|  |
| --- |
| **Unit 1: Proportional Relationships (20 days)** |
| **Est # Days** | **Focus Benchmark(s)** | **Lesson/Topic** | **GO MATH sections and other resources** |
| 3 | MA.7.AR.3.2 | Ratios and Proportional Relationships |  |
| 4 | MA.7.AR.3.2, MA.7.AR.3.3 | Use Ratios to Convert Measurements | 6th grade book 7.4 |
| 3 | MA.7.AR.4.1 | Understand Proportional Relationships |  |
| 3 | MA.7.AR.4.1, MA.7.AR.4.2, MA.7.AR.4.4 | Tables of Proportional Relationships | 4.3 |
| 3 | MA.7.AR.4.1, MA.7.AR.4.2, MA.7.AR.4.3, MA.7.AR.4.4 | Graphs of Proportional Relationships | 4.3 |
| 3 | MA.7.AR.4.2, MA.7.AR.4.3, MA.7.AR.4.4 | Equations of Proportional Relationships | 4.3 |
| 4 | MA.7.AR.4.5 | Solve Problems Involving Proportional Relationships |  |

|  |  |  |
| --- | --- | --- |
| Benchmarks | Clarifications | Big M |
| MA.7.AR.3.2 Apply previous understanding of ratios to solve real-world problems involving proportions. |  | Pages 37-39 |
| MA.7.AR.3.3 Solve mathematical and realworld problems involving the conversion of units across different measurement systems | Clarification 1: Problem types are limited to length, area, weight, mass, volume and money. | Pages 39-40 |
| MA.7.AR.4.1 Determine whether two quantities have a proportional relationship by examining a table, graph or written description | Clarification 1: Instruction focuses on the connection to ratios and on the constant of proportionality, which is the ratio between two quantities in a proportional relationship. | Pages 40-43 |
| MA.7.AR.4.2 Determine the constant of proportionality within a mathematical or realworld context given a table, graph or written description of a proportional relationship. |  | Pages 44-46 |
| MA.7.AR.4.3 Given a mathematical or realworld context, graph proportional relationships from a table, equation or a written description. | Clarification 1: Instruction includes equations of proportional relationships in the form of 𝑦 = 𝑝𝑥, where p is the constant of proportionality. | Pages 47-48 |
| MA.7.AR.4.4 Given any representation of a proportional relationship, translate the representation to a written description, table or equation. | Clarification 1: Given representations are limited to a written description, graph, table or equation. Clarification 2: Instruction includes equations of proportional relationships in the form of 𝑦 = 𝑝𝑥, where p is the constant of proportionality. | Pages 49-51 |
| MA.7.AR.4.5 Solve real-world problems involving proportional relationships. |  | Pages 51-53 |

|  |
| --- |
| **Unit 2: Solve Percent Problems (15 days)** |
| **Est # Days** | **Focus Benchmark(s)** | **Lesson/Topic** | **GO MATH sections and other resources** |
| 2 | MA.7.AR.3.1 | Connect Ratios and Percents | 5.3 |
| 2 | MA.7.AR.3.1 | Percent of Change | 5.2 |
| 2 | MA.7.AR.3.1 | Tax |  |
| 2 | MA.7.AR.3.1 | Tips and Markups |  |
| 2 | MA.7.AR.3.1 | Discounts |  |
| 2 | MA.7.AR.3.1 | Interest |  |
| 1 | MA.7.AR.3.1 | Commissions and Fees |  |
| 2 | MA.7.AR.3.1 | Percent Error |  |

|  |  |  |
| --- | --- | --- |
| Benchmarks | Clarifications | Big M |
| MA.7.AR.3.1 Apply previous understanding of percentages and ratios to solve multi-step real-world percent problems. | Clarification 1: Instruction includes discounts, markups, simple interest, tax, tips, fees, percent increase, percent decrease and percent error. | Pages 34-37 |

|  |
| --- |
| **Unit 3: Rational Numbers (15 days)** |
| **Est # Days** | **Focus Benchmark(s)** | **Lesson/Topic** | **GO MATH sections and other resources** |
| 2 | MA.7.NSO.1.2 | Rational Numbers | 3.1 |
| 2 | MA.7.NSO.2.2 | Add Rational Numbers | 1.1, 1.2, 3.2 |
| 2 | MA.7.NSO.2.2 | Subtract Rational Numbers | 1.3, 3.3 |
| 2 | MA.7.NSO.2.2 | Multiply Rational Numbers | 2.1, 3.4 |
| 1 | MA.7.NSO.2.2 | Divide Rational Numbers | 2.2, 3.5 |
| 2 | MA.7.NSO.1.1 | Products and Quotients of Powers |  |
| 2 | MA.7.NSO.1.1 | Powers of Powers |  |
| 2 | MA.7.NSO.2.1, MA.7.NSO.2.3 | Apply Rational Number Operations | 1.4, 2.3 |

|  |  |  |
| --- | --- | --- |
| Benchmarks | Clarifications | Big M |
| MA.7.NSO.1.1 Know and apply the Laws of Exponents to evaluate numerical expressions and generate equivalent numerical expressions, limited to whole-number exponents and rational number bases. | Clarification 1L Instruction focuses on building the Laws of Exponents from specific examples. Refer to the K-12 Formulas (Appendix E) for the Laws of Exponents. Clarification 2: Problems in the form 𝑎 𝑛 𝑎𝑚 = 𝑎 𝑝 must result in a whole-number value for p. | Pages 13-15 |
| MA.7.NSO.1.2 Rewrite rational numbers in different but equivalent forms including fractions, mixed numbers, repeating decimals and percentages to solve mathematical and real-world problems |  | Pages 15-17 |
| MA.7.NSO.2.1 Solve mathematical problems using multi-step order of operations with rational numbers including grouping symbols, whole-number exponents and absolute value. | Clarification 1: Multi-step expressions are limited to 6 or fewer steps. | Pages 18-19 |
| MA.7.NSO.2.2 Add, subtract, multiply and divide rational numbers with procedural fluency. |  | Pages 19-21 |
| MA.7.NSO.2.3 Solve real-world problems involving any of the four operations with rational numbers. | Clarification 1: Instruction includes using one or more operations to solve problems. | Pages 21-23 |

|  |
| --- |
| **Unit 4: Algebraic Expressions (12 days)** |
| **Est # Days** | **Focus Benchmark(s)** | **Lesson/Topic** | **GO MATH sections and other resources** |
| 2 | MA.7.AR.1.1 | Simplify Algebraic Expressions | 6.1 |
| 2 | MA.7.AR.1.1 | Add Linear Expressions | 6.2 |
| 3 | MA.7.AR.1.1 | Subtract Linear Expressions | 6.2 |
| 3 | MA.7.AR.1.1 | Combine Operations with Linear Expressions | 6.2, 6.3 |
| 2 | MA.7.AR.1.2 | Equivalent Algebraic Expressions | 6.3 |

|  |  |  |
| --- | --- | --- |
| Benchmarks | Clarifications | Big M |
| MA.7.AR.1.1 Apply properties of operations to add and subtract linear expressions with rational coefficients. | Clarification 1: Instruction includes linear expressions in the form 𝑎𝑥 ± 𝑏 or 𝑏 ± 𝑎𝑥, where a and b are rational numbers. Clarification 2: Refer to Properties of Operations, Equality and Inequality (Appendix D). | Pages 24-26 |
| MA.7.AR.1.2 Determine whether two linear expressions are equivalent. | Clarification 1: Instruction includes using properties of operations accurately and efficiently. Clarification 2: Instruction includes linear expressions in any form with rational coefficients. Clarification 3: Refer to Properties of Operations, Equality and Inequality (Appendix D). | Pages 26-28 |

|  |
| --- |
| **Unit 5: Equations (12 days)** |
| **Est # Days** | **Focus Benchmark(s)** | **Lesson/Topic** | **GO MATH sections and other resources** |
| 3 | MA.7.AR.2.2 | Solve Two-Step Equations: 𝑝𝑥 + 𝑞 = r | 6.4 |
| 3 | MA.7.AR.2.2 | Use Two-Step Equations to Solve Problems | 6.4 |
| 3 | MA.7.AR.2.2 | Solve Two-Step Equations: 𝑝(𝑥 + 𝑞) = 𝑟 |  |
| 3 | MA.7.AR.2.2 | Use More Two-Step Equations to Solve Problems |  |

|  |  |  |
| --- | --- | --- |
| Benchmarks | Clarifications | Big M |
| MA.7.AR.2.2 Write and solve two-step equations in one variable within a mathematical or real-world context, where all terms are rational numbers | Clarification 1: Instruction focuses on the application of the properties of equality. Refer to Properties of Operations, Equality and Inequality (Appendix D). Clarification 2: Instruction includes equations in the forms 𝑝𝑥 ± 𝑞 = 𝑟 and 𝑝(𝑥 ± 𝑞) = 𝑟, where p, q and r are specific rational numbers. Clarification 3: Problems include linear equations where the variable may be on either side of the equal sign. | Pages 31-33 |

|  |
| --- |
| **Unit 6: Inequalities (14 days)** |
| **Est # Days** | **Focus Benchmark(s)** | **Lesson/Topic** | **GO MATH sections and other resources** |
| 2 | MA.7.AR.2.1 | Addition and Subtraction Inequalities | 7.1 |
| 2 | MA.7.AR.2.1 | Use Addition and Subtraction Inequalities to Solve Problems | 7.1 |
| 3 | MA.7.AR.2.1 | Multiplication and Division Inequalities with Positive Coefficients | 7.1 |
| 3 | MA.7.AR.2.1 | Multiplication and Division Inequalities with Negative Coefficients | 7.1 |
| 3 | MA.7.AR.2.1 | Use Multiplication and Division Inequalities to Solve Problems | 7.3 |

|  |  |  |
| --- | --- | --- |
| Benchmarks | Clarifications | Big M |
| MA.7.AR.2.1 Write and solve one-step inequalities in one variable within a mathematical context and represent solutions algebraically or graphically. |  | Pages 29-30 |

|  |
| --- |
| **Unit 7: Area (14 days)** |
| **Est # Days** | **Focus Benchmark(s)** | **Lesson/Topic** | **GO MATH sections and other resources** |
| 2 | MA.7.GR.1.1 | Area of Parallelograms |  |
| 3 | MA.7.GR.1.1 | Area of Trapezoids |  |
| 3 | MA.7.GR.1.2 | Area of Polygons |  |
| 3 | MA.7.GR.1.2 | Area of Composite Figures |  |
| 3 | MA.7.GR.1.5 | Scale Drawings |  |

|  |  |  |
| --- | --- | --- |
| Benchmarks | Clarifications | Big M |
| MA.7.GR.1.1 Apply formulas to find the areas of trapezoids, parallelograms and rhombi. | Clarification 1: Instruction focuses on the connection from the areas of trapezoids, parallelograms and rhombi to the areas of rectangles and triangles. Clarification 2: Within this benchmark, the expectation is not to memorize area formulas for trapezoids, parallelograms and rhombi | Pages 54-57 |
| MA.7.GR.1.2 Solve mathematical or realworld problems involving the area of polygons or composite figures by decomposing them into triangles or quadrilaterals. | Clarification 1: Within this benchmark, the expectation is not to find areas of figures on the coordinate plane or to find missing dimensions. | Pages 57-60 |
| MA.7.GR.1.5 Solve mathematical and realworld problems involving dimensions and areas of geometric figures, including scale drawings and scale factors. | Clarification 1: Instruction focuses on seeing the scale factor as a constant of proportionality between corresponding lengths in the scale drawing and the original object. Clarification 2: Instruction includes the understanding that if the scale factor is k, then the constant of proportionality between corresponding areas is k 2 . Clarification 3: Problem types include finding the scale factor given a set of dimensions as well as finding dimensions when given a scale factor | Pages 66-69 |

|  |
| --- |
| **Unit 8: Circles and Cylinders (12 days)** |
| **Est # Days** | **Focus Benchmark(s)** | **Lesson/Topic** | **GO MATH sections and other resources** |
| 3 | MA.7.GR.1.3 | Circumference of Circles | 9.1 |
| 3 | MA.7.GR.1.4 | Area of Circles | 9.2 |
| 3 | MA.7.GR.2.1, MA.7.GR.2.2 | Surface Area of Cylinders | 9.4 |
| 3 | MA.7.GR.2.3, MA.7.AR.3.3 | Volume of Cylinders | 9.5 |

|  |  |  |
| --- | --- | --- |
| Benchmarks | Clarifications | Big M |
| MA.7.AR.3.3 Solve mathematical and realworld problems involving the conversion of units across different measurement. | Clarification 1: Problem types are limited to length, area, weight, mass, volume and money. | Pages 39-40 |
| MA.7.GR.1.3 Explore the proportional relationships between circumference and diameters of circles. Apply a formula for the circumference of a circle to solve mathematical and real-world problems. | Clarification 1: Instruction includes the exploration and analysis of circular objects to examine the proportional relationship between circumference and diameter and arrive at an approximation of pi (π) as the constant of proportionality. Clarification 2: Solutions may be represented in terms of pi (π) or approximately. | Pages 60-62 |
| MA.7.GR.1.4 Explore and apply a formula to find the area of a circle to solve mathematical and real-world problems. | Clarification 1: Instruction focuses on the connection between formulas for the area of a rectangle and the area of a circle. Clarification 2: Problem types include finding areas of fractional parts of a circle. Clarification 3: Solutions may be represented in terms of pi (π) or approximately | Pages 63-66 |
| MA.7.GR.2.1 Given a mathematical or realworld context, find the surface area of a right circular cylinder using the figure’s net. | Clarification 1: Instruction focuses on representing a right circular cylinder with its net and on the connection between surface area of a figure and its net. Clarification 2: Within this benchmark, the expectation is to find the surface area when given a net or when given a three-dimensional figure. Clarification 3: Within this benchmark, the expectation is not to memorize the surface area formula for a right circular cylinder. Clarification 4: Solutions may be represented in terms of pi (π) or approximately. |  Pages 69-71 |
| MA.7.GR.2.2 Solve real-world problems involving surface area of right circular cylinders | Clarification 1: Within this benchmark, the expectation is not to memorize the surface area formula for a right circular cylinder or to find radius as a missing dimension. Clarification 2: Solutions may be represented in terms of pi (π) or approximately. | Pages 72-73 |
| MA.7.GR.2.3 Solve mathematical and realworld problems involving volume of right circular cylinders. | Clarification 1: Within this benchmark, the expectation is not to memorize the volume formula for a right circular cylinder or to find radius as a missing dimension. Clarification 2: Solutions may be represented in terms of pi (π) or approximately. | Pages 73-75 |
| **Unit 9: Statistical Measures and Displays (8 days)** |
| **Est # Days** | **Focus Benchmark(s)** | **Lesson/Topic** | **GO MATH sections and other resources** |
| 3 | MA.7.DP.1.1 | Measures of Center and Variation |  |
| 2 | MA.7.DP.1.2 | Compare Two Populations | 11.3 |
| 2 | MA.7.DP.1.3 | Make Predictions | 10.2 |
| 2 | MA.7.DP.1.4 | Circle Graphs |  |
| 3 | MA.7.DP.1.5 | Select an Appropriate Display |  |

|  |  |  |
| --- | --- | --- |
| Benchmarks | Clarifications | Big M |
| MA.7.DP.1.1 Determine an appropriate measure of center or measure of variation to summarize numerical data, represented numerically or graphically, taking into consideration the context and any outliers | Clarification 1: Instruction includes recognizing whether a measure of center or measure of variation is appropriate and can be justified based on the given context or the statistical purpose Clarification 2: Graphical representations are limited to histograms, line plots, box plots and stem-and-leaf plots. Clarification 3: The measure of center is limited to mean and median. The measure of variation is limited to range and interquartile range. | Pages 76-79 |
| MA.7.DP.1.2 Given two numerical or graphical representations of data, use the measure(s) of center and measure(s) of variability to make comparisons, interpret results and draw conclusions about the two populations. | Clarification 1: Graphical representations are limited to histograms, line plots, box plots and stem-and-leaf plots. Clarification 2: The measure of center is limited to mean and median. The measure of variation is limited to range and interquartile range. | Pages 80-81 |
| MA.7.DP.1.3 Given categorical data from a random sample, use proportional relationships to make predictions about a population |  | Pages 82-84 |
| MA.7.DP.1.4 Use proportional reasoning to construct, display, and interpret data in circle graphs. | Clarification 1: Data is limited to no more than 6 categories. |  Pages 85-87 |
| MA.7.DP.1.5 Given a real-world numerical or categorical data set, choose and create an appropriate graphical representation. | Clarification 1: Graphical representations are limited to histograms, bar charts, circle graphs, line plots, box plots and stem-and-leaf plots. | Pages 87-89 |

|  |
| --- |
| **Unit 10: Probability (15 days)** |
| **Est # Days** | **Focus Benchmark(s)** | **Lesson/Topic** | **GO MATH sections and other resources** |
| 3 | MA.7.DP.2.2 | Simple Events | 12.2 |
| 3 | MA.7.DP.2.1 | Sample Space | 12.1 |
| 3 | MA.7.DP.2.3 | Theoretical Probability | 13.1 |
| 4 | MA.7.DP.2.4 | Experimental Probability and Simulations | 12.4 |

|  |  |  |
| --- | --- | --- |
| Benchmarks | Clarifications | Big M |
| MA.7.DP.2.1 Determine the sample space for a simple experiment. | Clarification 1: Instruction includes recognizing whether a measure of center or measure of variation is appropriate and can be justified based on the given context or the statistical purpose Clarification 2: Graphical representations are limited to histograms, line plots, box plots and stem-and-leaf plots. Clarification 3: The measure of center is limited to mean and median. The measure of variation is limited to range and interquartile range. | Pages 89-91 |
| MA.7.DP.2.2 Given the probability of a chance event, interpret the likelihood of it occurring. Compare the probabilities of chance events | Clarification 1: Graphical representations are limited to histograms, line plots, box plots and stem-and-leaf plots. Clarification 2: The measure of center is limited to mean and median. The measure of variation is limited to range and interquartile range. | Pages 91-93 |
| MA.7.DP.2.3 Find the theoretical probability of an event related to a simple experiment. |  | Pages 93-95 |
| MA.7.DP.2.4 Use a simulation of a simple experiment to find experimental probabilities and compare them to theoretical probabilities. | Clarification 1: Data is limited to no more than 6 categories. |  Pages 96-98 |