INCOMING SEVENTH GRADERS - Summer 2022 IXL Math Requirements

This is a list of recommended sections to work on for your summer IXL hours. These are the sections that are most relevant to what you should review to be ready for 7th grade.

You do not need to do every section. Look at the IXL learning page and check the preview of these sections. Pick the ones that you feel you would benefit the most from in preparation for next year. Work on sections that you struggled with in 6th grade to give you more practice and hopefully increase your understanding and proficiency in those areas.

Do not spend time doing sections you already know well. You may work on a section you have already done. Pick a variety of sections to do, and try to do 2 or 3 lessons from each section.

5 hours, required by the 1st day of school, from the following topics:

IXL Grade Level: 6

A. Whole numbers

- Place values in whole numbers
- Writing numbers in words: convert words to digits
- Writing numbers in words: convert digits to words

B. Multiplication

- Multiply whole numbers
- Multiply whole numbers: word problems
- Multiply whole numbers with four or more digits
- Multiply numbers ending in zeroes
- Multiply three or more numbers

C. Division

- Divisibility rules
- Division patterns with zeroes
- Divide numbers ending in zeroes: word problems
- Estimate quotients
- Divide whole numbers - 2-digit divisors
- Divide whole numbers - 3-digit divisors

D. Exponents and square roots

- Write multiplication expressions using exponents
- Evaluate exponents
- Write powers of ten with exponents
- Find the missing exponent or base
- Square roots of perfect square

E. Number theory

- Prime or composite
- Identify factors
- Prime factorization
- Prime factorization with exponents
- Greatest common factor
- Greatest common factor of three or four numbers
- Least common multiple

• New! Find all the factor pairs of a number

F. Decimals

- Decimal place values
- Word names for decimal numbers
- Put decimal numbers in order
- Inequalities with decimals
- Round decimals
- Round whole numbers and decimals: find the missing digit
- Decimal number lines

G. Add and subtract decimals

- Add and subtract decimal numbers
- Add and subtract decimals: word problems
- Estimate sums and differences of decimals

H. Multiply and divide decimals

- Estimate products of decimal numbers
- Multiply decimals
- Inequalities with decimal multiplication
- Divide decimals by whole numbers
- Divide decimals by whole numbers: word problems
- Multiply and divide decimals by powers of ten
- Division with decimal quotients
- Inequalities with decimal division
- •New! Multiply and divide decimals: word problems

I. Fractions and mixed numbers

- Fractions on number lines
- Fractions of a whole: word problems
- Fractions of a group: word problems
- Equivalent fractions review
- Write fractions in lowest terms

- Least common denominator
- Compare fractions with like and unlike denominators
- Compare fractions: word problems
- Convert between improper fractions and mixed numbers
- Convert fractions to decimals
- Convert decimals to fractions
- Convert between decimals and mixed numbers
- Put a mix of decimals, fractions, and mixed numbers in order

J. Add and subtract fractions

- Add and subtract fractions with like denominators
- Add and subtract fractions with like denominators: word problems
- Add and subtract fractions with unlike denominators
- Add and subtract fractions with unlike denominators: word problems
- Inequalities with addition and subtraction of like and unlike fractions
- Add and subtract mixed numbers
- Add and subtract mixed numbers: word problems
- Estimate sums and differences of mixed numbers

K. Multiply fractions

- Fractions of whole numbers I
- Fractions of whole numbers II
- Fractions of a number: word problems
- Estimate products of fractions and whole numbers
- Multiply two fractions using models
- Multiply two fractions
- Multiply fractions: word problems
- Multiply three or more fractions and whole numbers
- Estimate products of mixed numbers
- Multiply mixed numbers and whole numbers

L. Divide fractions

- Divide whole numbers by unit fractions using models
- Reciprocals
- Divide whole numbers and unit fractions
- Divide fractions by whole numbers in recipes
- Divide fractions
- Estimate quotients when dividing mixed numbers
- Divide fractions and mixed numbers
- Divide fractions and mixed numbers: word problems

M. Integers

- Understanding integers

- Integers on number lines
- Graph integers on horizontal and vertical number lines
- • New! Understanding opposite integers
- Understanding absolute value
- Absolute value
- Compare integers
- Put integers in order
- Integer inequalities with absolute values

N. Operations with integers

- Add integers using counters
- •New! Add integers using number lines
- Add integers
- Subtract integers using counters
- •New! Subtract integers using number lines
- Subtract integers
- Add and subtract integers: find the sign
- Add and subtract integers: input/output tables
- Add three or more integers
- Multiply integers: find the sign
- Multiply integers
- Divide integers: find the sign
- Divide integers

FF. Geometric measurement

- Perimeter
- Area of rectangles and squares
- Area of triangles
- Circles: calculate area, circumference, radius, and diameter
- Circles: word problems

O. Mixed operations

- Add, subtract, multiply, or divide two whole numbers
- Evaluate numerical expressions involving whole numbers
- Add, subtract, multiply, or divide two decimals
- Add, subtract, multiply, or divide two fractions
- Add, subtract, multiply, or divide two integers

P. Rational numbers

1. Rational numbers: equal or not equal

R. Ratios and rates

- Write a ratio
- Write a ratio using a fraction
- Write a ratio: word problems
- Identify equivalent ratios
- Write an equivalent ratio
- Unit rates
- Do the ratios form a proportion?
- Solve the proportion
- Scale drawings: word problems

S. Percents

- What percentage is illustrated?
- Convert between percents, fractions, and decimals
- Compare percents to each other and to fractions
- Percents of numbers and money amounts

T. Units of measurement

- Estimate customary measurements
- Estimate metric measurements
- Convert and compare customary units
- Convert, compare, add, and subtract mixed customary units
- Convert and compare metric units

V. Consumer math

- Unit prices
- Sale prices
- Percents - calculate tax, tip, mark-up, and more
- Simple interest

W. Time

- Elapsed time

X. Coordinate plane

- Objects on a coordinate plane
- Graph points on a coordinate plane
- Quadrants

Y. Expressions and properties

- Write variable expressions: one operation
- Evaluate variable expressions with whole numbers
- Properties of addition

- Properties of multiplication

Z. One-variable equations

1. Solve one-step equations with whole numbers

BB. Two-variable equations

1. Complete a table for a two-variable relationship
2. Write a two-variable equation
3. Identify the graph of an equation

CC. Two-dimensional figures

- Identify and classify polygons
- Measure and classify angles
- Classify triangles
- Identify trapezoids
- Classify quadrilaterals
- Find missing angles in triangles
- Find missing angles in quadrilaterals
- Lines, line segments, and rays
- Name angles
- Complementary and supplementary angles
- Identify complementary, supplementary, vertical, adjacent, and congruent angles
- Parts of a circle

DD. Symmetry and transformations

- Reflection, rotation, and translation
- Similar and congruent figures

EE. Three-dimensional figures

- Identify polyhedra
- Nets of three-dimensional figures

FF. Geometric measurement

- Perimeter
- Area of rectangles and squares
- Area of triangles
- Circles: calculate area, circumference, radius, and diameter
- Volume of cubes and rectangular prisms
- Surface area of cubes and rectangular prisms

GG. Data and graphs

- Interpret line plots
- Interpret bar graphs
- Interpret double bar graphs
- Interpret histograms
- Interpret circle graphs
- Interpret line graphs
- Interpret double line graphs
- Interpret stem-and-leaf plots
- Interpret box-and-whisker plots
- Choose the best type of graph

HH. Statistics

- Calculate mean, median, mode, and range