



IXL Skill Plan

Oklahoma Academic Standards: Grade 5



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N | Numbers & Operations

Standard	IXL skills
5.N.1 Read, write, represent, and compare fractions and decimals; recognize and write equivalent fractions; convert between fractions and decimals; use fractions and decimals in real-world and mathematical situations.	
5.N.1.1: Represent decimal fractions (e.g., $\frac{1}{10}$, $\frac{1}{100}$) using a variety of models (e.g., 10 by 10 grids, base-ten blocks, meter stick) and show the rational number relationships among fractions, decimals and whole numbers.	1. Model decimals and fractions ZKL
5.N.1.2: Read, write, and represent decimals using place value to describe decimal numbers including fractional numbers as small as thousandths and whole numbers up to seven digits.	Word names 1. Spell word names for numbers up to one million ZEC 2. Understanding decimals expressed in words F9G 3. Writing numbers in words to millions: convert digits to words 62R 4. Writing numbers in words to millions: convert words to digits 9P5 Models 5. What decimal number is illustrated? CTP 6. Place value models for decimal numbers 4U7 7. Decimal number lines DQ2 Place value 8. Place values in decimal numbers X8U 9. Relationship between decimal place values DVM 10. Round decimals MPB Expanded form 11. Convert decimals between standard and expanded form WTU 12. Convert decimals between standard and expanded form using fractions BLQ 13. Compose and decompose decimals in multiple ways 7U9 14. Convert between standard and expanded form: up to millions EWK

5.N.1.3: Compare and order decimals and fractions, including mixed numbers and fractions less than one, and locate on a number line.

Decimals

1. Compare decimals using grids QTG
2. Compare decimals on number lines CUF
3. Compare decimal numbers NSG
4. Put decimal numbers in order using number lines XJA
5. Put decimal numbers in order YUX

Fractions

6. Graph and compare fractions on number lines RGV
7. Compare fractions using benchmarks MJZ
8. Compare fractions and mixed numbers U8J
9. Put fractions in order T76

Decimals and fractions

10. Compare decimals and fractions on number lines DKV
11. Compare decimals and fractions ZEH
12. Put a mix of decimals and fractions in order BKL
13. Put a mix of decimals, fractions, and mixed numbers in order SR7

5.N.1.4: Recognize and generate equivalent terminating decimals, fractions, mixed numbers, and fractions in various models.

Decimals

1. Equivalent decimals C2X

Fractions

2. Equivalent fractions MKA
3. Write fractions in lowest terms A76
4. Convert between improper fractions and mixed numbers B7X

Fractions and decimals

5. Convert fractions to decimals 6QG
6. Convert mixed numbers to decimals 99M
7. Convert decimals to fractions MN5
8. Convert decimals to mixed numbers TBV

5.N.2 Divide multi-digit numbers and solve real-world and mathematical problems using arithmetic.

5.N.2.1: Estimate solutions to division problems to assess the reasonableness of results.

1. Estimate quotients: 2-digit divisors EFW
2. Estimate quotients V8H

5.N.2.2: Divide multi-digit numbers, by one- and two-digit divisors, based on knowledge of place value, including but not limited to standard algorithms.

Place value strategies

1. Division patterns over increasing place values 8Z6
2. Divide numbers ending in zeros J8Y

Divide by one-digit divisors

3. Divide multi-digit numbers by 1-digit numbers XHZ

Divide by two-digit divisors

4. Divide by 2-digit numbers: estimate and adjust GZR
5. Divide by 2-digit numbers using models AJA
6. Divide by 2-digit numbers using partial quotients ASM
7. Divide 2-digit and 3-digit numbers by 2-digit numbers HMA
8. Divide 4-digit numbers by 2-digit numbers 35K
9. Divide 4-digit numbers by 2-digit numbers: word problems J8L
10. Adjust quotients 5FH

5.N.2.3: Recognize that remainders can be represented in a variety of ways, including a whole number, fraction, or decimal. Determine the most meaningful form of a remainder based on the context of the problem.

1. Divide by 1-digit numbers: interpret remainders 72W
2. Understand fractions as division: word problems CTD
3. Division with decimal quotients AK2
4. Division with decimal quotients: word problems TUV

5.N.2.4: Construct models to solve multi-digit whole number problems requiring addition, subtraction, multiplication, and division using various representations, including the inverse relationships between operations, the use of technology, and the context of the problem to assess the reasonableness of results.

Addition and subtraction

1. Estimate sums and differences: word problems KTA
2. Add and subtract whole numbers: word problems JYY

Multiplication

3. Multiply numbers ending in zeros: word problems 8KY
4. Estimate products: word problems 9JW
5. Multiply by 1-digit numbers: word problems 94W
6. Multiply by 2-digit numbers: word problems J95
7. Multiply three or more numbers: word problems 2AK

Division

8. Divide numbers ending in zeros: word problems G66
9. Divide multi-digit numbers by 1-digit numbers: word problems 5DE
10. Divide 2-digit and 3-digit numbers by 2-digit numbers: word problems AJW
11. Divide 4-digit numbers by 2-digit numbers: word problems J8L
12. Estimate quotients: word problems HD6

Mixed operations

13. Add, subtract, multiply, and divide whole numbers: word problems SNZ
14. Use numerical expressions to solve multi-step word problems RLE
15. Multi-step word problems Z76
16. Multi-step word problems involving remainders XGE
17. Multi-step word problems: identify reasonable answers NNJ

5.N.3 Add and subtract fractions with like and unlike denominators, mixed numbers, and decimals to solve real world and mathematical problems.

5.N.3.1: Estimate sums and differences of fractions with like and unlike denominators, mixed numbers, and decimals to assess the reasonableness of the results.

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

5.N.3.2: Illustrate addition and subtraction of fractions with like and unlike denominators, mixed numbers, and decimals using a variety of mathematical models (e.g., fraction strips, area models, number lines, fraction rods).

5.N.3.3: Add and subtract fractions with like and unlike denominators, mixed numbers, and decimals, involving money, measurement, geometry, and data. Use various models and efficient strategies, including but not limited to standard algorithms.

3. Estimate sums and differences of decimals using rounding YGG
4. Estimate sums and differences of decimals using benchmarks CHE

Decimal numbers

1. Add decimal numbers using blocks NWJ
2. Subtract decimal numbers using blocks V5T

Fractions

3. Add and subtract fractions with like denominators using number lines SUT
4. Add fractions with unlike denominators using models 2BS
5. Subtract fractions with unlike denominators using models QA6

Decimals

1. Add decimal numbers BDX
2. Use properties to add three decimals LVK
3. Subtract decimal numbers SC8
4. Add and subtract decimal numbers 7VJ
5. Use compensation to add and subtract decimals GCD
6. Add and subtract decimals: word problems 35U

Money

7. Add and subtract money amounts A8R
8. Add and subtract money: word problems DLC
9. Add and subtract money: multi-step word problems MCG

Fractions with like denominators

10. Add and subtract fractions with like denominators: word problems 7YQ
11. Add and subtract fractions with like denominators FXW

Fractions with unlike denominators

12. Add fractions with unlike denominators D9N
13. Subtract fractions with unlike denominators VSP

14. Add and subtract fractions with unlike denominators: word problems TCD
15. Add 3 or more fractions with unlike denominators PBF
16. Add 3 or more fractions: word problems BFQ

Mixed numbers

17. Add mixed numbers with unlike denominators FHD
18. Subtract mixed numbers with unlike denominators FAA
19. Add and subtract mixed numbers: word problems 6BH
20. Add and subtract fractions and mixed numbers in recipes W9K
21. Add and subtract fractions and mixed numbers: multi-step word problems MQ9
22. Add and subtract mixed numbers with like denominators XHJ

5.N.3.4: Apply mental math and knowledge of place value (no written computations) to find 0.1 more or 0.1 less than a number, 0.01 more or 0.01 less than a number, and 0.001 more or 0.001 less than a number.

1. One-tenth or one-hundredth more or less 8L2

A | Algebraic Reasoning & Algebra

Standard	IXL skills
5.A.1 Describe and graph patterns of change created through numerical patterns.	
5.A.1.1: Use tables and rules with up to two operations to describe patterns of change and make predictions and generalizations about various mathematical situations.	1. Use a rule to complete a number pattern RPP 2. Compare patterns XPM 3. Complete a table for a two-variable relationship NEK
5.A.1.2: Use a rule or table to represent ordered pairs of whole numbers and graph these ordered pairs on a coordinate plane, identifying the origin and axes in relation to the coordinates.	Coordinate plane 1. Describe the coordinate plane PF8 2. Objects on a coordinate plane NTR 3. Graph points on a coordinate plane AST 4. Graph points from a table HWV 5. Follow directions on a coordinate plane XQR Tables and graphs 6. Use a rule to complete a table and a graph N9B 7. Complete a table from a graph 2WL 8. Graph patterns using rules PN2 9. Graph a two-variable relationship QEH
5.A.2 Understand and interpret expressions, equations, and inequalities involving variables and whole numbers, and use them to represent and evaluate real-world and mathematical problems.	
5.A.2.1: Generate equivalent numerical expressions and solve problems using number sense involving whole numbers by applying the commutative property, associative property, distributive property, and order of operations (excluding exponents).	Properties of operations 1. Properties of addition LFE 2. Add using properties RZR 3. Properties of multiplication LUE 4. Multiply using properties 6PN Write numerical expressions 5. Write numerical expressions: one operation SCJ 6. Write numerical expressions: two operations 8ME 7. Use numerical expressions to solve multi-step word problems RLE

Evaluate numerical expressions

8. Evaluate numerical expressions Z5N
9. Evaluate numerical expressions with parentheses HGW
10. Evaluate numerical expressions with parentheses and brackets TVY
11. Identify mistakes involving the order of operations JIJ
12. Evaluate numerical expressions with parentheses in different places 9F5
13. Numerical operations: find the missing sign 8TJ

5.A.2.2: Determine whether an equation or inequality involving a variable is true or false for a given value of the variable.

1. Solutions to inequalities K7D
2. Does x satisfy an equation? 7N6

5.A.2.3: Evaluate expressions involving variables when values for the variables are given.

1. Evaluate variable expressions CTJ

GM | Geometry & Measurement

Standard	IXL skills
5.GM.1 Describe, identify, classify, and construct two- and three-dimensional figures using their geometric attributes.	
5.GM.1.1: Describe, identify, classify, and construct triangles (equilateral, right, scalene, isosceles) by their attributes using various mathematical models.	1. Acute, obtuse, and right triangles N77 2. Scalene, isosceles, and equilateral triangles R94 3. Classify triangles C64
5.GM.1.2: Describe, identify, and classify three-dimensional figures (cubes, rectangular prisms, and pyramids) and their attributes (number of edges, faces, vertices, shapes of faces), given various mathematical models.	1. Identify prisms and pyramids MDG 2. Count vertices, edges, and faces ZHF
5.GM.1.3: Recognize and draw a net for a three-dimensional figure (cube, rectangular prism, pyramid).	1. Nets of prisms and pyramids EJC
5.GM.2 Determine volume using the object's dimensions. Compare and analyze rectangular prisms with equivalent volume to recognize their different dimensions.	
5.GM.2.1: Determine the volume of rectangular prisms by the number of unit cubes (n) used to construct the shape and by the product of the dimensions of the prism $a \times b \times c = n$. Understand rectangular prisms of different dimensions (p , q , and r) can have the same volume if $a \times b \times c = p \times q \times r = n$.	Volume 1. Volume of rectangular prisms made of unit cubes WG8 2. Volume of cubes and rectangular prisms TFL Word problems 3. Volume of rectangular prisms made of unit cubes: word problems QMA 4. Volume of cubes and rectangular prisms: word problems NR6 5. Compare volumes and dimensions of rectangular prisms: word problems JP6 6. Volume of cubes and rectangular prisms: multi-step word problems K84
5.GM.2.2: Estimate the perimeter of polygons and create arguments for reasonable perimeter values of shapes that may include curves.	1. Perimeter with whole number side lengths UJ2 2. Perimeter with decimal side lengths K7R 3. Perimeter with fractional side lengths WQU

4. Perimeter of figures on grids ZKD

5.GM.3 Understand angle, length, weight, and capacity as measurable attributes of real-world and mathematical objects, using various tools to measure them. Solve real-world problems of length.

5.GM.3.1: Measure and compare angles according to size using various tools.

1. Angles of 90, 180, 270, and 360 degrees ULP
2. Types of angles RGW
3. Measure angles with a protractor GSJ

5.GM.3.2: Measure the length of an object to the nearest whole centimeter or up to 1/16 inch using an appropriate instrument.

1. Measure using an inch ruler MHR
2. Measuring using a centimeter ruler TVN

5.GM.3.3: Apply the relationship between inches, feet, and yards to measure, convert, and compare objects to solve problems.

1. Compare and convert customary units of length MAU

5.GM.3.4: Apply the relationship between millimeters, centimeters, and meters to measure, convert, and compare objects to solve problems.

1. Compare and convert metric units of length CQF

5.GM.3.5: Estimate lengths and geometric measurements to the nearest whole unit, using benchmarks in customary and metric measurement systems.

D | Data & Probability

Standard

IXL skills

5.D.1 Create and analyze data to find the range and measures of central tendency (mean, median, mode).

5.D.1.1: Find the measures of central tendency (i.e., mean, median, mode) and range of a set of data. Understand that the mean is a "leveling out" or central balance point of the data.

Find mean, median, mode, and range

1. Find the mode LNT
2. Find the mean AAP
3. Find the median GDA
4. Find the range 2T8
5. Mean: find the missing number E6A
6. Median: find the missing number L8F
7. Range: find the missing number 6Z3

Interpret charts and graphs

8. Interpret charts and graphs to find the mode AMK
9. Interpret charts and graphs to find the mean VBL
10. Interpret charts and graphs to find the median XWN
11. Interpret charts and graphs to find the range UNM

5.D.1.2: Create and analyze line and double-bar graphs with increments of whole numbers, fractions, and decimals.

Line graphs

1. Create line graphs KFZ
2. Interpret line graphs UFX

Double-bar graphs

3. Interpret double bar graphs 6VC
4. Complete double bar graphs 8GE