

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 4

What incoming 4th grade Cascadia math students should know:

- Multiplication & Division Facts 1-12
- Multiplying and dividing by 10, 100, 1000 etc.
- 1 x 2 and 2 x 2-digit multiplication, including decimals
- Dividing multidigit numbers, including decimals
- +/- with numbers to 1000s place and decimals
- equivalent fractions and ordering fractions as well as converting improper to mixed numbers
- Add/Subtract Fractions (like/unlike denominators)
- Multiply/Divide Fractions
- Understand area and volume

<u>Suggested Schedule:</u> 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!

Potential 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

Potential 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*

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.

^{*}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.

Week 1: Multiplication & Division fact review + Multiplying and Dividing by 10, 100, & 1000

Videos	Games	Interactive Websites	Printable Packet
Multiplication facts review	Blockout (can be played with	Multiplication by Heart flashcards	
Division Song	paper or online)	IXL Multiplication facts to 10	Week 1 Printable
Multiplying	Number Run:	Multiplication facts to 12	Packet
by 10, 100, & 1000	all operations through 10	Multiply by 10 or 100	
Multiplying	(app available through Apple	Multiplication patterns over increasing place values	
by multiples of 10	App store & Google Play)	Multiply numbers ending in zeroes	
Dividing by 10, 100, &	Multiplication Space Race	Multiply numbers ending in zeroes	
1000	(ABCYA)	<u>Division patterns over increasing</u> <u>place values</u>	Math Tool Kit
	Prime Climb is a game for ages 10+ (or 8+ with	Divide numbers ending in zeroes Divide by powers of ten	4 th Grade Math Tool Kit
	adult guidance) to explore mathematical	Decimal division patterns over increasing place values	
	structure in multiplication, division, and prime numbers in	Kahn Academy Get ready for multiplication (Get Ready for 4 th Grade)	
	a fast-paced, dynamic game of	Basic Multiplication	
	strategy and luck.	Multiplication for 10, 11, \$, 12	
		Multiplication for 10, 11, & 12 Get ready for division (Get Ready for 4 th Grade) Powers of 10	

Week 2: Multi-digit multiplication with whole numbers and decimals

Videos	Games	Interactive Websites	Printable Packet
Multiplying 2- digit by 1 digit number 3-digit by 1 digit multiplication Turtle Method for Multiplication Column method Decimal multiplication Multiply a decimal by a decimal	Number Run: all operations through 10 (app available through Apple App store & Google Play) Rush Hour, Chocolate Fix, Dog Crimes, & Cat Crimes a physical game that helps students develop multistep problem solving skills. Smart Games has many physical, classic logic games that also help with multi-step problem solving. Try online here. 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.	Multiplication by Heart flashcards IXL Multiply a 2-digit number by a 2-digit number Multiply a decimal by a power of ten Multiply two decimals: where does the decimal point go? Multiply two decimals: products up to hundredths Multiply two decimals: products up to thousandths Kahn Academy Multiplying Decimals	Week 2 Printable Packet Math Tool Kit 4th Grade Math Tool Kit

<u>Week 3</u>: Dividing multidigit whole numbers and decimals

Videos	Games	Interactive Websites	Printable Packet
Long Division (DMSB) Long Division with 2- Digit Divisors Long Division with 2- digit divisors (Math	Blackout (printable game - see Polypad Website Guide for online game pieces)	Multiplication by Heart flashcards IXL Divide larger numbers by 1-digit numbers	Week 3 Printable Packet
digit divisors (Math Antics – bit longer) Dividing decimals by whole numbers	Number Run: all operations through 10 (app available through Apple App store & Google Play)	Divide 2-digit and 3-digit numbers by 2-digit numbers Divide 4-digit numbers by 2-digit numbers	
Dividing decimal by a decimal	Rush Hour, Chocolate Fix, Dog Crimes, & Cat Crimes a physical game that helps students develop multi- step problem solving skills.	Division with decimal quotients Divide by 0.1 or 0.01 Divide by decimals without adding zeroes	Math Tool Kit 4 th Grade Math Tool Kit
	Smart Games has many physical, classic logic games that also help with multi-step problem solving. Try online here.	Divide by decimals Kahn Academy Multidigit Division Dividing Decimals	

Week 4: Adding and Subtracting numbers to 1000s place and decimals to the 100ths

Videos	Games	Interactive Website	Printable Packet
Addition with	Summit (printable	Multiplication by Heart	
Regrouping	game – see <u>Polypad</u>	<u>flashcards</u>	
	Website Guide for		
Subtracting with	online game pieces)	<u>IXL</u>	Week 4 Printable
regrouping		Add two numbers up to five	<u>Packet</u>
Culphan at in a suith	Countdown (printable	<u>digits</u>	
Subtracting with ALL regroupings	game – see <u>Polypad</u>		
ALL regroupings	Website Guide for	Add two numbers up to	
Subtracting across	online game pieces)	seven digits	
the zeros	Decimal Rally	Subtract numbers up to	
	(printable game – see	five digits	
Adding and	Polypad Website		
Subtracting	Guide for online game	Subtract numbers up to	M - + - T
decimals song	pieces)	seven digits	Math Tool Kit
A 1 P		Add decimal numbers	4 th Grade Math
Adding and	Number Run: all		Tool Kit
Subtracting Decimals	operations through	Subtract decimal numbers	
<u>Decimats</u>	10 (app available	Add and subtract decimals	
Addition and	through <u>Apple App</u> store & Google Play)		
Subtraction of	Rush Hour, Chocolate	Kahn Academy	
<u>decimals</u>	Fix, Dog Crimes, &	Adding Multi-Digit Numbers	
	Cat Crimes a		
Subtracting	physical game that	Subtracting Multi-Digit	
<u>Decimals</u>	helps students	Numbers	
	develop multi-step	A.I.I. D	
	problem solving	Adding Decimals	
	skills.	Subtracting Decimals	
	Smart Games has	Subtracting Decimats	
	many physical, classic		
	logic games that also		
	help with multi-step		
	problem solving.		
	Try online here.		

<u>Week 5</u>: **Fraction morphing** -- equivalent fractions, ordering fractions, & converting improper to mixed numbers (and back again)

Videos	Games	Interactive Website	Printable
			Packet
Modeling	Fraction Empire	Multiplication by Heart	
Equivalent	(printable game – see	<u>flashcards</u>	
<u>Fractions</u>	Polypad Website Guide		
	for online game pieces)	IXL	Week 5
<u>Equivalent</u>		<u>Identify equivalent fractions</u>	<u>Printable</u>
<u>Fractions</u>	Number Run: all		<u>Packet</u>
	operations through 10	Equivalent fractions: find the missing numerator or	
<u>Equivalent</u>	(app available through	denominator	
Fractions Song	Apple App store &		
	Google Play)	Write fractions in lowest	
Comparing and	Rush Hour, Chocolate	<u>terms</u>	
ordering	Fix, Dog Crimes, & Cat	Graph and order fractions on	
fractions	<u>Crimes</u> a physical game	number lines	
II dCtions	that helps students	Order fractions with like	Math Tool
0	develop multi-step	Order fractions with like numerators or denominators	Kit
Comparing and	problem solving skills.	Trainieracoro or aemonimiacoro	
<u>ordering</u>	·	Order fractions	4 th Grade Math
fractions with	Smart Games has many	Convert between improper	Tool Kit
<u>number strips</u>	physical, classic logic	fractions and mixed numbers	
	games that also help		
<u>Improper</u>	with multi-step problem	Kahn Academy	
Fractions on a	solving.	-	
<u>Numberline</u>	Try online here.	Equivalent Fractions and	
	Try official fiere.	Comparing Fractions (4th	
<u>Change an</u>	Drive a Climak in a man-	Grade)	
improper fraction	Prime Climb is a game	Fractions on a numberline	
to a mixed	for ages 10+ (or 8+ with	Mixed Numbers and	
<u>number</u>	adult guidance) to		
	explore mathematical	Improper Fractions	
How to change a	structure in	<u>Common Denominators</u>	
mixed number to	multiplication, division,		
an improper	and prime numbers in a		
<u>fraction</u>	game of strategy and		
	luck. Great for		
	understanding number		
	properties needed for		
	fraction morphing.		

Week 6: Add and Subtract Fractions with like and unlike denominators

Videos	Games	Interactive Website	Printable Packet
Adding and Subtracting	Number Run: all operations	Multiplication by Heart flashcards IXL	
<u>fractions</u>	through 10 (app available through	Add and subtract fractions with	Week 6 Printable
Adding Fractions	Apple App store & Google Play) Rush Hour,	like denominators Add and subtract mixed	<u>Packet</u>
	Chocolate Fix, Dog Crimes, &	numbers with like denominators	
Subtracting Fractions	Cat Crimes a physical game	Add fractions with unlike denominators using models	
Adding and	that helps students develop	Add fractions with unlike denominators	
Subtracting Fractions song	multi-step problem solving skills.	Subtract fractions with unlike denominators using models	Math Tool Kit 4th Grade Math
Simplifying fractions	Smart Games has	Subtract fractions with unlike denominators	Tool Kit
	many physical, classic logic games that also help with multi-	Kahn Academy Add and Subtract Fractions (4 th Grade)	
	step problem solving. Try online here.	Add and Subtract Fractions (5 th Grade)	

$\underline{\text{Week 7}} : \textbf{Multiply and Divide Fractions}$

Videos	Games	Interactive Website	Printable Packet
Multiplying Fractions Multiplying Fractions	Number Run: all operations through 10 (app available through Apple App store & Google Play) Rush Hour,	Multiplication by Heart flashcards IXL Multiply unit fractions by whole numbers using number lines Multiply unit fractions by whole	Week 7 Printable Packet
Dividing Fractions Song Dividing Fractions	Chocolate Fix, Dog Crimes, & Cat Crimes a physical game that helps students develop multi-step problem solving skills.	numbers Multiply fractions by whole numbers Divide fractions by whole numbers Divide whole numbers by fractions Divide two fractions	Math Tool Kit 4 th Grade
Simplifying Fractions	Smart Games has many physical, classic logic games that also help with multistep problem solving. Try online here.	Divide fractions and mixed numbers Kahn Academy Multiply Fractions (4th Grade) Multiply Fractions (5th Grade) Divide Fractions (5th Grade)	Math Tool Kit

Week 8: Area and Volume Basics

Videos	Games	Interactive Website	Printable
1.000			Packet
Area and	Number Run:	Multiplication by Heart	
Perimeter	all operations	flashcards	
Song	through 10	13371341 3.5	
<u> </u>	(app available	IXL	Week 8 Printable
Brain Pop Area	through <u>Apple</u>	Find the area or missing side	Packet
Volume song	App store &	length of a rectangle	
	Google Play)	Area of complex figures (with all	
Finding volume	Rush Hour,	right angles)	
with unit cubes	Chocolate Fix,	Area of squares and rectangles	
	Dog Crimes, &		
Volume of	Cat Crimes a	Area of squares and rectangles with fractions	
Composite	physical game		
<u>rectangular</u>	that helps	Area of triangles	
<u>Prisms</u>	students	Area of parallelograms and	
	develop multi-	<u>trapezoids</u>	
	step problem	Area of compound figures	Math Tool Kit
	solving skills.	<u>Volume</u>	4 th Grade Math
		Volume of rectangular prisms	Tool Kit
	Smart Games	made of unit cubes	
	has many	Volume of irregular figures made	
	physical,	of unit cubes	
	classic logic	Volume of cubes and rectangular	
	games that	prisms	
	also help with	Volume of compound figures	
	multi-step	volume of compound figures	
	problem	Kahn Academy	
	solving.	Area and Perimeter	
	Try online	Volume	
	<u>here</u> .		