



IXL Skill Alignment

5th grade alignment for Math Expressions 2013 Common Core



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Unit 1

Addition and Subtraction with Fractions

Big Idea 1: Equivalent Fractions

Textbook section	IXL skills
1-1: Introduce the MathBoard	1. Fractions review PCF <i>Also consider</i> <ul style="list-style-type: none"> Decompose fractions multiple ways: sums up to 1 8TK
1-2: Explain Equivalent Fractions	1. Identify equivalent fractions using number lines U7Y 2. Equivalent fractions: word problems 84W
1-3: Equivalent Fractions and Multipliers	1. Patterns of equivalent fractions 35Z <i>Also consider</i> <ul style="list-style-type: none"> Find equivalent fractions using area models AJH Identify equivalent fractions ZGB Equivalent fractions MKA Write fractions in lowest terms A76
1-4: Strategies for Comparing Fractions	1. Compare fractions with like numerators or denominators QYN 2. Inequalities with fractions VCS 3. Compare fractions: word problems ZY6 <i>Also consider</i> <ul style="list-style-type: none"> Least common denominator R7P Graph and compare fractions on number lines RGV Compare fractions using benchmarks MJZ
1-5: Fractions Greater Than One	1. Convert between improper fractions and mixed numbers B7X

Big Idea 2: Addition and Subtraction of Fractions

Textbook section	IXL skills
1-6: Add and Subtract Like Mixed Numbers	<ol style="list-style-type: none"> 1. Add and subtract mixed numbers with like denominators XHJ 2. Add and subtract mixed numbers with like denominators: word problems 45R <p><i>Also consider</i></p> <ul style="list-style-type: none"> • Add and subtract fractions with like denominators FXW • Add and subtract fractions with like denominators: word problems 7YQ
1-7: Add Unlike Fractions	<ol style="list-style-type: none"> 1. Add fractions with unlike denominators using models 2BS 2. Add fractions with unlike denominators D9N <p><i>Also consider</i></p> <ul style="list-style-type: none"> • Represent addition of fractions with unlike denominators using objects HDL • Add fractions with unlike denominators using objects KNQ
1-8: Subtract Unlike Fractions	<ol style="list-style-type: none"> 1. Subtract fractions with unlike denominators VSP 2. Add and subtract fractions with unlike denominators: word problems TCD <p><i>Also consider</i></p> <ul style="list-style-type: none"> • Subtract fractions with unlike denominators using models QA6 • Represent subtraction of fractions with unlike denominators using objects SGX • Subtract fractions with unlike denominators using objects YT7 • Complete addition and subtraction sentences with fractions FCA
1-9: Solve with Unlike Mixed Numbers	<ol style="list-style-type: none"> 1. Add and subtract mixed numbers with unlike denominators RZC 2. Add and subtract mixed numbers with unlike denominators: word problems 48E

1-10: Practice with Unlike Mixed Numbers

1. Add and subtract fractions and mixed numbers MYJ

Also consider

- Add or subtract three fractions with unlike denominators 9Z4
- Complete addition and subtraction sentences with mixed numbers PSP

1-11: Reasonable Answers

1. Estimate sums and differences of fractions using benchmarks 9JR
2. Estimate sums and differences of mixed numbers 7A6

1-12: Real World Problems

1. Add and subtract fractions and mixed numbers: word problems UVY

Also consider

- Add 3 or more fractions with unlike denominators PBF

1-13: Focus on Mathematical Practices

1. Add and subtract fractions in recipes W9K

Unit 2

Addition and Subtraction with Decimals

Big Idea 1: Read and Write Whole Numbers and Decimals

Textbook section	IXL skills
2-1: Decimals as Equal Divisions	1. Convert fractions and mixed numbers to decimals: denominators of 10, 100, or 1,000 N5J <i>Also consider</i> <ul style="list-style-type: none"> What decimal number is illustrated? SJ7
2-2: Thousands to Thousandths	1. Understanding decimals expressed in words F9G 2. Expanded form for decimals 9FV 3. Convert decimals between standard and expanded form using fractions BLQ <i>Also consider</i> <ul style="list-style-type: none"> Place values in decimal numbers X8U Relationship between decimal place values DVM
2-3: Equate and Compare Thousandths	1. Equivalent decimals C2X 2. Compare decimals HZU <i>Also consider</i> <ul style="list-style-type: none"> Graph decimals on number lines VQR Compare decimals on number lines CUF Put decimal numbers in order YUX

Big Idea 2: Addition and Subtraction

Textbook section	IXL skills
2-4: Adding and Subtracting Decimals	1. Explore metric measures of length XLL 2. Add and subtract decimals: word problems VMT
2-5: Add Whole Numbers and Decimals	1. Add decimal numbers BDX 2. Add money amounts EJU

2-6: Subtract Whole Numbers and Decimals

1. Subtract decimal numbers SC8
2. Subtract money amounts Q64
3. Add and subtract money: word problems DLC

Also consider

- Add and subtract decimal numbers 7VJ
- Choose decimals with a particular sum or difference ARW
- Complete the decimal addition or subtraction sentence ZKV
- Inequalities with decimal addition and subtraction QEM

2-7: Properties and Strategies

1. Properties of addition E2F
2. Add using properties RZR
3. Distributive property: find the missing number EQE

Also consider

- Add 3 fractions or mixed numbers using properties of addition NQY

Big Idea 3: Round and Estimate with Decimals**Textbook section****IXL skills****2-8: Round and Estimate with Decimals**

1. Round decimals MPB
2. Estimate sums and differences of decimals using rounding Y8R

Also consider

- Estimate sums and differences of decimals using benchmarks CHE

2-9: Graph with Decimal Numbers

1. Compare, order, and round decimals: word problems 2MV
2. Interpret bar graphs: one-step problems FX5

Also consider

- Complete bar graphs H9X

2-10: Focus on Mathematical Practices

1. Add and subtract money amounts: two-step word problems 8SJ

Unit 3

Multiplication and Division with Fractions

Big Idea 1: Multiplication with Fractions

Textbook section	IXL skills
3-1: Basic Multiplication Concepts	1. Multiply unit fractions by whole numbers 8AQ <i>Also consider</i> <ul style="list-style-type: none"> Multiply unit fractions by whole numbers using number lines X8E Multiples of unit fractions: find the missing numbers MR5 Multiply unit fractions and whole numbers: sorting FTW
3-2: Multiplication with Non-Unit Fractions	1. Multiply fractions by whole numbers I QFQ 2. Fractions of a number I AHX 3. Fractions of a number: word problems LPC <i>Also consider</i> <ul style="list-style-type: none"> Multiply fractions by whole numbers using arrays RB9
3-3: Multiplication with Fractional Solutions	1. Multiply fractions by whole numbers using models: complete the equation VXF 2. Multiply fractions by whole numbers using number lines DRU 3. Multiply fractions by whole numbers II 69L <i>Also consider</i> <ul style="list-style-type: none"> Multiply fractions by whole numbers: word problems U2V Multiples of fractions: find the missing numbers 5DT Multiply fractions and whole numbers: sorting K69
3-4: Multiply a Fraction by a Fraction	1. Multiply two fractions using models RLD 2. Multiply two fractions 8KV 3. Multiply two fractions: word problems 38Y

Also consider

- Multiply two fractions using models: fill in the missing factor LD7

3-5: Multiplication Strategies

1. Multiply fractions with common factors WQA

Also consider

- Multiply three or more fractions and whole numbers ZDL
- Complete the fraction multiplication sentence S6G
- Complete the fraction multiplication sentence: with common factors BUZ

3-6: Multiply Mixed Numbers

1. Multiply mixed numbers XSE
2. Multiplication with mixed numbers: word problems 5W6

Also consider

- Multiply fractions and mixed numbers in recipes QHN
- Multiply three or more mixed numbers, fractions, and/or whole numbers BMU

Big Idea 2: Multiplication Links

Textbook section	IXL skills
3-7: Relate Fraction Operations	<ol style="list-style-type: none"> 1. Add, subtract, and multiply fractions and mixed numbers H5N <p><i>Also consider</i></p> <ul style="list-style-type: none"> • Properties of multiplication LUE • Multiply using properties 6PN
3-8: Solve Real World Problems	<ol style="list-style-type: none"> 1. Add, subtract, and multiply fractions and mixed numbers: word problems PGN
3-9: Make Generalizations	<ol style="list-style-type: none"> 1. Scaling by fractions and mixed numbers AB5 <p><i>Also consider</i></p> <ul style="list-style-type: none"> • Scaling whole numbers by fractions: justify your answer Q7M

Big Idea 3: Division with Fractions

Textbook section	IXL skills
3-10: When Dividing is Also Multiplying	<ol style="list-style-type: none">1. Relate division and fractions D862. Divide unit fractions and whole numbers using area models A7W3. Divide unit fractions and whole numbers NTW <p><i>Also consider</i></p> <ul style="list-style-type: none">• Divide unit fractions by whole numbers using models XML• Divide whole numbers by unit fractions using models VDU
3-11: Solve Division Problems	<ol style="list-style-type: none">1. Understand fractions as division: word problems CTD2. Divide unit fractions and whole numbers: word problems G2N
3-12: Distinguish Multiplication from Division	<ol style="list-style-type: none">1. Multiply and divide unit fractions and whole numbers: word problems DQN
3-13: Review Operations with Fractions	<ol style="list-style-type: none">1. Add, subtract, multiply, and divide fractions and mixed numbers VFX2. Add, subtract, multiply, and divide fractions and mixed numbers: word problems APD
3-14: Focus on Mathematical Practices	<ol style="list-style-type: none">1. Circle graphs QHC

Unit 4

Multiplication with Whole Numbers and Decimals

Big Idea 1: Multiplication with Whole Numbers

Textbook section	IXL skills
4-1: Shift Patterns in Multiplication	<ol style="list-style-type: none"> 1. Multiply by multiples of 10, 100, or 1000 K56 2. Powers of ten 6JE 3. Multiply a whole number by a power of ten: with exponents 92K
4-2: Patterns with Fives and Zeros	<ol style="list-style-type: none"> 1. Multiply numbers ending in zeroes M5R 2. Multiply numbers ending in zeroes: word problems 7E2 <p><i>Also consider</i></p> <ul style="list-style-type: none"> • Multiplication patterns over increasing place values BCK
4-3: Sharing Methods for Multiplication	<ol style="list-style-type: none"> 1. Multiply 2-digit numbers by 2-digit numbers using area models AMJ 2. Multiply 2-digit numbers using partial products CZ5
4-4: Multiply Two-Digit Numbers	<ol style="list-style-type: none"> 1. Multiply 2-digit numbers by 2-digit numbers LLJ 2. Multiply 2-digit by 2-digit numbers: word problems JCC <p><i>Also consider</i></p> <ul style="list-style-type: none"> • Multiply by 2-digit numbers: complete the missing steps 9LX
4-5: Practice Multiplication	<ol style="list-style-type: none"> 1. Multiply by 1-digit and 2-digit numbers G8P

Big Idea 2: Multiplication with Decimal Numbers

Textbook section	IXL skills
4-6: Multiply Decimals by Whole Numbers	<ol style="list-style-type: none"> 1. Multiply whole numbers by decimals 6JH 2. Multiply decimals and whole numbers: word problems 83A <p><i>Also consider</i></p> <ul style="list-style-type: none"> • Multiply a decimal by a one-digit whole number using blocks U5Q • Multiply a decimal by a one-digit whole number using the distributive property 9BA • Multiply a decimal by a two-digit whole number using area models VNT
4-7: Multiply by Decimals	<ol style="list-style-type: none"> 1. Multiply by a power of ten with decimals: find the missing number GC5 2. Multiply two decimals: where does the decimal point go? 6FA
4-8: Multiply with Decimals Greater than 1	<ol style="list-style-type: none"> 1. Multiply two decimals: products up to thousandths TDG 2. Solve using properties of multiplication: with decimals RG9 <p><i>Also consider</i></p> <ul style="list-style-type: none"> • Complete the decimal multiplication sentence using grids R9T • Multiply decimals using grids 66Z • Inequalities with decimal multiplication: products up to thousandths B88
4-9: Compare Shift Patterns	<ol style="list-style-type: none"> 1. Multiply a decimal by a power of ten 5DK 2. Multiply a decimal by a power of ten: with exponents 28A <ul style="list-style-type: none"> • <i>Coming soon:</i> Multiply by 0.1, 0.01, and 0.001 <p><i>Also consider</i></p> <ul style="list-style-type: none"> • Relationship between decimal place values DVM



4-10: Estimate Products

1. Estimate products: multiply by 2-digit numbers 3J5
2. Estimate products of decimals SL7

4-11: Multiplication Practice

1. Multiply with decimals 7KY

4-12: Focus on Mathematical Practices

1. Price lists WUU
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Unit 5

Division with Whole Numbers and Decimals

Big Idea 1: Division with Whole Numbers

Textbook section	IXL skills
5-1: Divide Whole Numbers by One Digit	<ol style="list-style-type: none"> 1. Divide multi-digit numbers by 1-digit numbers N2H 2. Divide 4-digit numbers by 1-digit numbers: word problems NQF 3. Estimate quotients: word problems HD6
5-2: Explore Dividing by Two-Digit Whole Numbers	<ol style="list-style-type: none"> 1. Divide 4-digit numbers by 2-digit numbers 35K 2. Divide 4-digit numbers by 2-digit numbers: word problems J8L <p><i>Also consider</i></p> <ul style="list-style-type: none"> • Divide by 2-digit numbers using models AJA • Divide by 2-digit numbers using partial quotients ASM • Estimate quotients: 2-digit divisors EFW
5-3: Too Large, Too Small, or Just Right?	<ol style="list-style-type: none"> 1. Adjust quotients 5FH
5-4: Interpret Remainders	<ol style="list-style-type: none"> 1. Divide 3-digit by 2-digit numbers: interpret remainders 87G
5-5: Division Practice	<ol style="list-style-type: none"> 1. Divide larger numbers by 1-digit and 2-digit numbers RL7 2. Multiplication and division up to thousands: word problems UXE

Big Idea 2: Division with Decimal Numbers

Textbook section	IXL skills
5-6: Divide Decimal Numbers by Whole Numbers	<ol style="list-style-type: none"> 1. Decimal division patterns over increasing place values GNC 2. Division with decimal quotients 5SG

Also consider

- Divide by powers of ten H2N
- Divide by a power of ten: with exponents CL2
- Divide by a power of ten with decimals: find the missing number R2P
- Estimate decimal quotients CZ9

5-7: Divide Whole Numbers by Decimal Numbers

1. Divide whole numbers by decimals M5D

5-8: Divide with Two Decimal Numbers

1. Divide by 0.1, 0.01, or 0.001 QXR
2. Divide by decimals without adding zeroes RTS
3. Divide decimals by decimals X2J

5-9: Division Practice

1. Division with decimals WJX

5-10: Distinguish Between Multiplication and Division

1. Multiply and divide with decimals 7ZV
2. Multiply and divide decimals: word problems 29Q

Also consider

- Inequalities with decimal division B49
- Inequalities with decimal multiplication: products up to thousandths B88

5-11: Focus on Mathematical Practices

1. Unit prices C5N

Unit 6

Operations and Word Problems

Big Idea 1: Equations and Problem Solving

Textbook section	IXL skills
6-1: Situation and Solution Equations for Addition and Subtraction	1. Write and solve addition and subtraction equations using diagrams: word problems 6VE
6-2: Situation and Solution Equations for Multiplication and Division	1. Write and solve multiplication and division equations using diagrams: word problems GHK <i>Also consider</i> • Write variable equations: word problems TVB
6-3: Write Word Problems	1. Which word problem matches the one-step equation? VF9
6-4: Determine Reasonable Answers	1. Estimate sums and differences: word problems KTA 2. Estimate products and quotients: word problems DSA 3. Estimate products word problems: identify reasonable answers WP8 <i>Also consider</i> • Add, subtract, multiply, and divide whole numbers: word problems SNZ • Solve one-step equations: word problems H7J

Big Idea 2: Comparison Word Problems

Textbook section	IXL skills
6-5: Language of Comparison Problems	1. Comparison word problems 2Q3
6-6: Multiplicative Comparison Problems	1. Compare numbers using multiplication: word problems H6U
6-7: Types of Comparison Problems	1. Comparison word problems: addition or multiplication? TEK

Big Idea 3: Problems with More Than One Step

Textbook section	IXL skills
6-8: Equations and Parentheses	<ol style="list-style-type: none">Two-step word problems with money <small>EEM</small>Word problems with extra or missing information <small>9KF</small>
6-9: Multistep Word Problems	<ol style="list-style-type: none">Multi-step word problems <small>Z76</small>Multi-step word problems involving remainders <small>XGE</small> <p><i>Also consider</i></p> <ul style="list-style-type: none">Multi-step word problems: identify reasonable answers <small>NNJ</small>
6-10: Practice Problem Solving	<ol style="list-style-type: none">Multiply money amounts: multi-step word problems <small>THS</small>Represent multi-step problems using equations <small>FZX</small> <p><i>Also consider</i></p> <ul style="list-style-type: none">Multi-step word problems: multiplicative comparison <small>V59</small>
6-11: Focus on Mathematical Practices	<ol style="list-style-type: none">Find the mean <small>AAP</small>Interpret bar graphs: multi-step problems <small>DGY</small>

Unit 7

Algebra, Patterns, and Coordinate Graphs

Big Idea 1: Algebraic Reasoning and Expressions

Textbook section	IXL skills
7-1: Read and Write Expressions	<ol style="list-style-type: none"> 1. Write numerical expressions: one operation SCJ 2. Write numerical expressions: two operations 8ME 3. Write variable expressions UZZ
7-2: Simplify Expressions	<ol style="list-style-type: none"> 1. Evaluate numerical expressions with and without parentheses J73 2. Evaluate numerical expressions with parentheses and brackets TVY <p><i>Also consider</i></p> <ul style="list-style-type: none"> • Identify mistakes involving the order of operations JLJ • Evaluate numerical expressions with parentheses in different places 9F5
7-3: Evaluate Expressions	<ol style="list-style-type: none"> 1. Evaluate variable expressions CTJ 2. Write variable expressions: word problems E2M <p><i>Also consider</i></p> <ul style="list-style-type: none"> • Write numerical expressions for word problems NF5

Big Idea 2: Patterns and Graphs

Textbook section	IXL skills
7-4: Patterns and Relationships	<ol style="list-style-type: none"> 1. Use a rule to complete an addition pattern HZY <p><i>Also consider</i></p> <ul style="list-style-type: none"> • Compare patterns XPM

7-5: The Coordinate Plane

1. Describe the coordinate plane PF8
2. Points on a coordinate plane ZRK
3. Graph points on a coordinate plane AST

Also consider

- Graph triangles and quadrilaterals 5ZC
- Distance between two points UUY

7-6: Graph Ordered Pairs

1. Use a rule to complete a table and a graph N9B
2. Complete a table from a graph 2WL
3. Complete a table and make a graph: word problems WZR

Also consider

- Analyze graphed relationships SMY

7-7: Focus on Mathematical Practices

1. Coordinate planes as maps ZBD
2. Follow directions on a coordinate plane XQR

Unit 8

Measurement and Geometry

Big Idea 1: Measurements and Data

Textbook section	IXL skills
8-1: Convert Metric Units of Length	1. Convert metric units of length ZPJ
8-2: Metric Units of Liquid Volume	1. Convert metric units of volume T7K
8-3: Metric Units of Mass	1. Convert metric units of mass K57 <i>Also consider</i> <ul style="list-style-type: none"> Multi-step problems with metric unit conversions X5T Choose the appropriate metric unit of measure S9U Compare and convert metric units PJL Convert metric units involving decimals 2Q8 Conversion tables - metric units 7QS
8-4: Customary Units of Length	1. Convert customary units of length 8ZP
8-5: Customary Measures of Liquid Volume	1. Convert customary units of volume 7EY
8-6: Customary Units of Weight	1. Convert customary units of weight UMD <i>Also consider</i> <ul style="list-style-type: none"> Multi-step problems with customary unit conversions MJ9 Choose the appropriate customary unit of measure UDF Compare and convert customary units 8DZ Conversion tables - customary units 7HU Compare customary units by multiplying WU8 Convert customary units involving fractions WCM

8-7: Read and Make Line Plots

1. Interpret line plots 79C
2. Create line plots ZBV
3. Create and interpret line plots with fractions XBS

Big Idea 2: Area and Volume**Textbook section****IXL skills****8-8: Perimeter and Area of Rectangles**

1. Area of squares and rectangles E6B
2. Understand fraction multiplication and area NFK
3. Find the perimeter or area: mixed number side lengths Z5G

Also consider

- Area and perimeter: word problems MHV

8-9: Cubic Units and Volume

1. Volume of rectangular prisms made of unit cubes WG8

Also consider

- Understanding cubic units L56
- Volume of irregular figures made of unit cubes WCE

8-10: Visualize Volume

1. Volume of cubes and rectangular prisms TFL

8-11: Introduce Volume Formulas

1. Apply volume formulas for rectangular prisms 9M5
2. Volume of cubes and rectangular prisms: word problems NR6

Also consider

- Volume of cubes and rectangular prisms with decimal side lengths RYY

8-12: Relate Length, Area, and Volume

1. Relationship between volume and the area of the base: word problems QMA

8-13: Volume of Composite Solid Figures

1. Volume of compound figures J83

Big Idea 3: Classify Geometric Figures

Textbook section	IXL skills
8-14: Attributes of Quadrilaterals	<ol style="list-style-type: none">Pick all the names for a quadrilateral E97Draw quadrilaterals VYEIdentify the relationships between quadrilaterals KCG <p><i>Also consider</i></p> <ul style="list-style-type: none">Classify quadrilaterals 6ZQDescribe relationships among quadrilaterals SZT
8-15: Attributes of Triangles	<ol style="list-style-type: none">Classify triangles: review TJL
8-16: Attributes of Two-Dimensional Shapes	<ol style="list-style-type: none">Is it a polygon? ZH6Regular and irregular polygons XE7 <p><i>Also consider</i></p> <ul style="list-style-type: none">Number of sides in polygons 4Z2Sort polygons into Venn diagrams US8Properties of polygons TQU
8-17: Focus on Mathematical Practices	<ol style="list-style-type: none">Compare volumes and dimensions of rectangular prisms: word problems JP6