



Math Summer Learning Packet

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The Math Summer Prep is for incoming Cascadia students or current students who want to bridge or maintain their math skills. At Cascadia, students are working two levels above grade level. For example, a student who has completed first grade and starts as a second-grade student at Cascadia will study fourth grade math. It provides a variety of printable materials, web based materials, and math skill building games.

Summer Math Guide Grade 5

What incoming 5th grade Cascadia math students should know:

- Fraction morphing: common denominators, simplifying, converting between mixed numbers and improper fractions (and vice versa)
- fraction and simple mixed number fluency (adding, subtracting, multiplying/dividing)
- 2-digit by 2-digit adding & subtracting (including decimals in the hundredths)
- 2-digit by 2-digit multiplying (including decimals in the hundredths)
- dividing 3-digit numbers by 2-digit numbers (including decimals in the hundredths)
- graphing points on a coordinate plane
- Converting measurements within a system (IE standard or metric units)
- Classify 2-D figures and find measurements (including surface area of 3-D)
- Measures of central tendency: mean, median, and mode

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*

**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 the 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: Fraction morphing and all operations with fractions

Videos	Games	Interactive Websites	Printable Packet
<p>Prime & composite Prime number song</p> <p>GCF & LCM (factor tree)</p> <p>How to find GCF & LCM (ladder/upside down division method)</p> <p>Common denominator (equivalent fractions)</p> <p>Simplifying fractions (Brain Pop)</p> <p>Simplifying fractions</p> <p>Change an improper fraction to a mixed number</p> <p>How to change a mixed number to an improper fraction</p> <p>Adding and Subtracting fractions</p> <p>Multiplying Fractions</p> <p>Dividing Fractions (Keep, change, flip)</p> <p>Dividing Fractions</p>	<p>Fraction Empire (printable game – see Polypad Website Guide for online game pieces)</p> <p>Number Run: all operations through 10 (app available through Apple App store & Google Play)</p> <p>Multiplication Space Race (ABCYA)</p> <p>Factris: teaches about factors and basic numeracy while rearranging rectangular blocks to fill a grid.</p> <p>Rush Hour, Chocolate Fix, Dog Crimes, & Cat Crimes a physical game that helps students develop multi-step problem solving skills.</p> <p>Smart Games has many physical, classic logic games that also help with multi-step problem solving. Try online here.</p> <p>Prime Climb 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. Great for understanding number properties needed for fraction morphing.</p>	<p>Multiplication by Heart flashcards (might need to be logged into SPS)</p> <p>IXL Prime & composite Gr. 6 Prime or Composite GCF LCM</p> <p>Simplifying Fractions Equivalent fractions Adding Fractions Subtracting Fractions Multiplying Fractions: Fractions of a number Using models Multiplying two fractions Dividing Fractions: Fraction by whole Whole by fraction Fraction by fraction Divide Fractions</p> <p>Kahn Academy: Mixed Numbers and Improper Fractions Common Denominators</p> <p>Factors & Multiples (middle of lesson) (Get Ready for 6th Grade)</p> <p>Get Ready for 5th grade add & subtract fractions Get Ready for 5th grade multiply & divide fractions Operations with Fractions Dividing Fractions by Fractions</p>	<p>Error! Hyperlink reference not valid.</p> <p>There are three packets because the topic is VERY extensive.</p> <p>Week 1 Printable Packet A</p> <p>Week 1 Printable Packet B</p> <p>Week 1 Printable Packet C</p> <p>Math Tool Kit</p> <p>5th Grade Math Tool Kit 1</p> <p>5th Grade Math Tool Kit 2</p>

Week 2: Multi-digit whole numbers and decimal addition & subtraction

Videos	Games	Interactive Websites	Printable Packet
Addition with Regrouping Subtracting with regrouping Subtracting with ALL regroupings	Summit (printable game – see Polypad Website Guide for online game pieces) Countdown (printable game – see Polypad Website Guide for online game pieces)	Multiplication by Heart flashcards iXL Gr. 5 Add decimals Subtract Decimals Add and Subtract Decimals	Error! Hyperlink reference not valid. Week 2 Printable Packet
Adding and Subtracting decimals song	Number Run: all operations through 10 (<i>app available through Apple App store & Google Play</i>)	Gr. 6 Add and subtract whole numbers Add and subtract decimals	Math Tool Kit
Adding and Subtracting Decimals	Rush Hour , Chocolate Fix , Dog Crimes , & Cat Crimes a physical game that helps students develop multi-step problem solving skills.	Kahn Academy: Adding Multi-Digit Numbers Subtracting Multi-Digit Numbers	5th Grade Math Tool Kit 1
Addition and Subtraction of decimals			5th Grade Math Tool Kit 2
Subtracting Decimals	Smart Games has many physical, classic logic games that also help with multi-step problem solving. Try online here.	Adding Decimals Subtracting Decimals	

Week 3: Multi-digit whole number & decimal multiplication

Videos	Games	Interactive Websites	Printable Packet
Turtle Method for Multiplication Long Multiplication Song Multiply a decimal by a decimal Decimal multiplication Multiplying 2-digit by 1 digit number 3-digit by 1 digit multiplication Turtle Method for Multiplication Multiplication Column method Decimal multiplication Multiply a decimal by a decimal	<p>Number Run: all operations through 10 (<i>app available through Apple App store & Google Play</i>)</p> <p>Blockout (can be played with paper or online)</p> <p>Rush Hour, Chocolate Fix, Dog Crimes, & Cat Crimes a physical game that helps students develop multi-step problem solving skills.</p> <p>Smart Games has many physical, classic logic games that also help with multi-step problem solving. Try online here.</p>	<p>Multiplication by Heart flashcards</p> <p>IXL Multiply a 2-digit number by a 2-digit number</p> <p>Multiply a decimal by a power of ten</p> <p>Multiply by 0.1 or 0.01</p> <p>Multiply two decimals: where does the decimal point go?</p> <p>Multiply two decimals: products up to hundredths</p> <p>Multiply two decimals: products up to thousandths</p> <p>Kahn Academy: Multidigit Multiplication</p> <p>Multiplying Decimals</p>	<p>Error! Hyperlink reference not valid.</p> <p>Week 3 Printable Packet</p>
			Math Tool Kit
			5th Grade Math Tool Kit 1 5th Grade Math Tool Kit 2

Week 5: All operations with mixed numbers

Videos	Games	Interactive Websites	Printable Packet
Add and Subtract Mixed numbers Multiplying a whole number by a fraction Multiplying mixed numbers Multitplying mixed numbers Dividing Mixed numbers Add, Subtract, Multiply, and Divide Mixed Numbers (lengthy)	<p>Number Run: all operations through 10 (<i>app available through Apple App store & Google Play</i>)</p> <p>Rush Hour, Chocolate Fix, Dog Crimes, & Cat Crimes a physical game that helps students develop multi-step problem solving skills.</p> <p>Smart Games has many physical, classic logic games that also help with multi-step problem solving. Try online here.</p>	<p>Multiplication by Heart flashcards (use SPS login)</p> <p>IXL Gr. 5 Improper Fractions</p> <p>Add mixed numbers with unlike denominators</p> <p>Subtract mixed numbers with unlike denominators</p> <p>Add and subtract mixed numbers</p> <p>Multiply with mixed numbers using area models</p> <p>Multiply a mixed number by a whole number</p> <p>Multiply a mixed number by a fraction</p> <p>Multiply two mixed numbers</p> <p>Multiply mixed numbers and whole numbers</p> <p>Multiply mixed numbers</p> <p>Divide fractions and mixed numbers</p> <p>Divide fractions and mixed numbers using models</p> <p>Divide fractions and mixed numbers (Gr. 6)</p> <p>Kahn Academy Add and Subtract mixed Numbers</p> <p>Multiplying Mixed Numbers</p> <p>Dividing Mixed Numbers</p>	<p>Error! Hyperlink reference not valid.</p> <p>Week 5 Printable Packet</p>
			<p>Math Tool Kit</p>
			<p>5th Grade Math Tool Kit 1</p> <p>5th Grade Math Tool Kit 2</p>

Week 6: Graphing on a coordinate plane & converting measurements within a system (metric or US Customary)

Videos	Games	Interactive Websites	Printable Packets
Introduce Coordinate Plane Graphing on a coordinate plane Coordinate Graphing Ounces, Pounds, & Tons Metric System Conversion Song Brain Pop Metric System Capacity US Standard	<p>Rat Race (printable game – see Polypad Website Guide for online game pieces)</p> <p>Rush Hour, Chocolate Fix, Dog Crimes, & Cat Crimes a physical game that helps students develop multi-step problem solving skills.</p> <p>Smart Games has many physical, classic logic games that also help with multi-step problem solving. Try online here.</p>	<p>Multiplication by Heart flashcards</p> <p>IXL Describe the coordinate plane Objects on a coordinate plane Graph points on a coordinate plane Quadrants</p> <p>Estimate customary measurements Estimate metric measurements Convert and compare customary units Convert, compare, add, and subtract mixed customary units Multiply and divide mixed customary units Customary unit conversions involving fractions and mixed numbers Convert and compare metric units</p> <p>Kahn Academy Coordinate Plane Intro</p> <p>Coordinate Plane (Gr. 6)</p> <p>Converting Units of Measure</p>	<p>Error! Hyperlink reference not valid.</p> <p>Week 6 Printable Packet</p> <hr/> <p>Math Tool Kit</p> <p>5th Grade Math Tool Kit 1</p> <p>5th Grade Math Tool Kit 2</p>

Week 7: 2-D figures and how to measure them & surface area

Videos	Games	Interactive Websites	Printable Packet
Area and Perimeter Song Brain Pop Area Area of a Triangle Formula for Area of a Triangle – why? Surface area rectangular prism Surface area of triangular prism	<p>Number Run: all operations through 10 (<i>app available through Apple App store & Google Play</i>)</p> <p>Rush Hour, Chocolate Fix, Dog Crimes, & Cat Crimes</p> <p>a physical game that helps students develop multi-step problem solving skills.</p> <p>Smart Games has many physical, classic logic games that also help with multi-step problem solving. Try online here.</p>	<p>Multiplication by Heart flashcards</p> <p>IXL Perimeter</p> <p>Area of rectangles and squares</p> <p>Understanding area of a parallelogram Area of parallelograms</p> <p>Understanding area of a triangle Area of triangles</p> <p>Area of compound figures Area of compound figures with triangles</p> <p>Volume of cubes and rectangular prisms Volume of cubes and rectangular prisms with fractional side lengths Volume of triangular prisms</p> <p>Surface area of cubes and rectangular prisms Surface area of triangular prisms Surface area of pyramids</p> <p>Relate volume and surface area</p> <p>Kahn Academy Area and Perimeter Area of Triangles and Parallelograms Area of Composite Figures Volume with Fractions Volume of Rectangular Prisms Surface Area</p>	<p>Error! Hyperlink reference not valid.</p> <p>Week 7 Printable Packet</p>
			<p>Math Tool Kit</p> <p>5th Grade Math Tool Kit 1</p> <p>5th Grade Math Tool Kit 2</p>

Week 8: Measures of Central Tendency – mean, median, & mode

Videos	Games	Interactive Websites	Printable Packet
Mean, Median, & Mode (longer) The Mean, Median, & Mode Finding Mean, Median, & Mode Mean, median, mode, & range AWESOME SONG to the tune of Hey Diddle Diddle	<p>Number Run: all operations through 10 (<i>app available through Apple App store & Google Play</i>)</p> <p>Rush Hour, Chocolate Fix, Dog Crimes, & Cat Crimes a physical game that helps students develop multi-step problem solving skills.</p> <p>Smart Games has many physical, classic logic games that also help with multi-step problem solving. Try online here.</p>	<p>Multiplication by Heart flashcards</p> <p>IXL Identify statistical questions</p> <p>Find the mode Find the mean Find the median</p> <p>Calculate mean, median, mode, and range</p> <p>Kahn Academy Statistical Questions</p> <p>Mean and Median</p>	<p>Error! Hyperlink reference not valid.</p> <p>Week 8 Printable Packet</p> <hr/> <p>Math Tool Kit</p> <hr/> <p>5th Grade Math Tool Kit 1</p> <p>5th Grade Math Tool Kit 2</p>