

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

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!

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*

**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 fact review + Multiplying and Dividing by 10, 100, & 1000

| Videos | Games | Interactive Websites | Printable Packet |
|--|--|---|---|
| <p>Multiplication facts review</p> <p>Division Song</p> <p>Multiplying by 10, 100, & 1000</p> <p>Multiplying by multiples of 10</p> <p>Dividing by 10, 100, & 1000</p> | <p>Blockout (can be played with paper or online)</p> <p>Number Run: all operations through 10 (<i>app available through Apple App store & Google Play</i>)</p> <p>Multiplication Space Race (ABCYA)</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.</p> | <p>Multiplication by Heart flashcards</p> <p>IXL</p> <p>Multiplication facts to 10</p> <p>Multiplication facts to 12</p> <p>Multiply by 10 or 100</p> <p>Multiplication patterns over increasing place values</p> <p>Multiply numbers ending in zeroes</p> <p>Multiply numbers ending in zeroes</p> <p>Division patterns over increasing place values</p> <p>Divide numbers ending in zeroes</p> <p>Divide by powers of ten</p> <p>Decimal division patterns over increasing place values</p> <p>Kahn Academy</p> <p>Get ready for multiplication (Get Ready for 4th Grade)</p> <p>Basic Multiplication</p> <p>Multiplication Tables for 2 - 9</p> <p>Multiplication for 10, 11, & 12</p> <p>Get ready for division (Get Ready for 4th Grade)</p> <p>Powers of 10</p> | <p>Week 1 Printable Packet</p> <hr/> <p>Math Tool Kit</p> <p>4th Grade Math Tool Kit</p> |

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 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>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.</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>Week 2 Printable Packet</p> <hr/> <p>Math Tool Kit</p> <hr/> <p>4th Grade Math Tool Kit</p> |

Week 3: 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 Antics – bit longer) Dividing decimals by whole numbers Dividing decimal by a decimal | <p>Blackout (printable game – see Polypad Website Guide for online game pieces)</p> <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 Divide larger numbers by 1-digit numbers</p> <p>Divide 2-digit and 3-digit numbers by 2-digit numbers</p> <p>Divide 4-digit numbers by 2-digit numbers</p> <p>Division with decimal quotients</p> <p>Divide by 0.1 or 0.01</p> <p>Divide by decimals without adding zeroes</p> <p>Divide by decimals</p> <p>Kahn Academy Multidigit Division</p> <p>Dividing Decimals</p> | <p>Week 3 Printable Packet</p> |
| | | | <p>Math Tool Kit</p> |
| | | | <p>4th Grade Math Tool Kit</p> |

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

| Videos | Games | Interactive Website | Printable Packet |
|--|--|---|---|
| Addition with Regrouping Subtracting with regrouping Subtracting with ALL regroupings Subtracting across the zeros Adding and Subtracting decimals song Adding and Subtracting Decimals Addition and Subtraction of decimals Subtracting Decimals | <p>Summit (printable game – see Polypad Website Guide for online game pieces)</p> <p>Countdown (printable game – see Polypad Website Guide for online game pieces)</p> <p>Decimal Rally (printable game – see Polypad Website Guide for online game pieces)</p> <p>Number Run: all operations through 10 (<i>app available through Apple App store & Google Play</i>) 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 Add two numbers up to five digits Add two numbers up to seven digits Subtract numbers up to five digits Subtract numbers up to seven digits Add decimal numbers Subtract decimal numbers Add and subtract decimals</p> <p>Kahn Academy Adding Multi-Digit Numbers Subtracting Multi-Digit Numbers Adding Decimals Subtracting Decimals</p> | <p>Week 4 Printable Packet</p> <hr/> <p>Math Tool Kit</p> <hr/> <p>4th Grade Math Tool Kit</p> |

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

| Videos | Games | Interactive Website | Printable Packet |
|--|--|--|---|
| Modeling Equivalent Fractions Equivalent Fractions Equivalent Fractions Song Comparing and ordering fractions Comparing and ordering fractions with number strips Improper Fractions on a Numberline Change an improper fraction to a mixed number How to change a mixed number to an improper fraction | Fraction Empire (printable game – see Polypad Website Guide for online game pieces) 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 multi-step 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 game of strategy and luck. Great for understanding number properties needed for fraction morphing. | Multiplication by Heart flashcards IXL Identify equivalent fractions Equivalent fractions: find the missing numerator or denominator Write fractions in lowest terms Graph and order fractions on number lines Order fractions with like numerators or denominators Order fractions Convert between improper fractions and mixed numbers Kahn Academy Equivalent Fractions and Comparing Fractions (4 th Grade) Fractions on a numberline Mixed Numbers and Improper Fractions Common Denominators | Week 5 Printable Packet Math Tool Kit 4th Grade Math Tool Kit |

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

| Videos | Games | Interactive Website | Printable Packet |
|---|---|--|---|
| Adding and Subtracting fractions Adding Fractions Subtracting Fractions Adding and Subtracting Fractions song Simplifying fractions | <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 Add and subtract fractions with like denominators</p> <p>Add and subtract mixed numbers with like denominators</p> <p>Add fractions with unlike denominators using models</p> <p>Add fractions with unlike denominators</p> <p>Subtract fractions with unlike denominators using models</p> <p>Subtract fractions with unlike denominators</p> <p>Kahn Academy Add and Subtract Fractions (4th Grade) Add and Subtract Fractions (5th Grade)</p> | <p>Week 6 Printable Packet</p> <hr/> <p>Math Tool Kit 4th Grade Math Tool Kit</p> |

Week 7: Multiply and Divide Fractions

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

Week 8: Area and Volume Basics

| Videos | Games | Interactive Website | Printable Packet |
|---|--|--|---|
| Area and Perimeter Song Brain Pop Area Volume song Finding volume with unit cubes Volume of Composite rectangular Prisms | <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 Find the area or missing side length of a rectangle</p> <p>Area of complex figures (with all right angles)</p> <p>Area of squares and rectangles</p> <p>Area of squares and rectangles with fractions</p> <p>Area of triangles</p> <p>Area of parallelograms and trapezoids</p> <p>Area of compound figures</p> <p>Volume</p> <p>Volume of rectangular prisms made of unit cubes</p> <p>Volume of irregular figures made of unit cubes</p> <p>Volume of cubes and rectangular prisms</p> <p>Volume of compound figures</p> <p>Kahn Academy Area and Perimeter Volume</p> | <p>Week 8 Printable Packet</p> |
| | | | <p>Math Tool Kit</p> |
| | | | <p>4th Grade Math Tool Kit</p> |