

Virtual Learning Academy
Jefferson County Educational Service Center
Academic Content Standards
Math 03

Lesson 01 - Probability, Grids and Symmetry

Math 03 Lesson 1 - Probability, Grids and Symmetry

Standard Benchmark and Indicator
S03. Geometry and Spatial Sense
G. Find and name locations in coordinate systems. (03-04)
03. Find and name locations on a labeled grid or coordinate system; e.g., a map or graph. (03)
H. Identify and describe line and rotational symmetry in two-dimensional shapes and designs. (03-04)
04. Draw lines of symmetry to verify symmetrical two-dimensional shapes. (03)
S05. Data Analysis and Probability
F. Conduct a simple probability experiment and draw conclusions about the likelihood of possible outcomes. (03-04)
09. Conduct a simple experiment or simulation of a simple event, record the results in a chart, table or graph, and use the results to draw conclusions about the likelihood of possible outcomes. (03)

Lesson 02 - Area, Perimeter, and Volume

Math 03 Lesson 2 - Area, Perimeter, and Volume

Standard Benchmark and Indicator
S02. Measurement
C. Develop common referents for units of measure for length, weight, volume (capacity) and time to make comparisons and estimates. (03-04)
05. Estimate and measure length, weight and volume (capacity), using metric and U.S. customary units, accurate to the nearest (03)
D. Identify appropriate tools and apply counting techniques for measuring side lengths, perimeter and area of squares, rectangles, and simple irregular two-dimensional shapes, volume of rectangular prisms, and time and temperature. (03-04)
07. Make estimates for perimeter, area and volume using links, tiles, cubes and other models. (03)

Lesson 03 - Multiplication and Division

Math 03 Lesson 3 - Multiplication and Division

Virtual Learning Academy
Jefferson County Educational Service Center
Academic Content Standards
Math 03

Standard Benchmark and Indicator
S01. Number, Number Sense and Operations
H. Use relationships between operations, such as subtraction as the inverse of addition and division as the inverse of multiplication. (03-04)
10. Explain and use relationships between operations, such as: (03)
10. relate subtraction to division (repeated subtraction). (03)
10. relate addition and subtraction as inverse operations; (03)
10. relate multiplication and division as inverse operations; (03)
10. relate addition to multiplication (repeated addition); (03)
I. Demonstrate fluency in multiplication facts with factors through 10 and corresponding divisions. (03-04)
13. Demonstrate fluency in multiplication facts through 10 and corresponding division facts. (03)
L. Use a variety of methods and appropriate tools (mental math, paper and pencil, calculators) for computing with whole numbers. (03-04)
08. Model, represent and explain multiplication; e.g., repeated addition, skip counting, rectangular arrays and area model. For example: (03)
08. Use conventional mathematical symbols to write equations for word problems involving multiplication. (03)
08. Understand that, unlike addition and subtraction, the factors in multiplication and division may have different units; e.g., 3 boxes of 5 cookies each. (03)

Lesson 04 - Compare Numbers

Math 03 Lesson 4 - Compare Numbers

Standard Benchmark and Indicator
S01. Number, Number Sense and Operations
D. Use models, points of reference and equivalent forms of commonly used fractions to judge the size of fractions and to compare, describe and order them. (03-04)
03. Use mathematical language and symbols to compare and order; e.g., less than, greater than, at most, at least, $<$, $>$, $=$, (03)

Lesson 05 - Organize, Record, and Analyze

Math 03 Lesson 5 - Organize, Record, and Analyze

Standard Benchmark and Indicator
S04. Patterns, Functions and Algebra
F. Construct and use a table of values to solve problems associated with mathematical relationships. (03-04)
07. Create tables to record, organize and analyze data to discover patterns and rules. (03)
S05. Data Analysis and Probability

Virtual Learning Academy
Jefferson County Educational Service Center
Academic Content Standards
Math 03

B. Read and interpret tables, charts, graphs (bar, picture, line, line plot), and timelines as sources of information, identify main idea, draw conclusions, and make predictions. (03-04)
04. Support a conclusion or prediction orally and in writing, using information in a table or graph. (03)
D. Read, interpret and construct graphs in which icons represent more than a single unit or intervals greater than one; e.g., each (03-04)
02. Draw and interpret picture graphs in which a symbol or picture represents more than one object. (03)

Lesson 06 - Number Properties and Patterns

Math 03 Lesson 6 - Number Properties and Patterns

Standard Benchmark and Indicator
S01. Number, Number Sense and Operations
G. Model and use commutative and associative properties for addition and multiplication. (03-04)
11. Model and use the commutative and associative properties for addition and multiplication. (03)
S04. Patterns, Functions and Algebra
A. Analyze and extend patterns, and describe the rule in words. (03-04)
01. Extend multiplicative and growing patterns, and describe the pattern or rule in words. (03)

Lesson 07 - Place Value and Number Names

Math 03 Lesson 7 - Place Value and Number Names

Standard Benchmark and Indicator

represent and compare whole numbers and decimals. (03-04)
02. Use place value concepts to represent whole numbers and decimals using numerals, words, expanded notation and physical models. For example: (03)
02. Explain the concept of tenths and hundredths using physical models, such as metric pieces, base ten blocks, decimal squares or money. (03)
02. Recognize 100 means "10 tens" as well as a single entity (1 hundred) through physical models and trading games. (03)
02. Describe the multiplicative nature of the number system; e.g., the structure of

Virtual Learning Academy
Jefferson County Educational Service Center
Academic Content Standards
Math 03

02. Model the size of 1000 in multiple ways; e.g., packaging 1000 objects into 10 boxes of 100, modeling a meter with centimeter and decimeter strips, or gathering 1000 pop-can tabs. (03)
B. Recognize and generate equivalent representations for whole numbers, fractions and decimals. (03-04)
01. Identify and generate equivalent forms of whole numbers; e.g., 36 , $30 + 6$, 9×4 , $46 - 10$, number of inches in a yard. (03)

Lesson 08 - Angles; Bar Graphs

Math 03 Lesson 8 - Angles; Bar Graphs

Standard Benchmark and Indicator
S03. Geometry and Spatial Sense
D. Identify and draw right, obtuse, acute and straight angles. (03-04)
S05. Data Analysis and Probability
D. Read, interpret and construct graphs in which icons represent more than a single unit or intervals greater than one; e.g., each (03-04)
03. Read, interpret and construct bar graphs with intervals greater than one. (03)

Lesson 09 - Money and Time

Math 03 Lesson 9 - Money and Time

Standard Benchmark and Indicator
S01. Number, Number Sense and Operations
F. Count money and make change using both coins and paper bills. (03-04)
04. Count money and make change using coins and paper bills to ten dollars. (03)
S02. Measurement
E. Tell time to the nearest minute. (03-04)
03. Tell time to the nearest minute and find elapsed time using a calendar or a clock. (03)

Lesson 10 – Measurements

Math 03 Lesson 10 - Measurements

Standard Benchmark and Indicator
01. volume (capacity) - gallons; (03)
01. weight - ounces, pounds, grams, or kilograms; (03)

Virtual Learning Academy
Jefferson County Educational Service Center
Academic Content Standards
Math 03

01. weight - ounces, pounds, grams, or kilograms; (03)
04. Read thermometers in both Fahrenheit and Celsius scales. (03)
C. Develop common referents for units of measure for length, weight, volume (capacity) and time to make comparisons and estimates. (03-04)
02. Establish personal or common referents to include additional units; e.g., a gallon container of milk; a postage stamp is about a square inch. (03)

Lesson 11 - Inverse and Opposite Operations

Math 03 Lesson 11 - Inverse and Opposite Operations

Standard Benchmark and Indicator
S01. Number, Number Sense and Operations
H. Use relationships between operations, such as subtraction as the inverse of addition and division as the inverse of multiplication. (03-04)
10. Explain and use relationships between operations, such as: (03)
10. relate subtraction to division (repeated subtraction). (03)
10. relate addition and subtraction as inverse operations; (03)
10. relate multiplication and division as inverse operations; (03)
10. relate addition to multiplication (repeated addition); (03)

Lesson 12 - Expanded Notation; Graphing

Math 03 Lesson 12 - Expanded Notation; Graphing

Standard Benchmark and Indicator
S01. Number, Number Sense and Operations
A. Use place value structure of the base-ten number system to read, write, represent and compare whole numbers and decimals. (03-04)
02. Use place value concepts to represent whole numbers and decimals using numerals, words, expanded notation and physical models. For example: (03)
S05. Data Analysis and Probability
A. Gather and organize data from surveys and classroom experiments, including data collected over a period of time. (03-04)
01. Collect and organize data from an experiment, such as recording and classifying observations or measurements, in response to a question posed. (03)
C. Construct charts, tables and graphs to represent data, including picture graphs, bar graphs, line graphs, line plots and Venn diagrams. (03-04)
06. Translate information freely among charts, tables, line plots, picture graphs and bar graphs; e.g., create a bar graph from the information in a chart. (03)

Lesson 13 - Math Statements and Subtraction

Math 03 Lesson 13 - Math Statements and Subtraction

Virtual Learning Academy
Jefferson County Educational Service Center
Academic Content Standards
Math 03

Standard Benchmark and Indicator
S01. Number, Number Sense and Operations
K. Analyze and solve multi-step problems involving addition, subtraction, multiplication and division of whole numbers. (03-04)
12. Add and subtract whole numbers with and without regrouping. (03)
S04. Patterns, Functions and Algebra
C. Write and solve open sentences and explain strategies. (03-04)
05. Write, solve and explain simple mathematical statements, such as $7 +$ (03)

Lesson 14 - Arrangements and Predictions

Math 03 Lesson 14 - Arrangements and Predictions

Standard Benchmark and Indicator
S04. Patterns, Functions and Algebra
B. Use patterns to make predictions, identify relationships, and solve problems. (03-04)
03. Use patterns to make predictions, identify relationships, and solve problems. (03)
S05. Data Analysis and Probability
G. Identify and represent possible outcomes, such as arrangements of a set of up to four members and possible combinations from several sets, each containing 2 or 3 members. (03-04)
10. Use physical models, pictures, diagrams and lists to solve problems involving possible arrangements or combinations of two to four objects. (03)

Lesson 15 - Properties of 2-D & 3-D shapes

Math 03 Lesson 15 - Properties of 2-D & 3-D shapes

Standard Benchmark and Indicator
S03. Geometry and Spatial Sense
A. Provide rationale for groupings and comparisons of two-dimensional figures and three-dimensional objects. (03-04)
01. Analyze and describe properties of two-dimensional shapes and three-dimensional objects using terms such as vertex, edge, angle, side and face. (03)

Lesson 16 - Word Problems and Division

Math 03 Lesson 16 - Word Problems and Division

Standard Benchmark and Indicator
S01. Number, Number Sense and Operations

Virtual Learning Academy
Jefferson County Educational Service Center
Academic Content Standards
Math 03

L. Use a variety of methods and appropriate tools (mental math, paper and pencil, calculators) for computing with whole numbers. (03-04)
08. Model, represent and explain multiplication; e.g., repeated addition, skip counting, rectangular arrays and area model. For example: (03)
08. Understand that, unlike addition and subtraction, the factors in multiplication and division may have different units; e.g., 3 boxes of 5 cookies each. (03)
09. Model, represent and explain division; e.g., sharing equally, repeated subtraction, rectangular arrays and area model. For example: (03)
09. Translate contextual situations involving division into conventional mathematical symbols. (03)
09. Explain how a remainder may impact an answer in a real-world situation; e.g., 14 cookies being shared by 4 children. (03)

Lesson 17 - Volume and Capacity

Math 03 Lesson 17 - Volume and Capacity

Standard Benchmark and Indicator
S02. Measurement
A. Select appropriate units for perimeter, area, weight, volume (capacity), time and temperature, using: (03-04)
01. Identify and select appropriate units for measuring: (03)
01. temperature - degrees (Fahrenheit or Celsius). (03)
01. length - miles, kilometers and other units of measure as appropriate. (03)
01. volume (capacity) - gallons; (03)
01. weight - ounces, pounds, grams, or kilograms; (03)

Lesson 18 - Midterm for First Half of 3rd Grade

Lesson 19 - Fractions and Mixed Numbers

Math 03 Lesson 19 - Fractions and Mixed Numbers

Standard Benchmark and Indicator
S01. Number, Number Sense and Operations
C. Represent commonly used fractions and mixed numbers using words and physical models. (03-04)
05. Represent fractions and mixed numbers using words, numerals and physical models. (03)

Lesson 20 - Multiply and Divide 2 & 3 digits by 1 digit

Virtual Learning Academy
Jefferson County Educational Service Center
Academic Content Standards
Math 03

Math 03 Lesson 20 - Multiply and Divide 2 & 3 digits by 1 digit

Standard Benchmark and Indicator
S01. Number, Number Sense and Operations
K. Analyze and solve multi-step problems involving addition, subtraction, multiplication and division of whole numbers. (03-04)
14. Multiply and divide 2- and 3-digit numbers by a single-digit number, without remainders for division. (03)

Lesson 21 - Inequalities, Sequences, and Patterns

Math 03 Lesson 21 - Inequalities, Sequences, and Patterns

Standard Benchmark and Indicator
S04. Patterns, Functions and Algebra
A. Analyze and extend patterns, and describe the rule in words. (03-04)
02. Analyze and replicate arithmetic sequences with and without a calculator. (03)
C. Write and solve open sentences and explain strategies. (03-04)
06. Express mathematical relationships as equations and inequalities. (03)

Lesson 22 - Match Data With Graphical Representative

Math 03 Lesson 22 - Match Data With Graphical Representative

Standard Benchmark and Indicator
S05. Data Analysis and Probability
B. Read and interpret tables, charts, graphs (bar, picture, line, line plot), and timelines as sources of information, identify main idea, draw conclusions, and make predictions. (03-04)
05. Match a set of data with a graphical representation of the data. (03)

Lesson 23 - Compare and Order Fractions and Mixed Numbers

Math 03 Lesson 23 - Compare and Order Fractions and Mixed Numbers

Standard Benchmark and Indicator
S01. Number, Number Sense and Operations
D. Use models, points of reference and equivalent forms of commonly used fractions to judge the size of fractions and to compare, describe and order them.

Virtual Learning Academy
Jefferson County Educational Service Center
Academic Content Standards
Math 03

(03-04)

06. Compare and order commonly used fractions and mixed numbers using number lines, models (such as fraction circles or bars), points of reference (such as more or less than) (03)

Lesson 24 - Using Models and Tables to Solve Problems

Math 03 Lesson 24 - Using Models and Tables to Solve Problems

Standard Benchmark and Indicator

S04. Patterns, Functions and Algebra

E. Use variables to create and solve equations representing problem situations.

(03-04)

04. Model problem situations using objects, pictures, tables, numbers, letters and other symbols. (03)

Lesson 25 – Timelines

Math 03 Lesson 25 - Timelines

Standard Benchmark and Indicator

S05. Data Analysis and Probability

B. Read and interpret tables, charts, graphs (bar, picture, line, line plot), and timelines as sources of information, identify main idea, draw conclusions, and make predictions. (03-04)

07. Analyze and interpret information represented on a timeline. (03)

Lesson 26 – Remainders

Math 03 Lesson 26 - Remainders

Standard Benchmark and Indicator

S01. Number, Number Sense and Operations

L. Use a variety of methods and appropriate tools (mental math, paper and pencil, calculators) for computing with whole numbers. (03-04)

09. Explain how a remainder may impact an answer in a real-world situation; e.g., 14 cookies being shared by 4 children. (03)

Lesson 27 - Place Value and Estimating

Math 03 Lesson 27 - Place Value and Estimating

Virtual Learning Academy
Jefferson County Educational Service Center
Academic Content Standards
Math 03

Standard Benchmark and Indicator
S01. Number, Number Sense and Operations
J. Estimate the results of whole number computations using a variety of strategies, and judge the reasonableness. (03-04)
15. Evaluate the reasonableness of computations based upon operations and the numbers involved; e.g., considering relative size, place value and estimates. (03)

Lesson 28 – Decimals

Math 03 Lesson 28 - Decimals

Standard Benchmark and Indicator
S01. Number, Number Sense and Operations
A. Use place value structure of the base-ten number system to read, write, represent and compare whole numbers and decimals. (03-04)
02. Explain the concept of tenths and hundredths using physical models, such as metric pieces, base ten blocks, decimal squares or money. (03)
D. Use models, points of reference and equivalent forms of commonly used fractions to judge the size of fractions and to compare, describe and order them. (03-04)
06. Compare and order commonly used fractions and mixed numbers using number lines, models (such as fraction circles or bars), points of reference (such as more or less than) (03)

Lesson 29 - Equivalent Forms of Fractions

Math 03 Lesson 29 - Equivalent Forms of Fractions

Standard Benchmark and Indicator
S01. Number, Number Sense and Operations
B. Recognize and generate equivalent representations for whole numbers, fractions and decimals. (03-04)
07. Recognize and use decimal and fraction concepts and notations as related ways of representing parts of a whole or a set; e.g., 3 of 10 marbles are red can also be described as (03)
D. Use models, points of reference and equivalent forms of commonly used fractions to judge the size of fractions and to compare, describe and order them. (03-04)
06. Compare and order commonly used fractions and mixed numbers using number lines, models (such as fraction circles or bars), points of reference (such as more or less than) (03)

Virtual Learning Academy
Jefferson County Educational Service Center
Academic Content Standards
Math 03

Lesson 30 - Equivalent Fractions

Math 03 Lesson 30 - Equivalent Fractions

Standard Benchmark and Indicator
S01. Number, Number Sense and Operations
D. Use models, points of reference and equivalent forms of commonly used fractions to judge the size of fractions and to compare, describe and order them. (03-04)
06. Compare and order commonly used fractions and mixed numbers using number lines, models (such as fraction circles or bars), points of reference (such as more or less than) (03)

Lesson 31 - Extending Place Value and Writing Mixed Numbers

Math 03 Lesson 31 - Extending Place Value and Writing Mixed Numbers

Standard Benchmark and Indicator
S01. Number, Number Sense and Operations
A. Use place value structure of the base-ten number system to read, write, represent and compare whole numbers and decimals. (03-04)
02. Model the size of 1000 in multiple ways; e.g., packaging 1000 objects into 10 boxes of 100, modeling a meter with centimeter and decimeter strips, or gathering 1000 pop-can tabs. (03)

Lesson 32 - Determining Units of Measurement

Math 03 Lesson 32 - Determining Units of Measurement

Standard Benchmark and Indicator
S02. Measurement
D. Identify appropriate tools and apply counting techniques for measuring side lengths, perimeter and area of squares, rectangles, and simple irregular two-dimensional shapes, volume of rectangular prisms, and time and temperature. (03-04)
06. Use appropriate measurement tools and techniques to construct a figure or approximate an amount of specified length, weight or volume (capacity); e.g., construct a rectangle with length (03)

Virtual Learning Academy
Jefferson County Educational Service Center
Academic Content Standards
Math 03

Lesson 33 - Build 3D Model of an Object Composed of Cubes

Math 03 Lesson 33 - Build 3D Model of an Object Composed of Cubes

Standard Benchmark and Indicator
S03. Geometry and Spatial Sense
E. Use attributes to describe, classify and sketch plane figures and build solid objects. (03-04)
05. Build a three-dimensional model of an object composed of cubes; e.g., construct a model based on an illustration or actual object. (03)

Lesson 34 - Mode of Data Set

Math 03 Lesson 34 - Mode of Data Set

Standard Benchmark and Indicator
S05. Data Analysis and Probability
E. Describe data using mode, median and range. (03-04)
08. Identify the mode of a data set and describe the information it gives about a data set. (03)

Lesson 35 - Quantitative Change

Math 03 Lesson 35 - Quantitative Change

Standard Benchmark and Indicator
S04. Patterns, Functions and Algebra
G. Describe how a change in one variable affects the value of a related variable. (03-04)
08. Identify and describe quantitative changes, especially those involving addition and subtraction; e.g., the height of water in a glass becoming 1 centimeter lower each week due to evaporation. (03)

Lesson 36 - Second Semester Test

Virtual Learning Academy
Jefferson County Educational Service Center
Academic Content Standards
Math 03

Virtual Learning Academy
Jefferson County Educational Service Center
Academic Content Standards
Math 03

Virtual Learning Academy
Jefferson County Educational Service Center
Academic Content Standards
Math 03