INCOMING SIXTH GRADERS - Summer 2021 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 6th 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: 5

A. Place values and number sense

- Convert between standard and expanded form
- Place value
- Compare numbers up to billions
- Writing numbers in words: convert words to digits
- Writing numbers in words: convert digits to words
- Rounding

B. Addition and subtraction

- Add and subtract whole numbers up to billions
- Add and subtract whole numbers: word problems
- Properties of addition
- Estimate sums and differences of whole numbers
- Estimate sums and differences: word problems

C. Multiplication

- Multiply by 1-digit numbers
- Multiplication patterns over increasing place values
- Multiply numbers ending in zeroes
- Estimate products
- Box multiplication
- Multiply by 2-digit numbers: complete the missing steps
- Multiply 2-digit numbers by 2-digit numbers
- Multiply 2-digit numbers by 3-digit numbers
- Multiply 2-digit numbers by larger numbers

D. Division

- Division facts to 12
- Divide multi-digit numbers by 1-digit numbers
- Divide by 1-digit numbers: interpret remainders
- Division patterns over increasing place values
- Divide numbers ending in zeroes
- Estimate quotients
- Estimate quotients: 2-digit divisors
- Divide by 2-digit numbers using models
- Divide 2-digit and 3-digit numbers by 2-digit numbers
- Divide 4-digit numbers by 2-digit numbers

E. Exponents

- Understanding powers of ten
- Evaluate powers of ten
- Write powers of ten with exponents
- Multiply a whole number by a power of ten: with exponents

F. Number Theory

- Identify factors
- Prime and composite numbers
- Prime factorization
- Divisibility rules

G. Decimals

- What decimal number is illustrated?
- Model decimals and fractions
- Understanding decimals expressed in words
- Place values in decimal numbers
- Convert decimals between standard and expanded form
- Equivalent decimals
- Round decimals
- Decimal number lines
- Compare decimals on number lines
- Compare decimal numbers
- Put decimal numbers in order
- Convert fractions to decimals

H. Add and subtract decimals

- Add decimal numbers using blocks
- Add decimal numbers
- Subtract decimal numbers
- Add and subtract decimal numbers
- Estimate sums and differences of decimals using rounding

I. Multiply decimals

- Estimate products of whole numbers and decimals
- Estimate products of decimals
- Multiply a decimal by a power of ten
- Multiply by 0.1 or 0.01
- Multiply a decimal by a one-digit whole number
- Multiply a decimal by a multi-digit whole number
- Multiply two decimals: products up to hundredths
- Multiply two decimals: products up to thousandths

J. Divide decimals

- Divide by powers of ten
- Decimal division patterns over increasing place values
- Division with decimal quotients
- Division with decimal quotients and rounding
- Estimate decimal quotients
- Divide by 0.1 or 0.01
- Divide by decimals without adding zeroes
- Divide by decimals

K. Fractions and mixed numbers

- Fractions review
- Fractions of a whole: word problems
- Fractions of a group: word problems
- Equivalent fractions
- Write fractions in lowest terms
- Convert between improper fractions and mixed numbers

L. Add and subtract fractions

- Add and subtract fractions with like denominators
- Add and subtract mixed numbers with like denominators
- Add fractions with unlike denominators
- Subtract fractions with unlike denominators

Q. Percents

- What percentage is illustrated?
- Convert between percents, fractions, and decimals

R. Money

- Add and subtract money amounts
- Multiply money amounts
- Divide money amounts

S. Number sequences

- Use a rule to complete a number sequence
- Compare patterns
- Complete an increasing number sequence

T. Coordinate plane

- Describe the coordinate plane
- Objects on a coordinate plane
- Graph points on a coordinate plane

U. Variable expressions

- Write variable expressions
- Write variable expressions: word problems
- Evaluate variable expressions
- Write variable equations: word problems
- Solve equations with whole numbers
- Solve equations with decimals

W. Probability and statistics

- Find the mode
- Find the mean
- Find the median
- Find the range

X. Time

- Convert time units
- Add and subtract mixed time units
- Time zones
- Elapsed time
- Find start and end times: word problems
- Schedules and timelines

Z. Two-dimensional figures

- Is it a polygon?
- Number of sides in polygons
- Regular and irregular polygons
- Points, lines, line segments, rays, and angles
- Parallel, perpendicular, and intersecting lines
- Types of angles

CC. Three-dimensional figures

- Identify three-dimensional figures
- Count vertices, edges, and faces
- Nets of three-dimensional figures
- Three-dimensional figures viewed from different perspectives

DD. Geometric measurement

- Perimeter with whole number side lengths
- Perimeter with decimal side lengths
- Perimeter with fractional side lengths
- Perimeter of figures on grids
- Area of squares and rectangles