IXL Skill Alignment

7th grade alignment for Illustrative Mathematics

Use IXL's interactive skill plan to get up-to-date skill alignments, assign skills to your students, and track progress.

www.ixl.com/math/skill-plans/illustrative-mathematics-7th-grade

Visit IXL.com for more information

Unit 1

Scale Drawings

Scaled Copies

Textbook section	IXL skills
Lesson 1: What are Scaled Copies?	• *Coming soon:* Identify scaled copies
Lesson 2: Corresponding Parts and Scale Factors	• *Coming soon:* Scaled polygons
Lesson 3: Making Scaled Copies	• *Coming soon:* Draw a scaled copy of a polygon
Lesson 4: Scaled Relationships	
Lesson 5: The Size of the Scaled Factor	• *Coming soon:* Size of the scale factor: justify your answer
Lesson 6: Scaling and Area	1. Perimeter and area: changes in scale ZC6

Scale Drawings

Textbook section	IXL skills
Lesson 7: Scale Drawings	1. Scale drawings: find the actual length 78X
Lesson 8: Scale Drawings and Maps (optional)	
Lesson 9: Creating Scale Drawings	1. Scale drawings: find the scale or scaled length DMT
Lesson 10: Changing Scales in Scale Drawings	
Lesson 11: Scales without Units	1. Scale drawings: scale factor word problems KCM
Lesson 12: Units in Scale Drawings	• *Coming soon:* Find the area of a scaled figure *Also consider* • Unit rates 2NB

Let's Put It to Work

Textbook section	IXL skills
Lesson 13: Draw it to Scale (optional)	

Unit 2

Introducing Proportional Relationships

Representing Proportional Relationships with Tables

Textbook section	IXL skills
Lesson 1: One of These Things is Not Like the Others	1. Identify equivalent ratios ZFM 2. Equivalent ratios: word problems DJ8
Lesson 2: Introducing Proportional Relationships with Tables	1. Find the constant of proportionality JDX *Also consider* • Ratios and rates: complete a table and make a graph TJT
Lesson 3: More about Constant of Proportionality	1. Determine if a relationship in a table is proportional U9C

Representing Proportional Relationships with Equations

Textbook section	IXL skills
Lesson 4: Proportional Relationships and Equations	1. Write equations for proportional relationships from tables N9F
Lesson 5: Two Equations for Each Relationship	
Lesson 6: Using Equations to Solve Problems	1. Write and solve equations for proportional relationships VKK

Comparing Proportional and Nonproportional Relationships

Textbook section	IXL skills
Lesson 7: Comparing Relationships with Tables	1. Identify proportional relationships from tables 6V7
Lesson 8: Comparing Relationships with Equations	1. Identify proportional relationships from equations G8X

Lesson 9: Solving Problems about Proportional Relationships	1. Determine if a relationship is proportional and write an equation C89 *Also consider* • Do the ratios form a proportion: word problems SHV • Solve proportions: word problems WB7

Representing Proportional Relationships with Graphs

Textbook section	IXL skills
Lesson 10: Introducing Graphs of Proportional Relationships	1. Identify proportional relationships by graphing AAN 2. Identify graphs of proportional relationships FYR
Lesson 11: Interpreting Graphs of Proportional Relationships	1. Find the constant of proportionality from a graph ZUT 2. Interpret graphs of proportional relationships RMH
Lesson 12: Using Graphs to Compare Relationships	1. Complete a table and graph a proportional relationship 5DR
Lesson 13: Two Graphs for Each Relationship	1. Write equations for proportional relationships from graphs JKH

Let's Put it to Work

Textbook section	IXL skills
Lesson 14: Four Representations	
Lesson 15: Using Water Efficiently	

Unit 3

Measuring Circles

Circumference of a Circle

Textbook section	IXL skills
Lesson 1: How Well Can You Measure?	
Lesson 2: Exploring Circles	1. Parts of a circle 2VL
Lesson 3: Exploring Circumference	1. Find circumference given the diameter JKJ
Lesson 4: Applying Circumference	1. Circumference of circles KS7
Lesson 5: Circumference and Wheels (optional)	

Area of a Circle

Textbook section	IXL skills
Lesson 6: Estimating Areas	1. Area of compound figures with triangles MRG
Lesson 7: Exploring the Area of a Circle	
Lesson 8: Relating Area to Circumference	1. Area of circles YA8 • *Coming soon:* Understanding area of a circle
Lesson 9: Applying Area of Circles	1. Area of semicircles and quarter circles 2NM 2. Area of complex figures involving circles EVS

Let's Put it to Work

Textbook section	IXL skills
Lesson 10: Distinguishing Circumference and Area	1. Circles: word problems P56
Lesson 11: Stained-Glass Windows (optional)	

Unit 4

Proportional Relationships and Percentages

Proportional Relationships with Fractions

Textbook section	IXL skills
Lesson 1: Lots of Flags	1. Word problems involving ratios JKY 2. Solve percent equations: word problems JS6 *Also consider* • Percents of numbers: word problems EXE • Solve percent problems using strip models 9XC
Lesson 2: Ratios and Rates with Fractions	1. Calculate unit rates with fractions 57X 2. Unit prices N7G
Lesson 3: Revisiting Proportional Relationships	1. Identify proportional relationships from tables: with fractions 7EB 2. Find the constant of proportionality from a table: with decimals 7JS 3. Write equations for proportional relationships from tables: with decimals TN6
Lesson 4: Half as Much Again	
Lesson 5: Say it with Decimals	1. Convert fractions or mixed numbers to decimals BRK

Percent Increase and Decrease

Textbook section	IXL skills
Lesson 6: Increasing and Decreasing	
Lesson 7: One Hundred Percent	1. Percent increase or decrease: word problems 8YF
Lesson 8: Percent Increase and Decrease with Equations	1. Percent of change: find the original amount word problems RCM

Lesson 9: More and Less than 1%	1. Percents of money amounts: with fractions and decimals GCX

Applying Percentages

Textbook section	IXL skills
Lesson 10: Tax and Tip	1. Tax and tip: word problems GXZ *Also consider* • Estimate tips Y5R
Lesson 11: Percentage Contexts	1. Discount, commission, and more: word problems T5R 2. Sale prices: find the original price BDA 3. Which is the better coupon? QT6
Lesson 12: Finding the Percentage	1. Percent of change: word problems WSW 2. Find the percent: tax, discount, and more PBM *Also consider* • Percent of change BL7
Lesson 13: Measurement Error	
Lesson 14: Percent Error	• *Coming soon:* Percent error: word problems
Lesson 15: Error Intervals (optional)	1. Greatest possible error X8B

Let's Put it to Work

Textbook section	IXL skills
Lesson 16: Posing Percentage Problems	1. Multi-step problems with percents ZHX

Unit 5

Rational Number Arithmetic

Interpreting Negative Numbers

Textbook section	IXL skills
Lesson 1: Interpreting Negative Numbers	1. Understanding integers YBC 2. Graph integers on horizontal and vertical number lines EM8 3. Compare and order integers JX8 *Also consider* • Understanding absolute value 6PJ • Integers on number lines A5Y • Compare rational numbers JVR

Adding and Subtracting Rational Numbers

Textbook section	IXL skills
Lesson 2: Changing Temperatures	1. Add integers using number lines A63
Lesson 3: Changing Elevation	1. Quantities that combine to zero: word problems 7SP 2. Integer addition rules ERH 3. Add integers QFU *Also consider* • Absolute value and opposite integers NSB • Add three or more integers PBC
Lesson 4: Money and Debts	1. Keeping financial records ZQF 2. Balance a budget 8HP 3. Adjust a budget X7M *Also consider* • Rational numbers: find the sign HSP

Lesson 5: Representing Subtraction	1. Subtract integers using number lines FGG 2. Subtract integers HEU *Also consider* • Integer subtraction rules QZA
Lesson 6: Subtracting Rational Numbers	1. Add and subtract integers FNS 2. Add and subtract positive and negative fractions SD2 3. Add and subtract positive and negative decimals WCZ *Also consider* • Complete addition and subtraction equations with integers P6A
Lesson 7: Adding and Subtracting to Solve Problems	1. Add and subtract integers: word problems 2DD 2. Distance between two points RUZ *Also consider* • Apply addition and subtraction rules Y8T

Multiplying and Dividing Rational Numbers

Textbook section	IXL skills
Lesson 8: Position, Speed, and Direction	1. Understand multiplying by a negative integer using a number line NB8
Lesson 9: Multiplying Rational Numbers	1. Integer multiplication rules K7U 2. Multiply integers DQT
Lesson 10: Multiply!	1. Multiply rational numbers WZ8 2. Complete multiplication equations with integers GWH
Lesson 11: Dividing Rational Numbers	1. Integer division rules T9Q 2. Divide integers CTV 3. Identify quotients of rational numbers: word problems JT9 *Also consider* • Apply multiplication and division rules V5V

Lesson 12: Negative Rates	1. Evaluate linear expressions with negatives JD7 *Also consider* • Multiply and divide integers R8D • Multiply and divide positive and negative fractions 2B5 • Multiply and divide positive and negative decimals K7V

Four Operations with Rational Numbers

Textbook section	IXL skills
Lesson 13: Expressions with Rational Numbers	1. Equal quotients of integers 2QY 2. Understand operations with rational numbers NH9
Lesson 14: Solving Problems with Rational Numbers	1. Add, subtract, multiply, and divide integers B8A 2. Add, subtract, multiply, and divide rational numbers QBF

Solving Equations When There Are Negative Numbers

Textbook section	IXL skills
Lesson 15: Solving Equations with Rational Numbers	1. Solve one-step equations 6H7 2. Which x satisfies the one-step equation? VWC
Lesson 16: Representing Contexts with Equations	1. Write a one-step equation from words AVS

Let's Put It to Work

Textbook section	IXL skills
Lesson 17: The Stock Market	1. Percent of change: increases and decreases PCV

Unit 6

Expressions, Equations, and Inequalities

Representing Situations of the Form px + q = r and p(x + q) = r

Textbook section	IXL skills
Lesson 1: Relationships between Quantities	1. Complete a table and make a graph: word problems CMD
Lesson 2: Reasoning about Contexts with Tape Diagrams	• *Coming soon:* Represent linear word problems using tape diagrams
Lesson 3: Reasoning about Equations with Tape Diagrams	1. Model equations using algebra tiles 67K 2. Model equations using length diagrams JS9
Lesson 4: Reasoning about Equations and Tape Diagrams (Part 1)	1. Write a one-step equation: word problems 5A4
Lesson 5: Reasoning about Equations and Tape Diagrams (Part 2)	1. Solve one-step equations: word problems PTR
Lesson 6: Distinguishing between Two Types of Situations	• *Coming soon:* Model word problems with two-step equations

Solving Equations of the Form px + q = r and p(x + q) = r and Problems That Lead to Those Equations

Textbook section	IXL skills
Lesson 7: Reasoning about Solving Equations (Part 1)	1. Solve equations with positive numbers using algebra tiles ZES 2. Solve equations with positive numbers WZT
Lesson 8: Reasoning about Solving Equations (Part 2)	1. Solve equations with positive numbers: with parentheses UAX
Lesson 9: Dealing with Negative Numbers	1. Solve equations with negative numbers using algebra tiles VZM 2. Solve equations with negative numbers B78

Lesson 10: Different Options for Solving One Equation	1. Solve equations with negative numbers: with parentheses PXD
Lesson 11: Using Equations to Solve Problems	1. Solve equations: word problems D2Y 2. Solve equations: complete the solution Q2V
Lesson 12: Solving Problems about Percent Increase or Decrease	1. Multi-step problems with percents ZHX

Inequalities

Textbook section	IXL skills
Lesson 13: Reintroducing Inequalities	1. Solutions to inequalities 8BA 2. Graph inequalities on number lines VLU *Also consider* • Write inequalities from number lines JNL
Lesson 14: Finding Solutions to Inequalities in Context	1. Solve one-step inequalities QWH 2. One-step inequalities: word problems 6HD *Also consider* • Graph solutions to one-step inequalities TFK
Lesson 15: Efficiently Solving Inequalities	1. Solve two-step inequalities HXG 2. Graph solutions to two-step inequalities 9JX
Lesson 16: Interpreting Inequalities	• *Coming soon:* Model and solve two-step inequalities: word problems
Lesson 17: Modeling with Inequalities	• *Coming soon:* Solve two-step inequalities: word problems

Writing Equivalent Expressions

Textbook section	IXL skills
Lesson 18: Subtraction in Equivalent Expressions	1. Write equivalent expressions using properties D8Z *Also consider* • Identify terms and coefficients E7H

Lesson 19: Expanding and Factoring	1. Multiply using the distributive property 8DS 2. Factors of linear expressions J9G *Also consider* • Sort factors of variable expressions BUX
Lesson 20: Combining Like Terms (Part 1)	1. Simplify expressions by combining like terms: with algebra tiles PCU 2. Simplify expressions by combining like terms JJG *Also consider* • Solve equations using properties XSC
Lesson 21: Combining Like Terms (Part 2)	1. Simplify linear expressions 5TT
Lesson 22: Combining Like Terms (Part 3)	1. Identify equivalent linear expressions I DRB 2. Identify equivalent linear expressions II KAR

Let's Put it to Work

Textbook section	IXL skills
Lesson 23: Applications of Expressions	1. Identify equivalent linear expressions: word problems KWH *Also consider* • Which is the better coupon? QT6

Unit 7

Angles, Triangles, and Prisms

Angle Relationships

Textbook section	IXL skills
Lesson 1: Relationships of Angles	1. Name, measure, and classify angles 2UG
Lesson 2: Adjacent Angles	1. Identify complementary and supplementary angles XA6 2. Find measures of complementary and supplementary angles JL9
Lesson 3: Nonadjacent Angles	1. Identify complementary, supplementary, vertical, and adjacent angles HKG 2. Find measures of angles: one-step problems FBQ
Lesson 4: Solving for Unknown Angles	1. Find measures of angles: multi-step problems 7LL
Lesson 5: Using Equations to Solve for Unknown Angles	• *Coming soon:* Solve equations to find measures of angles

Drawing Polygons with Given Conditions

Textbook section	IXL skills
Lesson 6: Building Polygons (Part 1)	1. Draw quadrilaterals WFE
Lesson 7: Building Polygons (Part 2)	1. Triangle inequality 5RX
Lesson 8: Triangles with 3 Common Measures	
Lesson 9: Drawing Triangles (Part 1)	
Lesson 10: Drawing Triangles (Part 2)	• *Coming soon:* How many triangles can be made?

Solid Geometry

Textbook section	IXL skills
Lesson 11: Slicing Solids	1. Cross sections of three-dimensional figures HFJ 2. Bases of three-dimensional figures RF6
Lesson 12: Volume of Right Prisms	1. Volume of cubes and prisms URT
Lesson 13: Decomposing Bases for Area	• *Coming soon:* Volume of prisms
Lesson 14: Surface Area of Right Prisms	1. Surface area of cubes and prisms RFP
Lesson 15: Distinguishing Volume and Surface Area	1. Volume and surface area of prisms G5F
Lesson 16: Applying Volume and Surface Area	1. Volume of cubes and rectangular prisms: word problems 8WV

Let's Put It to Work

Textbook section	IXL skills
Lesson 17: Building Prisms	1. Nets of three-dimensional figures 3R2

Unit 8

Probability and Sampling

Probabilities of Single Step Events

Textbook section	IXL skills
Lesson 1: Mystery Bags	1. More, less, and equally likely D8R
Lesson 2: Chance Experiments	• *Coming soon:* Describe probabilities
Lesson 3: What Are Probabilities?	1. Probability of simple events WZM
Lesson 4: Estimating Probabilities Through Repeated Experiments	1. Experimental probability 9AA
Lesson 5: More Estimating Probabilities	1. Make predictions using experimental probability WP6
Lesson 6: Estimating Probabilities Using Simulations	

Probabilities of Multi-step Events

Textbook section	IXL skills
Lesson 7: Simulating Multi-Step Experiments	
Lesson 8: Keeping Track of All Possible Outcomes	1. Compound events: find the number of outcomes HZR *Also consider* • Compound events: find the number of sums SCV • Find the number of outcomes: word problems EKX
Lesson 9: Multi-Step Experiments	1. Probability of compound events YPQ
Lesson 10: Designing Simulations	• *Coming soon:* Which simulation represents the situation?

Sampling

Textbook section	IXL skills
Lesson 11: Comparing Groups	1. Calculate mean for data sets and line plots ZYQ 2. Calculate mean absolute deviation YNM *Also consider* • Create line plots 22B
Lesson 12: Larger Populations	• *Coming soon:* Populations and samples
Lesson 13: What Makes a Good Sample?	
Lesson 14: Sampling in a Fair Way	1. Identify representative, random, and biased samples 5V3

Using Samples

Textbook section	IXL skills
Lesson 15: Estimating Population Measures of Center	1. Changes in mean and median EG9 2. Box plots SKN 3. Interpret histograms XMF *Also consider* • Mean, median, mode, and range: find the missing number ZWS • Calculate quartiles and interquartile range NZN
Lesson 16: Estimating Population Proportions	1. Estimate population size using proportions 3C9
Lesson 17: More About Sampling Variability (optional)	
Lesson 18: Comparing Populations Using Samples	• *Coming soon:* Measure of center as a multiple of variability
Lesson 19: Comparing Populations With Friends	

Let's Put it to Work

Textbook section	IXL skills
Lesson 20: Memory Test (optional)	