



IXL Skill Alignment

4th grade alignment for Investigations 3



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Unit 1

Arrays, Factors, and Multiplicative Comparison

Investigation 1: Representing Multiplication with Arrays

Textbook section	IXL skills
Session 1.1	1. Identify expressions for arrays 9XZ
Session 1.2	1. Estimate sums D9E <i>Also consider</i> • Choose numbers with a particular sum P5U
Session 1.3	1. Write multiplication sentences for arrays 5PJ 2. Multiplication facts to 10 UHZ
Session 1.4	1. Make arrays to model multiplication HQK <i>Also consider</i> • Multiply three or more numbers E66
Session 1.5	1. Compare numbers using multiplication GGE 2. Comparison word problems: addition or multiplication? YCW 3. Compare numbers using multiplication: word problems QKB
Session 1.6	1. Prime and composite: up to 100 L9R
Session 1.7	1. Add three numbers up to three digits each DSS 2. Add three numbers up to three digits each: word problems JQB
Session 1.8	1. Multiplication facts up to 10: find the missing factor NLU

Investigation 2: Finding Factors

Textbook section	IXL skills
Session 2.1	<ol style="list-style-type: none">1. Complete the addition sentence TJB <p><i>Also consider</i></p> <ul style="list-style-type: none">• Choose numbers with a particular product U9N
Session 2.2	<ol style="list-style-type: none">1. Two-step addition and subtraction word problems KFX2. Choose the multiples of a given number up to 10 EFB
Session 2.3	<ol style="list-style-type: none">1. Identify factors PWS2. Find all the factor pairs of a number URL3. Multiply numbers ending in zeroes 7NS
Session 2.4	<ol style="list-style-type: none">1. Multiplication word problems: find the missing factor RQ7

Unit 2

Generating and Representing Measurement Data

Investigation 1: Modeling with Data

Textbook section	IXL skills
Session 1.1	1. Which number is prime or composite? C6S
Session 1.2	1. Multiplication word problems: factors up to 10 86C
Session 1.3	1. Find a factor N6R
Session 1.4	1. Read a table B9R
Session 1.5	1. Multiplication topics: mixed review KE5

Investigation 2: Using Data to Compare

Textbook section	IXL skills
Session 2.1	1. Interpret line plots G8K 2. Complete line plots with whole numbers MYD
Session 2.2	1. Create line plots with whole numbers LV7 <i>Also consider</i> <ul style="list-style-type: none"> Identify the outlier MMW
Session 2.3	1. Compare numbers using multiplication: review L8V
Session 2.4	1. Multiplication and division word problems 5ND <i>Also consider</i> <ul style="list-style-type: none"> Create line plots with fractions G5S
Session 2.5	1. Create and interpret line plots with fractions I 6JV 2. Interpret line plots to find the range M5G

Also consider

- Interpret line plots to find the mode F2H

Session 2.6

1. Create and interpret line plots with fractions
II 4D9
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Unit 3

Multiple Towers and Cluster Problems

Investigation 1: Breaking Apart Multiplication Problems

Textbook section	IXL skills
Session 1.1	
Session 1.2	1. Addition number patterns: word problems I QDZ
Session 1.3	
Session 1.4	1. Multiply 1-digit numbers by teen numbers using grids 8UH 2. Multiply 1-digit numbers by small 2-digit numbers using area models I D8H 3. Multiply 1-digit numbers by small 2-digit numbers using area models II 5FP
Session 1.5	1. Multiply 1-digit numbers by 2-digit numbers: word problems UR9 2. Multiply using the distributive property with addition VE8

Investigation 2: Solving Division Problems

Textbook section	IXL skills
Session 2.1	1. Divide 2-digit numbers by 1-digit numbers: complete the table MSC
Session 2.2	1. Pick the model that shows a division expression 97C 2. Divide 2-digit numbers by 1-digit numbers using arrays M49 3. One-step word problems involving remainders GZL
Session 2.3	1. Divide 2-digit numbers by 1-digit numbers: quotients up to 10 7BS

Also consider

- Find all the factor pairs of a number [URL](#)
- Divide 2-digit numbers by 1-digit numbers using area models [7LG](#)

Session 2.4

1. Divide 2-digit numbers by 1-digit numbers: word problems [9FT](#)

Session 2.5

1. Multiplication and division word problems [CZS](#)
2. Relate multiplication and division: up to 100 [VR8](#)

Session 2.6

1. Divide using the distributive property [GDY](#)

Investigation 3: Strategies for Multiplication**Textbook section****IXL skills****Session 3.1**

1. Multiply by 10 or 100 [M2N](#)
2. Addition number patterns: word problems II [B8H](#)

Session 3.2

1. Multiplication patterns: multiples of 10 and 100 [ZXQ](#)
2. Multiply a 1-digit number by a multiple of 10 [JNA](#)

Session 3.3

1. Multiply numbers ending in zeroes [P42](#)
2. Multiply numbers ending in zeroes: word problems [KRB](#)

Session 3.4

1. Divide 2-digit numbers by multiples of 10 [JWY](#)
2. Divide numbers ending in zeroes by 1-digit numbers [6T2](#)
3. Divide numbers ending in zeroes by 1-digit numbers: word problems [6J4](#)

Session 3.5

1. Use one multiplication fact to complete another [W6D](#)
2. Multiply small 2-digit numbers by 2-digit numbers using area models I [M9Z](#)
3. Multiply small 2-digit numbers by 2-digit numbers using area models II [D72](#)



Session 3.6

1. Convert measurement units AXC

Also consider

- Multiply by 1-digit and 2-digit numbers 8ZB

Session 3.7

1. Multiplication and division word problems:
review BEA
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Unit 4

Measuring and Classifying Shapes

Investigation 1: Linear Measurement

Textbook section	IXL skills
Session 1.1	<ol style="list-style-type: none"> 1. Measure using an inch ruler EDW 2. Measuring using a centimeter ruler K5W 3. Understanding measurement units C87 <p><i>Also consider</i></p> <ul style="list-style-type: none"> • Multiply by numbers ending in zeroes: find the missing number CZX
Session 1.2	<ol style="list-style-type: none"> 1. Convert units of length DWP <p><i>Also consider</i></p> <ul style="list-style-type: none"> • Multiply using models: review 49D
Session 1.3	<ol style="list-style-type: none"> 1. Compare units of length E54 2. Add and subtract units of length MGY
Session 1.4	<ol style="list-style-type: none"> 1. Find the perimeter of rectangles using formulas KGJ 2. Perimeter: find the missing side length QAC 3. Perimeter: word problems GBE
Session 1.5	<ol style="list-style-type: none"> 1. Perimeter: review 6SU 2. Units of length: review B8T

Investigation 2: Sorting and Classifying Polygons

Textbook section	IXL skills
Session 2.1	<ol style="list-style-type: none"> 1. Is it a polygon? MCE 2. Parallel, perpendicular, and intersecting lines JL7
Session 2.2	<ol style="list-style-type: none"> 1. Identify the number of sides in polygons 6PL 2. Compose two-dimensional shapes RDM

Session 2.3

1. Parallel sides in quadrilaterals 58M

Session 2.4

1. Sides and angles of quadrilaterals PTK

Session 2.5

1. Acute, right, and obtuse angles W6Z
 2. Classify triangles: acute, obtuse, and right T7B

Investigation 3: Measuring Angles**Textbook section****IXL skills****Session 3.1**

1. Angles greater than, less than, or equal to a right angle MHU

Session 3.2

1. Estimate angle measurements KE8

Session 3.3

1. Measure angles with a protractor WDD
 2. Points, lines, line segments, rays, and angles 9MK

Session 3.4

1. Measuring angles: review 59D

Investigation 4: Symmetry and Area**Textbook section****IXL skills****Session 4.1**

1. Introduction to line symmetry NS7

Session 4.2

1. Tile a rectangle and find the area FV6
 2. Draw lines of symmetry XA9

Also consider

- Count lines of symmetry MWS

Session 4.3

1. Make halves RYH

Session 4.4

1. Area of figures made of unit squares LFS
 2. Area of figures on grids HB5

Also consider

- Create figures with a given area ZZX



Session 4.5

1. Find the area or missing side length of a rectangle 9E6

Session 4.6

1. Area: word problems BDU
2. Area and perimeter: word problems LTP

Unit 5

Large Numbers and Landmarks

Investigation 1: Studying Addition

Textbook section	IXL skills
Session 1.1	<ol style="list-style-type: none"> Add two numbers up to three digits DWQ Add money amounts AGD
Session 1.2	<ol style="list-style-type: none"> Add two numbers up to three digits: word problems M8W Add money amounts: word problems Y98
Session 1.3	<ol style="list-style-type: none"> Estimate sums: numbers up to three digits Z8X Estimate sums: word problems C84
Session 1.4	<ol style="list-style-type: none"> Add two numbers up to four digits C6H Add two numbers: fill in the missing digits HZG
Session 1.5	<ol style="list-style-type: none"> Which number makes the addition equation true? LBT
Session 1.6	<ol style="list-style-type: none"> Choose numbers with a particular sum P5U <p><i>Also consider</i></p> <ul style="list-style-type: none"> Multi-step addition word problems LM2

Investigation 2: Studying Subtraction

Textbook section	IXL skills
Session 2.1	<ol style="list-style-type: none"> Subtract two numbers up to three digits: word problems 6SZ Estimate differences up to 1,000 6RZ <p><i>Also consider</i></p> <ul style="list-style-type: none"> Estimate differences: word problems UAC
Session 2.2	<ol style="list-style-type: none"> Subtract two numbers up to four digits: word problems 7KL

Session 2.3

1. Interpret a table CLC

Session 2.4

1. Subtract two numbers up to three digits FCP

Session 2.5

1. Subtract two numbers up to four digits BCD

Session 2.6

1. Subtraction: fill in the missing digits BFM
2. Choose numbers with a particular difference XEV

Also consider

- Multi-step word problems involving subtraction 68Y

Session 2.7

1. Addition and subtraction word problems 63R

Investigation 3: Adding and Subtracting Large Numbers**Textbook section****IXL skills****Session 3.1**

1. Add three numbers up to three digits each: word problems JQB

Session 3.2

1. Convert between standard and expanded form: up to 10,000 U7R
2. Rounding: up to thousands place Z7U

Session 3.3

1. Addition and subtraction word problems: numbers up to five digits D47
2. Rounding: up to hundred thousands place QV7

Also consider

- Compare numbers up to one hundred thousand DP2

Session 3.4

1. Add and subtract numbers up to five digits CFX
2. Convert between standard and expanded form: up to 1,000,000 4R6

Also consider

- Rounding puzzles XVJ

Session 3.5

1. Compare numbers up to one million 6Y2

Session 3.6

1. Place value review: expanded form, rounding, and comparing *CVV*
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Unit 6

Fraction Cards and Decimal Grids

Investigation 1: Parts of Rectangles

Textbook section	IXL skills
Session 1.1	1. Show fractions 8FY
Session 1.2	1. Fractions review YPL
Session 1.3	1. Find equivalent fractions using area models: two models BXV
Session 1.4	1. Model decimals and fractions less than 1 7Q5
Session 1.5	1. Model decimals 8KF 2. Find equivalent fractions using area models: one model TQR <i>Also consider</i> <ul style="list-style-type: none"> Are the fractions equivalent? CRS
Session 1.6	1. What decimal number is illustrated? ZY9 2. Identify an equivalent fraction DP5 <i>Also consider</i> <ul style="list-style-type: none"> Convert between decimals and fractions HRD

Investigation 2: Comparing Fractions and Decimals

Textbook section	IXL skills
Session 2.1	1. Select all of the equivalent fractions YEF <i>Also consider</i> <ul style="list-style-type: none"> Find equivalent fractions using number lines P5S

Session 2.2

1. Equivalent fractions: find the missing numerator or denominator 7CY

Also consider

- Graph equivalent fractions on number lines WQL

Session 2.3

1. Compare fractions using models 7XF

Session 2.4

1. Compare fractions: given a benchmark FYH

Session 2.5

1. Compare fractions: identify the benchmark 7YE
2. Compare fractions using benchmarks: find the missing numerator UKZ

Also consider

- Graph and order fractions on number lines 7GK

Session 2.6

1. Order fractions MSB

Also consider

- Compare fractions: find the missing numerator or denominator KPU

Session 2.7

1. Compare decimals using models CV7
2. Compare decimals I SWT

Session 2.8

1. Put decimal numbers in order using models MDB
2. Put decimal numbers in order 4M5

Also consider

- Compare decimals II CMS

Investigation 3: Adding and Subtracting Fractions and Decimals**Textbook section****IXL skills****Session 3.1**

1. Decompose fractions multiple ways UEW
2. Add fractions with like denominators using number lines 6QH
3. Add fractions with like denominators PDU

Session 3.2

1. Subtract fractions with like denominators AVF
2. Add and subtract fractions with like denominators: word problems XBR

Also consider

- Subtract fractions with like denominators using number lines MJX

Session 3.3

1. Create and interpret line plots with fractions I 6JV
2. Add and subtract fractions with like denominators FXD

Session 3.4

1. Add and subtract mixed numbers with like denominators 9AS
2. Add and subtract mixed numbers with like denominators: word problems 6KM
3. Create and interpret line plots with fractions II 8LG

Session 3.5

1. Compare fractions or decimals: review VKF

Also consider

- Break apart fractions and mixed numbers to add or subtract S9V

Session 3.6

1. Add fractions: denominators 10 and 100 9RJ
2. Add decimals AWD

Also consider

- Fractions with denominators of 10 and 100 VLP
- Identify fraction expressions with a particular sum: denominators of 10 and 100 TZH

Investigation 4: Computation with Rational Numbers**Textbook section****IXL skills****Session 4.1**

1. Multiply fractions by whole numbers using models Y5C
2. Multiply fractions by whole numbers using models: complete the equation CZ7
3. Multiply fractions by whole numbers using number lines Q7B

Also consider

- Multiply unit fractions by whole numbers: word problems DSB

Session 4.2

1. Multiply fractions by whole numbers JLH
2. Add, subtract, and multiply fractions: word problems W8H

Also consider

- Multiply fractions by whole numbers in recipes 5HJ

Session 4.3

1. Multiply fractions by whole numbers: word problems LX8

Session 4.4

1. Multiples of fractions: find the missing numbers RSY
 2. Multiply fractions by whole numbers: sorting X48
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Unit 7

How Many Packages and Groups?

Investigation 1: Multiplication with 2-Digit Numbers

Textbook section	IXL skills
Session 1.1	<ol style="list-style-type: none"> 1. Conversion tables: units of mass and capacity YFQ 2. Convert measurement units AXG
Session 1.2	<ol style="list-style-type: none"> 1. Multi-step measurement word problems A2E 2. Elapsed time: word problems VCC <p><i>Also consider</i></p> <ul style="list-style-type: none"> • Write variable equations to represent word problems 5SJ
Session 1.3	<ol style="list-style-type: none"> 1. Estimate products MC2 2. Multi-step addition and subtraction word problems CZM
Session 1.4	<ol style="list-style-type: none"> 1. Multiply 2-digit numbers by 2-digit numbers using area models I ASZ 2. Multiply 2-digit numbers by 2-digit numbers using area models II 8K7 3. Multiply a 2-digit number by a 2-digit number MLC
Session 1.5	<ol style="list-style-type: none"> 1. Use one multiplication fact to complete another W6D <p><i>Also consider</i></p> <ul style="list-style-type: none"> • Compare fractions 99U
Session 1.6	<ol style="list-style-type: none"> 1. Multiply 2-digit numbers by 2-digit numbers using the distributive property 7ST <p><i>Also consider</i></p> <ul style="list-style-type: none"> • Identify equivalent fractions GSG
Session 1.7	<ol style="list-style-type: none"> 1. Multiply a 2-digit number by a 2-digit number: word problems GZG

Investigation 2: Strategies for Multiplication

Textbook section	IXL skills
Session 2.1	1. Compare customary units by multiplying 8U7
Session 2.2	<ul style="list-style-type: none"> • <i>Coming soon:</i> Multiply a 2-digit number by a 2-digit number: multi-step word problems
Session 2.3	1. Multiply 1-digit by 4-digit numbers using area models S5P 2. Multiply 1-digit by 4-digit numbers H7A <i>Also consider</i> <ul style="list-style-type: none"> • Division facts to 10 YFU
Session 2.4	1. Multiply 2-digit by 2-digit or 1-digit by 4-digit numbers DZD <i>Also consider</i> <ul style="list-style-type: none"> • Multiplication input/output tables: numbers up to 1,000 JAS
Session 2.5	1. Multiply 1-digit by 4-digit numbers: word problems CJW

Investigation 3: Solving Division Problems

Textbook section	IXL skills
Session 3.1	1. Division word problems: up to 3-digit dividends 8RZ <i>Also consider</i> <ul style="list-style-type: none"> • Add three or more numbers URR
Session 3.2	1. Divide 3-digit numbers ZHP
Session 3.3	1. Divide 4-digit numbers by 1-digit numbers TK9 <i>Also consider</i> <ul style="list-style-type: none"> • Estimate quotients using compatible numbers: 1-digit divisors CWE

Session 3.4

1. Divide larger numbers by 1-digit numbers: interpret quotients and remainders SVK
 2. Multi-step word problems EA9
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Session 3.5

1. Multiplication and division word problems: numbers up to 4-digits JUM
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Session 3.6

1. Multi-step word problems: identify reasonable answers K6X
 2. Multi-step word problems involving remainders SLS
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Unit 8

Penny Jars and Towers

Investigation 1: Representing and Analyzing Patterns

Textbook section	IXL skills
Session 1.1	1. Use a rule to complete an addition pattern JWF
Session 1.2	1. Addition input/output tables QTQ
Session 1.3	1. What is true about the addition pattern? BFN <i>Also consider</i> • Addition input/output tables: find the rule QVV
Session 1.4	1. Addition patterns: find the missing number S9T 2. Addition number patterns: word problems I QDZ
Session 1.5	1. Addition number patterns: word problems II B8H
Session 1.6	1. Use a rule to complete a multiplication pattern WYS <i>Also consider</i> • Complete the input/output tables DCC
Session 1.7	1. Complete the input/output table: multiplication patterns YLR
Session 1.8	1. What is true about the multiplication pattern? MBB
Session 1.9	1. Multiplication input/output tables: find the rule KQG
Session 1.10	1. Complete the table: word problems 8ZU <i>Also consider</i> • Compare patterns 7K6