, >, and =.</p> <p>*add and subtract multi-digit numbers using the standard algorithm.</p> <p>*use bar models to solve addition and subtraction comparison problems.</p>	<p>Place value charts are used to help students identify the place and value of a number.</p> <table border="1" data-bbox="854 260 1446 491"> <tr> <td align="center">Millions</td> <td align="center">Hundred Thousands</td> <td align="center">Ten Thousands</td> <td align="center">Thousands</td> <td align="center">Hundreds</td> <td align="center">Tens</td> <td align="center">Ones</td> </tr> <tr> <td align="center">1,</td> <td align="center">4</td> <td align="center">6</td> <td align="center">3,</td> <td align="center">5</td> <td align="center">1</td> <td align="center">2</td> </tr> </table> <p><small>Copyright ©2020 Math, Kids and Chores</small></p> <p>In the number above, the digit 6 is in the ten thousands place; it has a value of 60,000.</p> <p>Standard Form: 1,463, 512</p> <p>Word Form: one million, four hundred sixty-three thousand, five hundred twelve</p> <p>Expanded Form: $1,000,000 + 400,000 + 60,000 + 3,000 + 500 + 10 + 2$ Click HERE for a video on writing numbers in expanded form.</p> <p>Click HERE for a video on rounding numbers to the nearest thousand.</p> <table border="1" data-bbox="846 1167 1230 1419"> <tr> <td align="center">37</td> <td align="center"> Less than</td> <td align="center">80</td> </tr> <tr> <td align="center">61</td> <td align="center"> Greater than</td> <td align="center">8</td> </tr> <tr> <td align="center">3</td> <td align="center"> Equal to</td> <td align="center">3</td> </tr> </table> <p>Click HERE for a video explaining how to compare larger numbers.</p> <p>Standard algorithms are the traditional rules used to add or subtract.</p> <p>Click HERE for a video on the standard algorithm for addition.</p> <p>Click HERE for a video on the standard algorithm for subtraction.</p> <p>Click HERE for a video on how to use the bar model to solve comparison problems.</p>	Millions	Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones	1,	4	6	3,	5	1	2	37	 Less than	80	61	 Greater than	8	3	 Equal to	3
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1	Solve Multiplication & Division Problems	<p>*use multiplication and division to solve comparison problems.</p> <p>*solve 1 and 2 step multiplication story problems.</p>	Click HERE for a video on comparing with multiplication and division.
1	Multiply by 1-Digit Numbers	<p>*multiply a 2 or 3-digit number by a 1-digit number using base-ten blocks.</p> <p>*multiply a 2 or 3-digit number by a 1-digit number using the area model.</p> <p>*break apart a multi-digit number and apply the distributive property when multiplying.</p> <p>*use expanded form and partial products to multiply 3-digit numbers by 1-digit numbers.</p> <p>*use place value and regrouping to multiply.</p> <p>*solve 2-step word problems.</p>	<p>Base Ten Blocks are used to help students visualize numbers.</p>   <p>Click HERE for a video on using base ten blocks to multiply.</p> <p>Click HERE for a video on using the area model to multiply.</p> <p>Click HERE for a video on how to use the distributive property to break apart numbers to multiply.</p> <p>Click HERE for a video on how to use expanded form and partial products to multiply.</p> <p>Click HERE for a video on how to use place value to multiply.</p> <p>Click HERE for a video on how to use place value to multiply with regrouping.</p>

2	Divide By 1-Digit Numbers	<p>*use the area model and distributive property to divide.</p> <p>*divide using repeated subtraction.</p> <p>*divide using partial quotients.</p> <p>*understand what the remainder means.</p>	<p>Click HERE for a video on how to use the area model and the distributive property to divide.</p> <p>Click HERE for a video on dividing with repeated subtraction.</p> <p>Click HERE for a video on dividing with partial quotients (no remainder).</p> <p>Click HERE for a video on dividing with partial quotients (with remainder).</p> <p>Click HERE for a video on understanding remainders.</p>
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2	Understand Factors & Multiples	<p>*find all factor pairs for a whole number.</p> <p>*understand the relationship between factors and multiples.</p> <p>*understand prime and composite numbers.</p> <p>*understand divisibility rules.</p>	<p>A factor is a number that is multiplied by another number to find a product. A factor pair is a pair of numbers that, when multiplied, will result in a given product (answer). For example, the factor pairs for 18 are shown below:</p> <div data-bbox="1031 846 1393 1188" style="border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;"> <p style="text-align: center; color: red; margin: 0;">Factors pairs of 18</p> <p style="text-align: center; margin: 0;">↓</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">$18 = 1 \times 18$</td> <td style="padding: 2px; color: red;">$(1, 18)$</td> </tr> <tr> <td style="padding: 2px;">$18 = 2 \times 9$</td> <td style="padding: 2px; color: red;">$(2, 9)$</td> </tr> <tr> <td style="padding: 2px;">$18 = 3 \times 6$</td> <td style="padding: 2px; color: red;">$(3, 6)$</td> </tr> <tr> <td style="padding: 2px;">$18 = -1 \times -18$</td> <td style="padding: 2px; color: red;">$(-1, -18)$</td> </tr> <tr> <td style="padding: 2px;">$18 = -2 \times -9$</td> <td style="padding: 2px; color: red;">$(-2, -9)$</td> </tr> <tr> <td style="padding: 2px;">$18 = -3 \times -6$</td> <td style="padding: 2px; color: red;">$(-3, -6)$</td> </tr> </table> </div> <p>A multiple is the product of a number when it is multiplied by other numbers. For example, the first 5 multiples of 3 are 3, 6, 9, 12, 15.</p> <p>A prime number is a number that has exactly two factors: 1 and itself. 2, 3, 5, 7, 11, 13, 17, and 19 are prime numbers.</p> <p>A composite number has one, itself, and other numbers as factors.</p> <div data-bbox="847 1614 1289 1990" style="border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;"> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2" style="text-align: center; color: red; padding: 5px;">Divisibility rules</th> </tr> <tr> <th style="text-align: left; padding: 5px;">A number is divisible by</th> <th style="text-align: left; padding: 5px;">if the following conditions are met</th> </tr> </thead> <tbody> <tr> <td style="text-align: center; padding: 5px;">2</td> <td style="padding: 5px;">The last digit is even</td> </tr> <tr> <td style="text-align: center; padding: 5px;">3</td> <td style="padding: 5px;">The sum of its digits is divisible by 3</td> </tr> <tr> <td style="text-align: center; padding: 5px;">4</td> <td style="padding: 5px;">The number represented by its last two digits is divisible by 4</td> </tr> <tr> <td style="text-align: center; padding: 5px;">5</td> <td style="padding: 5px;">The last digit is 0 or 5</td> </tr> <tr> <td style="text-align: center; padding: 5px;">6</td> <td style="padding: 5px;">The number is divisible by 2 and 3</td> </tr> <tr> <td style="text-align: center; padding: 5px;">7</td> <td style="padding: 5px;">Remove the last digit, double it, subtract it from the leftover number. The result is divisible by 7</td> </tr> <tr> <td style="text-align: center; padding: 5px;">8</td> <td style="padding: 5px;">The number represented by its last three digits is divisible by 8</td> </tr> <tr> <td style="text-align: center; padding: 5px;">9</td> <td style="padding: 5px;">The sum of its digits is divisible by 9</td> </tr> <tr> <td style="text-align: center; padding: 5px;">10</td> <td style="padding: 5px;">The last digit is 0</td> </tr> </tbody> </table> </div>	$18 = 1 \times 18$	$(1, 18)$	$18 = 2 \times 9$	$(2, 9)$	$18 = 3 \times 6$	$(3, 6)$	$18 = -1 \times -18$	$(-1, -18)$	$18 = -2 \times -9$	$(-2, -9)$	$18 = -3 \times -6$	$(-3, -6)$	Divisibility rules		A number is divisible by	if the following conditions are met	2	The last digit is even	3	The sum of its digits is divisible by 3	4	The number represented by its last two digits is divisible by 4	5	The last digit is 0 or 5	6	The number is divisible by 2 and 3	7	Remove the last digit, double it, subtract it from the leftover number. The result is divisible by 7	8	The number represented by its last three digits is divisible by 8	9	The sum of its digits is divisible by 9	10	The last digit is 0
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<p>3</p>	<p>Multiply By 2-Digit Numbers</p>	<p>*use place value to multiply with multiples of ten.</p> <p>*multiply by 2-digit numbers using area models and partial products.</p> <p>*multiply two 2-digit numbers using regrouping.</p> <p>*estimate to solve 2-digit multiplication.</p> <p>*solve multi-step word problems using multiplication.</p>	<p>Students use place value to find the product. For example: $27 \times 40 = 27 \times 4 \text{ tens}$ $27 \times 4 \text{ tens} = 108 \text{ tens}$ $108 \text{ tens} = 1,080$</p> <p>Click HERE for a video on how to multiply by 2-digit numbers using the area model.</p> <p>Click HERE for a video on how to multiply by 2-digit numbers using partial products.</p> <p>Click HERE for a video on how to multiply by 2-digit numbers using regrouping.</p> <p>Click HERE for a video on how to estimate 2-digit multiplication.</p>
<p>3</p>	<p>Compare Fractions</p>	<p>*compare fractions with different numerators and denominators using models.</p> <p>*compare fractions using number lines.</p> <p>*compare fractions to benchmark fractions.</p> <p>*multiply or divide to find equivalent fractions.</p> <p>*compare fractions using common numerators or common denominators.</p>	<p>Click HERE for a video on comparing fractions with models.</p> <p>Click HERE for a video comparing fractions with a number line.</p> <p>A benchmark is a common fraction that is used as reference to compare two fractions. Benchmark fractions are 0, $\frac{1}{2}$, and 1. You can use benchmark fractions to compare fractions.</p> <p>Click HERE for a video on how to use benchmarks to compare fractions.</p> <p>Click HERE for a video on how to multiply or divide to find equivalent fractions.</p> <p>Click HERE for a video on comparing fractions using common numerators or common denominators.</p>

<p>3</p>	<p>Relate Fractions to Decimals</p>	<p>*name a fraction with a denominator of 10 as a decimal (tenths); name a fraction with a denominator of 100 as a decimal (hundredths).</p> <p>*use visual models and number lines to represent fractions and decimals.</p> <p>*use tenths and hundredths to compare decimals.</p> <p>*relate fractions and decimals to money.</p>	<p>Decimals are modeled with pictures. One square is equal to one whole.</p>  = 1  = $\frac{6}{10}$, 6 tenths, or 0.6  = $\frac{13}{100}$, 13 hundredths, or 0.13 <p>Click HERE for a video on visual models and number lines to represent fractions and decimals.</p> <p style="text-align: center;">Decimals & Money</p> <p style="text-align: center;">Money is written using decimals. It can also be written as a fraction of a dollar.</p> <table style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;">Quarter</td> <td style="text-align: center;">Dime</td> <td style="text-align: center;">Nickel</td> <td style="text-align: center;">Penny</td> </tr> <tr> <td style="text-align: center;">0.25</td> <td style="text-align: center;">0.10</td> <td style="text-align: center;">0.05</td> <td style="text-align: center;">0.01</td> </tr> <tr> <td style="text-align: center;">$\frac{25}{100}$</td> <td style="text-align: center;">$\frac{10}{100}$</td> <td style="text-align: center;">$\frac{5}{100}$</td> <td style="text-align: center;">$\frac{1}{100}$</td> </tr> </table>	Quarter	Dime	Nickel	Penny	0.25	0.10	0.05	0.01	$\frac{25}{100}$	$\frac{10}{100}$	$\frac{5}{100}$	$\frac{1}{100}$
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<p>4</p>	<p>Add & Subtract Fractions</p>	<p>*decompose fractions to add and subtract.</p> <p>*use visual models to add and subtract fractions with the same denominator.</p> <p>*rename fractions greater than one as mixed numbers; rename mixed numbers as fractions.</p>	<p>Decompose means to break numbers apart. You can decompose fractions to make adding easier. Click HERE for a video on decomposing fractions to add.</p> <p>Click HERE for a video on using visual models to add fraction with like denominators. Click HERE for a video on using visual models to subtract fractions with like denominators.</p> <p>A mixed number is a number written as a whole number and a fraction. Fractions greater than one can be written as a mixed number. For example: $\frac{11}{3} = 3\frac{2}{3}$.</p> <p>Click HERE for a video showing how to write a mixed number as a fraction greater than one.</p>												

		*add and subtract mixed numbers; apply to solve word problems.	Click HERE for a video on adding mixed numbers. Click HERE for a video on subtracting mixed numbers.
4	Multiply Fractions	*multiply a fraction by a whole number.	Click HERE for a video on multiplying a fraction by a whole number.