

## Summer Math Guide Grade 3

### What incoming 3<sup>rd</sup> grade Cascadia math students should know:

- Multiplication facts 1-12 and corresponding division facts
- Understand place value up to 1,000,000,000
- Addition and subtraction up to 4 digits with regrouping and borrowing.
- Adding and subtracting decimals to two places (practice with money)
- Multiplication up to 2 by 2 digit.
- Find equivalent fractions and order fractions

**Suggested Schedule:** Do what works best for your family. While the printable packet and interactive websites do provide some feedback, having an adult there to further explain will help a lot!

#### Sample 30 min. Schedule:

- 5 min. -- warm up with a game\*
- 5 min. -- watch a video to refine a skill
- 15 min. -- interactive website or packet work
- 5 min. -- use new skills to replay game

#### Sample 15 min. Schedule:

- 5 min – warm up with a game\* or watch a video to refine a skill
  - 10 min – interactive website or packet work
- OR**
- Play a game for 15 minutes\*

*\*Third grade is the year that students traditionally study multiplication tables and fluency is essential to study of 5<sup>th</sup> grade math. If your student does not yet recall multiplication and division facts with fluency (10 – 15 second recall), please have them review their facts daily. The online flashcards at Mathigon have an excellent approach. See link under Interactive Websites for details.*

### Resources:

**Videos:** These short videos (~ 5min.) to help students “warm up” to math work.

**Games:** These are games that you can print out, obtain at a store, or access online. The Envision math curriculum has online games which are included here.

**Interactive Websites:** Links to iXL & Kahn Academy as well as Mathigon. Kahn Academy has a wonderful “Get Ready Series” for summer. Links are related to topics for that week. Use what appeals to your student – different websites have different approaches.

**Printable Packet:** Focused practice on the weekly topic to print and complete at home. The Envision math curriculum provides at home activities for families which are included here. Parent help is essential to help students complete the worksheets. **Complete as much as needed to feel confident in the topic.**

**Math Tool Kit:** A set of quick reference sheets students could use in the summer and during the school year.

## Week 1: Multiplication & Division 1 – 12 facts

Videos	Games	Interactive Websites	Printable Packet
<a href="#">Multiply by 0 &amp; 1</a> <a href="#">2 facts: double!</a> <a href="#">4 facts</a> <a href="#">5 facts</a> <a href="#">8 facts</a> <a href="#">10 facts</a>  <a href="#">3 facts (fun!)</a>  <a href="#">6 facts</a>  <a href="#">6 facts (song!)</a>  <a href="#">7 facts</a>  <a href="#">7 skip count</a>  <a href="#">9 facts (90s themed!)</a>  <a href="#">9 facts</a>  <a href="#">9 facts finger trick</a>  <a href="#">Multiplication facts review</a>	<p><a href="#">Blackout</a> (printable game – see <a href="#">Polypad Website Guide</a> for online game pieces)</p> <p>Blockout (can be played with paper or <a href="#">online</a>) Envision</p> <p>Number Run: all operations through 10 (<i>app available through <a href="#">Apple App store</a> &amp; <a href="#">Google Play</a></i>)</p> <p><a href="#">Multiplication Space Race</a> (ABCYA)</p> <p><a href="#">Prime Climb</a> is a game for ages 10+ (or 8+ with adult guidance) to explore mathematical structure in multiplication, division, and prime numbers in a fast-paced, dynamic game of strategy and luck.</p>	<p><a href="#">Multiplication by Heart flashcards</a></p> <p><b>IXL</b></p> <p><a href="#">Multiply by 0</a></p> <p><a href="#">Multiply by 1</a></p> <p><a href="#">Multiply by 2</a></p> <p><a href="#">Multiply by 3</a></p> <p><a href="#">Multiply by 4</a></p> <p><a href="#">Multiply by 5</a></p> <p><a href="#">Multiply by 6</a></p> <p><a href="#">Multiply by 7</a></p> <p><a href="#">Multiply by 8</a></p> <p><a href="#">Multiply by 9</a></p> <p><a href="#">Multiply by 10</a></p> <p><a href="#">Multiply by 11</a></p> <p><a href="#">Multiply by 12</a></p> <p><a href="#">Multiplication tables up to 12</a></p> <p><a href="#">Multiplication facts to 12</a></p> <p><b>Kahn Academy</b></p> <p><a href="#">Get ready for multiplication</a> (Get Ready for 4<sup>th</sup> Grade)</p> <p><a href="#">Basic Multiplication</a></p> <p><a href="#">Multiplication Tables for 2 - 9</a></p> <p><a href="#">Multiplication for 10, 11, &amp; 12</a></p> <p><a href="#">Get ready for division</a> (Get Ready for 4<sup>th</sup> Grade)</p>	<p><a href="#">Week 1 Printable Packet</a></p> <hr/> <p>Math Tool Kit</p> <hr/> <p><a href="#">3<sup>rd</sup> Grade Math Tool Kit</a></p>

**Week 2: Place value up to 1,000,000,000**

Videos	Games	Interactive Websites	Printable Packet
<a href="#">Finding value of a digit up to 100,000</a>  <a href="#">Place value up to 1,000,000 (hundred thousands)</a>	<a href="#">Triple Digit Dare</a> (printable game – see <a href="#">Polypad Website Guide</a> for online game pieces)	<a href="#">Multiplication by Heart flashcards</a>  <b>IXL</b> <a href="#">Place value models</a>  <a href="#">Convert between standard and expanded form</a>  <a href="#">Value of a digit</a>  <a href="#">Relationship between place values</a>  <a href="#">Convert between place values</a>  <a href="#">Identify place value names</a>	<a href="#">Polypad Website guide</a>  <a href="#">Week 2 Printable Packet</a>
<a href="#">Place Value to Millions</a>  <a href="#">Place Value: Reading and Writing Large Whole Numbers</a>  <a href="#">Place value to the billions</a>	Envision Game: <a href="#">Globbing Globbs</a> (log into student SPS account)  <a href="#">Base 10 Bingo</a> (ABCYA)	<a href="#">Place value review</a>  <a href="#">Writing numbers up to 1,000 in words: convert words to digits</a> <a href="#">Writing numbers up to 1,000 in words: convert digits to words</a>  <a href="#">Writing numbers up to 100,000 in words: convert words to digits</a> <a href="#">Writing numbers up to 100,000 in words: convert digits to words</a>  <a href="#">Writing numbers up to one million in words: convert words to digits</a> <a href="#">Writing numbers up to one million in words: convert digits to words</a>  <a href="#">Writing numbers up to one billion in words: convert words to digits</a> <a href="#">Writing numbers up to one billion in words: convert digits to words</a>  <a href="#">Spell word names for numbers up to one million</a>  <b>Kahn Academy</b> <a href="#">Intro to Place Value</a> (Get ready for 4 <sup>th</sup> grade) <a href="#">Place Value</a> (Get ready for 5 <sup>th</sup> Grade) <a href="#">Ways to write whole numbers (words and expanded form)</a>  <a href="#">Rounding to nearest 10</a> <a href="#">Rounding to nearest 100</a>	<b>Math Tool Kit</b> <a href="#">3<sup>rd</sup> Grade Math Tool Kit</a>

## Week 3: Multiplication of 1 digit by 2-digit numbers

Videos	Games	Interactive Websites	Printable Packet
<a href="#">Long Multiplication Song</a>  <a href="#">Area Model Multiplication</a>  <a href="#">Multiplying 2-digit by 1 digit number</a>  <a href="#">Turtle Method for Multiplication</a>  <a href="#">Multiplication Column method</a>	<p>Number Run: all operations through 10 (<i>app available through <a href="#">Apple App store</a> &amp; <a href="#">Google Play</a></i>)</p> <p><a href="#">Rush Hour</a>, <a href="#">Chocolate Fix</a>, <a href="#">Dog Crimes</a>, &amp; <a href="#">Cat Crimes</a> a physical game that helps students develop multi-step problem solving skills.</p> <p><a href="#">Smart Games</a> has many physical, classic logic games that also help with multi-step problem solving. <a href="#">Try online here.</a></p> <p><a href="#">Prime Climb</a> is a game for ages 10+ (or 8+ with adult guidance) to explore mathematical structure in multiplication, division, and prime numbers in a fast-paced, dynamic game of strategy and luck.</p>	<p><a href="#">Multiplication by Heart flashcards</a></p> <p><b>IXL</b> <a href="#">Multiply by a multiple of ten</a></p> <p><a href="#">Multiply one-digit numbers by two-digit numbers using area models I</a></p> <p><a href="#">Multiply one-digit numbers by two-digit numbers using area models II</a></p> <p><a href="#">Multiply one-digit numbers by two-digit numbers</a></p> <p><a href="#">Multiply 1-digit numbers by 2-digit numbers using area models I</a></p> <p><a href="#">Multiply 1-digit numbers by 2-digit numbers using area models II</a></p> <p><a href="#">Multiply 1-digit numbers by 2-digit numbers</a></p> <p><b>Kahn Academy</b> with area and place value models (get ready for 5<sup>th</sup> grade) <a href="#">Multiplying 2-digit by 1-digit</a></p>	<p><a href="#">Week 3 Printable Packet</a></p> <hr/> <p>Math Tool Kit</p> <p><a href="#">3<sup>rd</sup> Grade Math Tool Kit</a></p>

## Week 4: Adding multidigit numbers with regrouping

Videos	Games	Interactive Websites	Printable Packet
<a href="#">2 Digit Addition with regrouping</a>  <a href="#">Addition with Regrouping</a>  <a href="#">Adding 3-Digit Numbers with regrouping</a>  <a href="#">Adding multidigit numbers with regrouping</a> (Brain Pop Jr.)  <a href="#">Column Addition explained</a>	<p><a href="#">Summit</a> (printable game – see <a href="#">Polypad Website Guide</a> for online game pieces)</p> <p><b>Number Run:</b> all operations through 10 (<i>app available through <a href="#">Apple App store</a> &amp; <a href="#">Google Play</a></i>)</p> <p><a href="#">Rush Hour</a>, <a href="#">Chocolate Fix</a>, <a href="#">Dog Crimes</a>, &amp; <a href="#">Cat Crimes</a> a physical game that helps students develop multi-step problem solving skills.</p> <p><a href="#">Smart Games</a> has many physical, classic logic games that also help with multi-step problem solving. <a href="#">Try online here.</a></p> <p><a href="#">Prime Climb</a> is a game for ages 10+ (or 8+ with adult guidance) to explore mathematical structure in multiplication, division, and prime numbers in a fast-paced, dynamic game of strategy and luck.</p>	<p><a href="#">Multiplication by Heart flashcards</a></p> <p><b>IXL</b> <a href="#">Add two numbers up to three digits</a></p> <p><a href="#">Add two numbers up to four digits</a></p> <p><a href="#">Add two numbers up to six digits</a></p> <p><a href="#">Add two numbers up to five digits</a></p> <p><a href="#">Add two numbers up to seven digits</a></p> <p><b>Kahn Academy</b> <a href="#">Strategies for Adding Two and Three –Digit Numbers</a></p> <p><a href="#">Adding with Regrouping</a></p>	<p><a href="#">Week 4 Printable Packet</a></p> <hr/> <p>Math Tool Kit</p> <p><a href="#">3<sup>rd</sup> Grade Math Tool Kit</a></p>

## Week 5: Subtracting multidigit numbers with regrouping

Videos	Games	Interactive Websites	Printable Packet
<a href="#">Subtracting with regrouping</a>  <a href="#">Subtracting with ALL regroupings</a>  <a href="#">Subtracting across the zeros</a>	<p><a href="#">Countdown</a> (printable game – see <a href="#">Polypad Website Guide</a> for online game pieces)</p> <p>Number Run: all operations through 10 (<i>app available through <a href="#">Apple App store</a> &amp; <a href="#">Google Play</a></i>)</p> <p><a href="#">Rush Hour</a>, <a href="#">Chocolate Fix</a>, <a href="#">Dog Crimes</a>, &amp; <a href="#">Cat Crimes</a> a physical game that helps students develop multi-step problem solving skills.</p> <p><a href="#">Smart Games</a> has many physical, classic logic games that also help with multi-step problem solving. <a href="#">Try online here.</a></p> <p><a href="#">Prime Climb</a> is a game for ages 10+ (or 8+ with adult guidance) to explore mathematical structure in multiplication, division, and prime numbers in a fast-paced, dynamic game of strategy and luck.</p>	<p><a href="#">Multiplication by Heart flashcards</a></p> <p><b>IXL</b>  <a href="#">Subtract numbers up to three digits</a></p> <p><a href="#">Subtract across zeros</a></p> <p><a href="#">Subtract numbers with four or more digits</a></p> <p><a href="#">Subtract numbers up to five digits</a></p> <p><a href="#">Subtract numbers up to seven digits</a></p> <p><b>Kahn Academy</b>  <a href="#">Strategies for Subtracting Two and Three Digit Numbers</a></p> <p><a href="#">Subtracting with Regrouping</a></p>	<p><a href="#">Week 5 Printable Packet</a></p> <hr/> <p>Math Tool Kit  <a href="#">3<sup>rd</sup> Grade Math Tool Kit</a></p>

**Week 6: Adding and Subtracting decimal numbers (hundredths place)**

Videos	Games	Interactive Websites	Printable Packet
<a href="#">Adding and Subtracting decimals song</a>  <a href="#">Adding and Subtracting Decimals</a>  <a href="#">Addition and Subtraction of decimals (Math Antics)</a>  <a href="#">Subtracting Decimals</a>	<p>Number Run: all operations through 10 (<i>app available through <a href="#">Apple App store</a> &amp; <a href="#">Google Play</a></i>)</p> <p><a href="#">Rush Hour</a>, <a href="#">Chocolate Fix</a>, <a href="#">Dog Crimes</a>, &amp; <a href="#">Cat Crimes</a> a physical game that helps students develop multi-step problem solving skills.</p> <p><a href="#">Smart Games</a> has many physical, classic logic games that also help with multi-step problem solving. <a href="#">Try online here.</a></p>	<p><a href="#">Multiplication by Heart flashcards</a></p> <p><b>IXL</b> <a href="#">Add and subtract money amounts</a></p> <p><a href="#">Add decimals using blocks</a></p> <p><a href="#">Add decimal numbers</a></p> <p><a href="#">Subtract decimal numbers</a></p> <p><a href="#">Add and subtract decimals</a></p> <p><a href="#">Solve decimal problems using diagrams</a></p> <p><b>Kahn Academy</b> <a href="#">Understanding decimals</a></p> <p><a href="#">Decimal Place Value with Regrouping</a></p> <p><a href="#">Adding Decimals (tenths)</a></p> <p><a href="#">Adding Decimals (hundredths)</a></p> <p><a href="#">Subtract Decimals (tenths and hundredths)</a></p>	<p><a href="#">Week 6 Printable Packet</a></p> <hr/> <p><b>Math Tool Kit</b> <a href="#">3<sup>rd</sup> Grade Math Tool Kit</a></p>

## Week 7: Multiplying a 2-digit by 2-digit number

Videos	Games	Interactive Websites	Printable Packet
<a href="#">Multiplying 2-digit by 1 digit number</a>  <a href="#">Multiplying: 2 digits times 1 digit (with carrying)</a>  <a href="#">Turtle Method for Multiplication</a>  <a href="#">Multiplication Column method</a>  <a href="#">Area model Multiplication</a>	<p>Number Run: all operations through 10 (<i>app available through <a href="#">Apple App store</a> &amp; <a href="#">Google Play</a></i>)</p> <p><a href="#">Rush Hour</a>, <a href="#">Chocolate Fix</a>, <a href="#">Dog Crimes</a>, &amp; <a href="#">Cat Crimes</a> a physical game that helps students develop multi-step problem solving skills.</p> <p><a href="#">Smart Games</a> has many physical, classic logic games that also help with multi-step problem solving. <a href="#">Try online here.</a></p>	<p><a href="#">Multiplication by Heart flashcards</a></p> <p><b>IXL</b> <a href="#">Multiply numbers ending in zeroes</a></p> <p><a href="#">Multiply by 10 or 100</a></p> <p><a href="#">Multiply 2-digit numbers by 2-digit numbers using area models I</a></p> <p><a href="#">Multiply 2-digit numbers by 2-digit numbers using area models II</a></p> <p><a href="#">Multiply a 2-digit number by a 2-digit number</a></p> <p><b>Kahn Academy</b> <a href="#">Multiply by 2-Digit Numbers</a></p>	<p><a href="#">Week 7 Printable Packet</a></p>
			<p><b>Math Tool Kit</b></p> <p><a href="#">3<sup>rd</sup> Grade Math Tool Kit</a></p>

## Week 8: Ordering fractions and finding equivalent fractions

Videos	Games	Interactive Websites	Printable Packet
<a href="#">Comparing and ordering fractions</a>  <a href="#">Comparing and ordering fractions with number strips</a>  <a href="#">Equivalent Fractions</a>  <a href="#">Modeling Equivalent Fractions</a>  <a href="#">Equivalent Fractions</a>  <a href="#">Equivalent Fractions Song</a>	<a href="#">Fraction Empire</a> (printable game – see <a href="#">Polypad Website Guide</a> for online game pieces)  Number Run: all operations through 10 ( <i>app available through <a href="#">Apple App store</a> &amp; <a href="#">Google Play</a></i> )  <a href="#">Fraction Fling</a> (ABCYA)  <a href="#">Rush Hour</a> , <a href="#">Chocolate Fix</a> , <a href="#">Dog Crimes</a> , & <a href="#">Cat Crimes</a> a physical game that helps students develop multi-step problem solving skills.  <a href="#">Smart Games</a> has many physical, classic logic games that also help with multi-step problem solving. <a href="#">Try online here.</a>	<a href="#">Multiplication by Heart flashcards</a>  <b>IXL</b> <a href="#">Find equivalent fractions using number lines</a> <a href="#">Find fractions equivalent to whole numbers</a> <a href="#">Benchmark fractions</a>  <a href="#">Graph and order fractions on number lines</a> <a href="#">Order fractions with like denominators</a> <a href="#">Order fractions</a>  <a href="#">Identify equivalent fractions using number lines</a> <a href="#">Identify equivalent fractions</a> <a href="#">Benchmark fractions</a>  <a href="#">Compare fractions in recipes</a> <a href="#">Graph and order fractions on number lines</a> <a href="#">Order fractions with like numerators or denominators</a> <a href="#">Order fractions</a>  <a href="#">Find smaller or larger fractions</a>  <b>Kahn Academy</b> <a href="#">Equivalent Fractions and Comparing Fractions (3<sup>rd</sup> Grade)</a> <a href="#">Equivalent Fractions and Comparing Fractions (4<sup>th</sup> Grade)</a>	<a href="#">Week 8 Printable Packet</a>           Math Tool Kit  <a href="#">3<sup>rd</sup> Grade Math Tool Kit</a>