First Grade Mathematics Content Standards and Objectives

Standard 1	Number and Operations	
M.S.1.1	Through communication, representation, reasoning and proof, problem solving, and making connections within and beyond the field of mathematics, students will • demonstrate understanding of numbers, ways of representing numbers, and relationships among numbers and number systems, • demonstrate meanings of operations and how they relate to one another, and compute fluently and make reasonable estimates.	
Objectives	**Students will**	**PLT Activity and Page**
M.O.1.1.1	count forward to 100 and backward from 20 with and without manipulatives.	
M.O.1.1.2	read, write, order, and compare numbers to 100 using multiple strategies (e.g. manipulatives, number line, symbols).	
M.O.1.1.3	identify odd and even numbers to 20 and determine if a set of objects has an odd or even number of elements.	
M.O.1.1.4	group and count manipulatives by ones, fives, and tens to 100.	#25 Birds and Worms p.111
M.O.1.1.5	model and identify place value of each digit utilizing standard and expanded form to 100.	
M.O.1.1.6	round any two-digit number to the nearest 10.	
M.O.1.1.7	use ordinal numbers 1^{st} - 20^{th} to identify position in a sequence .	
M.O.1.1.8	estimate the number of objects in a group of 100 or less and count to evaluate reasonableness of estimate.	#2 Get in Touch with Trees p. 20
M.O.1.1.9	identify, name, and explain why a given part is a half, third or fourth of a whole or part of a group, using concrete models.	
M.O.1.1.10	use concrete objects to model the addition of two or three addends and subtraction of whole numbers related to sums less than 18 and write the corresponding number sentence.	
M.O.1.1.11	model operations, addition and subtraction, and the relationship between addition and subtraction (e.g., identity element of addition, commutative property, fact families, inverse operations) using concrete objects.	
M.O.1.1.12	quick recall of basic addition facts with sums to 10 and corresponding subtraction facts.	
M.O.1.1.13	model and solve 2-digit addition and subtraction without regrouping.	
M.O.1.1.14	create grade-appropriate picture and story problems using a variety of strategies (with and without technology), present solutions and justify results.	

Standard 2:	Algebra	
M.S.1.2	Through communication, representation, reasoning and proof, problem solving, and making connections within and beyond the field of mathematics, students will • demonstrate understanding of patterns, relations and functions, • represent and analyze mathematical situations and structures using algebraic symbols, • use mathematical models to represent and understand quantitative relationships, and analyze change in various contexts.	
Objectives	**Students will**	**PLT Activity and Page**
M.O.1.2.1	sort and classify objects by more than one attribute, using various strategies, including Venn Diagrams.	#25 Birds and Worms p.111 #32 A Forest of Many Uses p.135
M.O.1.2.2	determine the rule or give the output given an input/output model using addition or subtraction.	
M.O.1.2.3	identify and write number patterns by 2's, 5's, and 10's.	
M.O.1.2.4	create and analyze number patterns based on real-life situations using words, AB form, and T-charts and present results.	
M.O.1.2.5	use concrete materials to demonstrate that the quantities on both sides of a grade-appropriate number sentence are equivalent.	
Standard 3:	Geometry	
M.S.1.3	Through communication, representation, reasoning and proof, problem solving, and making connections within and beyond the field of mathematics, students will • analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships, • specify locations and describe spatial relationships using coordinate geometry and other representational systems, • apply transformations and use symmetry to analyze mathematical situations, and solve problems using visualization, spatial reasoning, and geometric modeling.	
Objectives	**Students will**	**PLT Activity and Page**
M.O.1.3.1	draw, label, and sort • circle, • rectangles including squares, • triangles according to sides and vertices.	#1 The Shape of Things p. 17

M.O.1.3.2	use physical materials to construct, identify, and classify three-dimensional figures: • cube • cone • sphere • rectangular solid • pyramid • cylinder	
M.O.1.3.3	recognize three-dimensional shapes in the environment.	#1 The Shape of Things p. 17 #2 Get in Touch with Trees p. 20 #25 Birds and Worms p.111
M.O.1.3.4	draw and identify • open and closed figures • congruent plane shapes	
M.O.1.3.5	create and describe simple symmetrical designs	
M.O.1.3.6	describe spatial relationships: over/under, left/right.	#2 Get in Touch with Trees p. 20 #32 A Forest of Many Uses p.135 #48 Field, Forest, and Stream p.203
M.O.1.3.7	find and name locations on a first-quadrant grid.	
M.O.1.3.8	predict the result of combining or decomposing two or more two-dimensional/three-dimensional shapes.	
Standard 4	Measurement	
M.S.1.4	Through communication, representation, reasoning and proof, problem solving, and making connections within and beyond the field of mathematics, students will • demonstrate understanding of measurable attributes of objects and the units, systems, and processes of measurement, and apply appropriate techniques, tools and formulas to determine measurements.	
Objectives	**Students will**	**PLT Activity and Page**
M.O.1.4.1	estimate, measure, compare and order using customary, metric, and nonstandard units to determine length to nearer whole unit.	#4 Sounds Around p. 26 #71 Watch on Wetlands p.303

M.O.1.4.2	select appropriate units and tools to measure and compare two objects or events according to one or more of the following attributes: length height weight temperature volume justify selection of units and tools used to measure the attributes and present results.	#27 Every Tree for Itself p.117 #36 Pollution Search p.153 #41 How Plants Grow p.179 #47 Are Vacant Lots Vacant? p.200 #67 How Big is Your Tree? p.288 #70 Soil Stories p.297
M.O.1.4.3	use calendar to identify date, sequence of days of the week, and months of the year.	
M.O.1.4.4	explain time concept in context of personal experience.	
M.O.1.4.5	read time to the half hour using an analog and digital clock.	
M.O.1.4.6	identify, count, trade and organize the following coins and bill to display a variety of price values from real-life examples with a total value of 100 cents or less. • penny • nickel • dime • quarter • dollar bill	
Standard 5	Data Analysis and Probability	
M.S.1.5	Through communication, representation, reasoning and proof, problem solving, and making connections within and beyond the field of mathematics, students will • formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them, • select and use appropriate statistical methods to analyze data, • develop and evaluate inferences and predictions that are based on models, and apply and demonstrate an understanding of basic concepts of probability.	
Objectives	**Students will**	**PLT Activity and Page**
M.O.1.5.1	identify a real life situation to gather data over time; make a hypothesis as to the outcome; design and implement a method to collect, organize, and analyze the results to make a conclusion; evaluate the validity of the hypothesis based upon collected data; design a mode of presentation using a pictograph and a bar graph (with and without technology).	#16 Pass The Plants, Please p. 77 #48 Field, Forest, and Stream p.203
M.O.1.5.2	conduct simple experiments, record data on a tally chart or table and use the data to predict which of the events is more likely or less likely to occur if the experiment is repeated.	#16 Pass The Plants, Please p. 77