

7th Grade Math
Standards and Benchmarks
HCPS III
1/11/13

Standard 1: Numbers and Operations: NUMBER SENSE: Understand numbers, ways of representing numbers, relationships among numbers, and number systems

Benchmark MA.7.1.1	Solve problems using fractions, decimals, and percents
Example Garden Lessons	

Benchmark MA.7.1.2	Identify situations that require the use of large numbers and represent them using scientific notation
Example Garden Lessons	

Benchmark MA.7.1.3	Describe and solve situations represented by integers and absolute value
Example Garden Lessons	

Benchmark MA.7.1.4	Apply number theory concepts to solve problems
Example Garden Lessons	

Standard 2: Numbers and Operations: OPERATION SENSE: Understand the meaning of operations and how they relate to each other

Benchmark MA.7.2.1	Describe situations involving arithmetic operations with integers
Example Garden Lessons	

Benchmark MA.7.2.2	Apply the order of operations when calculating with rational numbers, excluding exponents
Example Garden Lessons	

Benchmark MA.7.2.3	Apply the inverse relationship between addition and subtraction, and between multiplication and division, to solve one-step equations
Example Garden Lessons	

Standard 3: Numbers and Operations: COMPUTATION STRATEGIES: Use computational tools and strategies fluently and, when appropriate, use estimation

Benchmark MA.7.3.1	Add, subtract, multiply, and divide integers
Example Garden Lessons	

Benchmark MA.7.3.2	Determine the reasonableness of a solution by comparing the answer to an estimate
Example Garden Lessons	

Standard 4: Measurement: FLUENCY WITH MEASUREMENT: Understand attributes, units, and systems of units in measurement; and develop and use techniques, tools, and formulas for measuring

Benchmark MA.7.4.1	Determine how measurements, such as perimeter and area, of common shapes (e.g., squares, rectangles, parallelograms, triangles, circles) are affected when one of the attributes is changed in some way
Example Garden Lessons	

Benchmark MA.7.4.2	Uses ratios and proportions to relate a scale drawing to the actual object
Example Garden Lessons	

Benchmark MA.7.4.3	Use known measurements (e.g., radius) to calculate desired measurements (e.g., circumference and area) of circles
Example Garden Lessons	

Standard 5: Geometry and Spatial Sense: PROPERTIES AND RELATIONSHIPS: Analyze properties of objects and relationships among the properties

Benchmark MA.7.5.1	Apply the concept of similarity to solve problems
Example Garden Lessons	

Standard 6: Geometry and Spatial Sense: TRANSFORMATIONS AND SYMMETRY: Use transformations and symmetry to analyze mathematical situations

Benchmark MA.7.6.1	Describe changes in size between a given figure and its dilation
Example Garden Lessons	

Standard 7: Geometry and Spatial Sense: VISUAL AND SPATIAL SENSE: Use visualization and spatial reasoning to solve problems both within and outside of mathematics

Benchmark MA.7.7	No benchmark at this level (???)
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Standard 8: Geometry and Spatial Sense: REPRESENTATIONAL SYSTEMS: Select and use different representational systems, including coordinate geometry

Benchmark MA.7.8.1	Use coordinate geometry to determine the change in size of a figure that is dilated by a scale factor
Example Garden Lessons	

Standard 9: Patterns, Functions, and Algebra: PATTERNS AND FUNCTIONAL RELATIONSHIPS: Understand various types of patterns and functional relationships

Benchmark MA.7.9.1	Create a pattern or function for a rule given in symbolic form
Example Garden Lessons	

Benchmark MA.7.9.2	Describe multi-step functions using words and symbols when given a table of "input" and "output" values and use the rule for the function to determine other input and output values
Example Garden Lessons	

Standard 10: Patterns, Functions, and Algebra: SYMBOLIC REPRESENTATION: Use symbolic forms to represent, model, and analyze mathematical situations

Benchmark MA.7.10.1	Analyze the relationship among tables, graphs (including graphing technology when available), and equations of linear functions, paying particular attention to the meaning of intercept and slope
Example Garden Lessons	

Benchmark MA.7.10.2	Use symbolic algebra to represent situations involving linear relationships
Example Garden Lessons	

Benchmark MA.7.10.3	Solves linear equations and inequalities with one variable using algebraic methods, manipulatives, or models
Example Garden Lessons	

Standard 11: Data Analysis, Statistics, and Probability: FLUENCY WITH DATA: Pose questions and collect, organize, and represent data to answer those questions

Benchmark MA.7.11.1	Design a study, collect data, and select the appropriate representation (line graph, bar graph, circle graph, histogram, stem and leaf plot, box and whisker plot) to display the data
Example Garden Lessons	

Standard 12: Data Analysis, Statistics, and Probability: STATISTICS: Interpret data using methods of exploratory data analysis

Benchmark MA.7.12.1	Relate the spread of a data set to a box-and-whisker plot
Example Garden Lessons	

Standard 13: Data Analysis, Statistics, and Probability: DATA ANALYSIS: Develop and evaluate inferences, predictions, and arguments that are based on data

Benchmark MA.7.13.1	Formulate new questions that arise from previous conclusions or conjectures and plan a new study to answer them
Example Garden Lessons	

Standard 14: Data Analysis, Statistics, and Probability: PROBABILITY: Understand and apply basic notions of chance and probability

Benchmark MA.7.14.1	Relate theoretical probability to experimental results
Example Garden Lessons	