IXL Skill Alignment

6th grade alignment for Illustrative Mathematics

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Unit 1

Area and Surface Area

Reasoning to Find Area

Textbook section	IXL skills
Lesson 1: Tiling the Plane	1. Create figures with a given area QYL
Lesson 2: Finding Area by Decomposing and Rearranging	1. Select two figures with the same area B6T
Lesson 3: Reasoning to Find Area	1. Area of compound figures 76U 2. Area between two rectangles EY6

Parallelograms

Textbook section	IXL skills
Lesson 4: Parallelograms	1. Identify parallelograms ND5 2. Understanding area of a parallelogram QMU
Lesson 5: Bases and Heights of Parallelograms	
Lesson 6: Area of Parallelograms	1. Area of parallelograms Y8K

Triangles

Textbook section	IXL skills
Lesson 7: From Parallelograms to Triangles	
Lesson 8: Areas of Triangles	1. Understanding area of a triangle PLL
Lesson 9: Formula for the Area of a Triangle	1. Area of triangles C8S *Also consider* • Area between two triangles 8RG
Lesson 10: Bases and Heights of Triangles	

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Polygons

Textbook section	IXL skills
Lesson 11: Polygons	1. Is it a polygon? WKC 2. Area of compound figures with triangles 5V2 *Also consider* • Understanding area of a trapezoid 42R • Area of trapezoids PKW

Surface Area

Textbook section	IXL skills
Lesson 12: What is Surface Area?	1. Surface area of rectangular prisms NHJ
Lesson 13: Polyhedra	1. Identify polyhedra WWL 2. Count vertices, edges, and faces 8SF *Also consider* • Which figure is being described? 9WV
Lesson 14: Nets and Surface Area	1. Nets of three-dimensional figures 8KP
Lesson 15: More Nets, More Surface Area	1. Surface area of prisms and pyramids PGA
Lesson 16: Distinguishing Between Surface Area and Volume (optional)	

Squares and Cubes

Textbook section	IXL skills
Lesson 17: Squares and Cubes	1. Squares and cubes FWR
Lesson 18: Surface Area of a Cube	1. Surface area of cubes 6CX

Let's Put it to Work

Textbook section	IXL skills
Lesson 19: Designing a Tent	

Unit 2

Introducing Ratios

What are Ratios?

Textbook section	IXL skills
Lesson 1: Introducing Ratios and Ratio Language	1. Write a ratio 8ZZ
Lesson 2: Representing Ratios with Diagrams	1. Which model represents the ratio? W7S

Equivalent Ratios

Textbook section	IXL skills
Lesson 3: Recipes	
Lesson 4: Color Mixtures	
Lesson 5: Defining Equivalent Ratios	1. Identify equivalent ratios 2LM 2. Write an equivalent ratio NEA

Representing Equivalent Ratios

Textbook section	IXL skills
Lesson 6: Introducing Double Number Line Diagrams	1. Equivalent ratios: word problems RLZ
Lesson 7: Creating Double Number Line Diagrams	
Lesson 8: How Much for One?	1. Unit prices KG5 2. Unit prices with decimals CY5
Lesson 9: Constant Speed	
Lesson 10: Comparing Situations by Examining Ratios	1. Compare ratios: word problems 2HT

Solving Ratio and Rate Problems

Textbook section	IXL skills
Lesson 11: Representing Ratios with Tables	1. Ratio tables I RWG
Lesson 12: Navigating a Table of Equivalent Ratios	1. Ratio tables II MSS
Lesson 13: Tables and Double Number Line Diagrams	
Lesson 14: Solving Equivalent Ratio Problems	1. Ratios and rates: word problems ZB9

Part-Part-Whole Ratios

Textbook section	IXL skills
Lesson 15: Part-Part-Whole Ratios	1. Use tape diagrams to solve ratio word problems B2A
Lesson 16: Solving More Ratio Problems	

Let's Put it to Work

Textbook section	IXL skills
Lesson 17: A Fermi Problem	

Unit 3

Unit Rates and Percentages

Units of Measurement

Textbook section	IXL skills
Lesson 1: The Burj Khalifa	

Unit Conversion

Textbook section	IXL skills
Lesson 2: Anchoring Units of Measurement (optional)	1. Estimate customary measurements H8P 2. Estimate metric measurements V6Y
Lesson 3: Measuring with Different-Sized Units	1. Understanding cubic units 9BX
Lesson 4: Converting Units	1. Convert metric and customary units using conversion factors AGN 2. Convert metric and customary units using tables 6U8 3. Convert between customary and metric systems 5CF *Also consider* • Customary unit conversions involving fractions and mixed numbers UHE

Rates

Textbook section	IXL skills
Lesson 5: Comparing Speeds and Prices	1. Which is the better buy? L8S
Lesson 6: Interpreting Rates	1. Compare rates: word problems NAF
Lesson 7: Equivalent Ratios Have the Same Unit Rates	
Lesson 8: More About Constant Speed	1. Constant speed: multi-step word problems FPC

Lesson 9: Solving Rate Problems	1. Unit prices with customary unit conversions TXP

Percentages

Textbook section	IXL skills
Lesson 10: What Are Percentages?	1. What percentage is illustrated? RHG *Also consider* • Understanding percents: strip models 5JV
Lesson 11: Percentages and Double Number Lines	1. Percents of numbers CSB 2. Find the whole given a part and a percent 5S4
Lesson 12: Percentages and Tape Diagrams	1. Solve percent problems using strip models MEA
Lesson 13: Benchmark Percentages	1. Solve percent problems: benchmark percents 9EA
Lesson 14: Solving Percentage Problems	1. Which is the better coupon? 99Y 2. Sale prices 5GH 3. Sale prices: find the original price NW7
Lesson 15: Finding This Percent of That	1. Percents of numbers and money amounts 8N4 2. Percents of numbers: word problems BBY
Lesson 16: Finding the Percentage	1. Find what percent one number is of another PE7 2. Find what percent one number is of another: word problems 49B

Let's Put it to Work

Textbook section	IXL skills
Lesson 17: Painting a Room	1. Solve percent problems ELY 2. Solve percent word problems YWB

Unit 4

Dividing Fractions

Making Sense of Division

Textbook section	IXL skills
Lesson 1: Size of Divisor and Size of Quotient	1. Division patterns with zeroes CEZ 2. Estimate quotients when dividing mixed numbers HHV
Lesson 2: Meanings of Division	1. Relate multiplication and division X5X 2. Write and solve multiplication and division equations using diagrams: word problems ZP6
Lesson 3: Interpreting Division Situations	

Meanings of Fraction Division

Textbook section	IXL skills
Lesson 4: How Many Groups? (Part 1)	1. Divide whole numbers by unit fractions using models DXW
Lesson 5: How Many Groups? (Part 2)	
Lesson 6: Using Diagrams to Find the Number of Groups	• *Coming soon:* Divide whole numbers and fractions using models: quotients greater than 1
Lesson 7: What Fraction of a Group?	• *Coming soon:* Divide whole numbers and fractions using models: quotients less than 1
Lesson 8: How Much in Each Group? (Part 1)	• *Coming soon:* Divide fractions using models
Lesson 9: How Much in Each Group (Part 2)	• *Coming soon:* Divide fractions using models: word problems

Algorithm for Fraction Division

Textbook section	IXL skills
Lesson 10: Dividing by Unit and Non-Unit Fractions	1. Divide unit fractions and whole numbers: word problems HCH *Also consider* • Reciprocals R9V
Lesson 11: Using an Algorithm to Divide Fractions	1. Divide fractions DS2 2. Divide fractions and mixed numbers N2B

Fractions in Lengths, Areas, and Volumes

Textbook section	IXL skills
Lesson 12: Fractional Lengths	1. Divide fractions and mixed numbers: word problems WAH
Lesson 13: Rectangles with Fractional Side Lengths	
Lesson 14: Fractional Lengths in Triangles and Prisms	
Lesson 15: Volume of Prisms	1. Volume of cubes and rectangular prisms with fractional side lengths BQK

Let's Put it to Work

Textbook section	IXL skills
Lesson 16: Solving Problems Involving Fractions	1. Add, subtract, multiply, or divide two fractions 2VR 2. Add, subtract, multiply, or divide two fractions: word problems RDY
Lesson 17: Fitting Boxes into Boxes	1. Volume of cubes and rectangular prisms: word problems JGU

Unit 5

Arithmetic in Base Ten

Warming Up to Decimals

Textbook section	IXL skills
Lesson 1: Using Decimals in a Shopping Context	1. Add and subtract money amounts: word problems DR9 2. Multiply money amounts: multi-step word problems 99Z

Adding and Subtracting Decimals

Textbook section	IXL skills
Lesson 2: Using Diagrams to Represent Addition and Subtraction (optional)	1. Add decimals using blocks 9F9 2. Add decimals MGH
Lesson 3: Adding and Subtracting Decimals with Few Non-Zero Digits	1. Equivalent decimals JVV 2. Add and subtract decimal numbers up to hundredths 48F
Lesson 4: Adding and Subtracting Decimals with Many Non-Zero Digits	1. Add and subtract decimal numbers 79J 2. Complete the decimal addition or subtraction sentence QRH 3. Add and subtract decimals: word problems 97T *Also consider* • Maps with decimal distances J7D

Multiplying Decimals

Textbook section	IXL skills
Lesson 5: Decimal Points in Products	1. Multiply by 0.1 or 0.01 UPR 2. Multiply two decimals: where does the decimal point go? 5K4
Lesson 6: Methods for Multiplying Decimals	1. Complete the decimal multiplication sentence using grids F8D

Lesson 7: Using Diagrams to Represent Multiplication	1. Multiply decimals using grids NY9 2. Multiply a decimal by a two-digit whole number using area models 89M
Lesson 8: Calculating Products of Decimals	1. Multiply decimals 2WT 2. Area of rectangles and squares: decimal side lengths T9L

Dividing Decimals

Textbook section	IXL skills
Lesson 9: Using the Partial Quotients Method	1. Divide using partial quotients 84L
Lesson 10: Using Long Division	1. Divide by 1-digit numbers RQF
Lesson 11: Dividing Numbers that Result in Decimals	1. Division with decimal quotients 8WR *Also consider* • Convert between percents, fractions, and decimals ZAV
Lesson 12: Dividing Decimals by Whole Numbers	1. Divide decimals using blocks: complete the equation 55Q 2. Divide decimals by whole numbers NLL 3. Divide decimals by whole numbers: word problems F6H
Lesson 13: Dividing Decimals by Decimals	1. Divide decimals Y7C *Also consider* • Add, subtract, multiply, or divide two decimals P6W

Let's Put it to Work

Textbook section	IXL skills
Lesson 14: Using Operations on Decimals to Solve Problems	1. Estimate decimal quotients KFF 2. Add, subtract, multiply, or divide two decimals: word problems 8HT
Lesson 15: Making and Measuring Boxes	1. Surface area of cubes and rectangular prisms: decimal edge lengths E94

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Unit 6

Expressions and Equations

Equations in One Variable

Textbook section	IXL skills
Lesson 1: Tape Diagrams and Equations	
Lesson 2: Truth and Equations	1. Does x satisfy an equation? VMB 2. Which x satisfies an equation? VG8 3. Equations with mixed operations: true or false FM7
Lesson 3: Staying in Balance	1. Write and solve equations that represent diagrams K9U *Also consider* • Model and solve equations using algebra tiles G6Z
Lesson 4: Practice Solving Equations and Representing Situations with Equations	1. Write a one-step equation: word problems YVX 2. Solve one-step addition and multiplication equations TG5
Lesson 5: A New Way to Interpret a over b	1. Which word problem matches the one-step equation? WYQ

Equal and Equivalent

Textbook section	IXL skills
Lesson 6: Write Expressions Where Letters Stand for Numbers	1. Write variable expressions: word problems 6LQ 2. Solve one-step equations: word problems BXY *Also consider* • Evaluate variable expressions with whole numbers Q8Z
Lesson 7: Revisit Percentages	1. Find the total given a part and a percent D6L

Lesson 8: Equal and Equivalent	1. Identify equivalent expressions using strip models GZH
Lesson 9: The Distributive Property, Part 1	1. Multiply numbers using the distributive property S6S 2. Multiply a decimal by a one-digit whole number using the distributive property PYT *Also consider* • Identify terms and coefficients 9KE
Lesson 10: The Distributive Property, Part 2	1. Multiply using the distributive property 2HH 2. Identify equivalent expressions I KFG
Lesson 11: The Distributive Property, Part 3	1. Factor using the distributive property PGZ 2. Identify equivalent expressions II HTG *Also consider* • Write equivalent expressions using properties R8H

Expressions with Exponents

Textbook section	IXL skills
Lesson 12: Meaning of Exponents	1. Write multiplication expressions using exponents TY5 2. Evaluate exponents KEQ
Lesson 13: Expressions with Exponents	1. Exponents with decimal bases D5D 2. Exponents with fractional bases GEQ
Lesson 14: Evaluating Expressions with Exponents	1. Evaluate numerical expressions one step at a time XCQ 2. Evaluate expressions with exponents EAK *Also consider* • Evaluate expressions with fractions and exponents M96
Lesson 15: Equivalent Exponential Expressions	1. Evaluate multi-variable expressions with exponents YP7 2. Find the missing exponent or base EYK

Relationships Between Quantities

Textbook section	IXL skills
Lesson 16: Two Related Quantities, Part 1	1. Identify independent and dependent variables in tables and graphs YFW 2. Ratios and rates: complete a table and make a graph 6Z2
Lesson 17: Two Related Quantities, Part 2	1. Write an equation from a graph using a table UJR 2. Interpret a graph: word problems KZD 3. Complete a table and graph a proportional relationship TZQ
Lesson 18: More Relationships (optional)	

Let's Put it to Work

Textbook section	IXL skills
Lesson 19: Tables, Equations, and Graphs, Oh My!	1. Complete a table for a two-variable relationship J66 2. Write a two-variable equation from a table AQG 3. Identify the graph of an equation QSX

Unit 7

Rational Numbers

Negative Numbers and Absolute Value

Textbook section	IXL skills
Lesson 1: Positive and Negative Numbers	1. Understanding integers 8EP 2. Integers on number lines K6J 3. Graph integers on horizontal and vertical number lines 36C
Lesson 2: Points on the Number Line	1. Rational numbers on number lines DJE 2. Understanding opposite integers X8L
Lesson 3: Comparing Positive and Negative Numbers	1. Compare integers 4G6 2. Compare rational numbers SPG *Also consider* • Compare temperatures above and below zero UVD
Lesson 4: Ordering Rational Numbers	1. Put integers in order CMQ 2. Put rational numbers in order UM7
Lesson 5: Using Negative Numbers to Make Sense of Contexts	1. Compare and order rational numbers: word problems ETK
Lesson 6: Absolute Value of Numbers	1. Understanding absolute value TLR 2. Absolute value RSL 3. Absolute value and integers: word problems 9CW
Lesson 7: Comparing Numbers and Distance from Zero	1. Rational numbers: find the sign V2E 2. Inequalities with absolute values W9Z

Inequalities

Textbook section	IXL skills
Lesson 8: Writing and Graphing Inequalities	1. Graph inequalities on number lines CXX 2. Write inequalities from number lines N99
Lesson 9: Solutions of Inequalities	1. Solutions to inequalities P9N
Lesson 10: Interpreting Inequalities	1. Write and graph inequalities: word problems AGB

The Coordinate Plane

Textbook section	IXL skills
Lesson 11: Points on the Coordinate Plane	1. Objects on a coordinate plane GFN 2. Graph points on a coordinate plane VHQ
Lesson 12: Constructing the Coordinate Plane	1. Quadrants LPF
Lesson 13: Interpreting Points on a Coordinate Plane	1. Coordinate planes as maps N96 2. Follow directions on a coordinate plane XDQ
Lesson 14: Distances on a Coordinate Plane	1. Distance between two points A7P 2. Reflect a point over an axis 32S
Lesson 15: Shapes on the Coordinate Plane	1. Graph triangles and quadrilaterals E55 2. Area and perimeter of squares and rectangles on the coordinate plane UCD

Common Factors and Common Multiples

Textbook section	IXL skills
Lesson 16: Common Factors	1. Identify factors BGJ 2. Find all the factor pairs of a number VTM 3. Greatest common factor AMB *Also consider* • Greatest common factor of three or four numbers FBD

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Lesson 17: Common Multiples	1. Choose the multiples of a given number PE2 2. Least common multiple NGA *Also consider* • Least common multiple of three or four numbers ZRM
Lesson 18: Using Common Multiples and Common Factors	1. GCF and LCM: word problems ZB8

Let's Put it to Work

Textbook section	IXL skills
Lesson 19: Drawing on the Coordinate Plane	1. Coordinate plane review Y8A

Unit 8

Data Sets and Distributions

Data, Variability, and Statistical Questions

Textbook section	IXL skills
Lesson 1: Got Data?	
Lesson 2: Statistical Questions	1. Identify statistical questions PT7

Dot Plots and Histograms

Textbook section	IXL skills
Lesson 3: Representing Data Graphically	1. Create frequency charts UUN 2. Interpret line plots M5Y 3. Create line plots 5HD *Also consider* • Create frequency charts: categorical data BSQ • Interpret bar graphs UQA • Create bar graphs J8V
Lesson 4: Dot Plots	1. Describe shapes of distributions in line plots K6Y
Lesson 5: Using Dot Plots to Answer Statistical Questions	• *Coming soon:* Which scenario does the line plot represent? • *Coming soon:* Interpret center and variability using line plots
Lesson 6: Interpreting Histograms	1. Interpret histograms CBF 2. Create histograms 7NG
Lesson 7: Using Histograms to Answer Statistical Questions	• *Coming soon:* Which scenario does the histogram represent? • *Coming soon:* Interpret center and variability using histograms
Lesson 8: Describing Distributions on Histograms	• *Coming soon:* Describe distributions in histograms

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Measures of Center and Variability

Textbook section	IXL skills
Lesson 9: Mean	1. Calculate mean BK7 2. Mean: find the missing number BCP
Lesson 10: Finding and Interpreting the Mean as the Balance Point	• *Coming soon:* Interpret the mean as a balance point
Lesson 11: Variability and MAD	1. Calculate mean absolute deviation JUV
Lesson 12: Using Mean and MAD to Make Comparisons	• *Coming soon:* Interpret mean and MAD

Median and IQR

Textbook section	IXL skills
Lesson 13: Median	1. Calculate median XTJ
Lesson 14: Comparing Mean and Median	1. Changes in mean and median KPA
Lesson 15: Quartiles and Interquartile Range	1. Calculate range, quartiles, and interquartile range Z85 2. Measures of center and spread 6JB
Lesson 16: Box Plots	1. Box plots E9F
Lesson 17: Using Box Plots	

Let's Put it to Work

Textbook section	IXL skills
Lesson 18: Using Data to Solve Problems	