

Grade 2 Benchmark Proficiencies

I. NUMBER SENSE

By the end of the Grade 2, students will be able to...

	Degree of mastery: A= 75% or more of the students B=about half C=fewer than 25%	Q 1	Q 2	Q 3	Q 4
STI.1	read, write, count, identify place value, and compare whole numbers up to 100				
STI.2	count on by 1's (even and odds) and 2's from any given number up to 1000				
STI.3	show objects grouped in odd or even numbers				
STI.4	count ones backward from any given number under 100				
STI.5	write a given number in expanded notation up to 1000				
STI.6	count on by 10's starting with such numbers as 7, 13, 56 up to 100				
STI.7	count objects by grouping them in 2's, 5's, and 10's				
STI.8	use concrete models (e.g. base-10 blocks) to show understanding of place value and represent numbers up to 1000				
STI.9	find equivalent forms of a number under 1000 using hundreds, tens, and ones				
STI.10	know that each place (hundreds, tens, and ones) can be any numeral 0 through 9				
STI.11	know that each hundreds member must have three digits				
STI.12	know $>$, $<$, $=$, and be able to use them appropriately when comparing and ordering numbers or writing number sentences up to 1000				
STI.13	know the sequence of numbers up to 1000 e.g. rank 5 given numbers from least to most)				
STI.14	construct number groups to 100 and to 1000 using concrete materials				
STI.15	construct and draw 2-digit numbers and tens and ones				
STI.16	identify the quantity of zero and use the written number symbol				
STI.17	show multiplication as a number sentence using the x symbol				
STI.18	understand the special properties of "0" in addition and subtraction				
STI.19	use and understand addition and subtraction as an inverse relationship to solve problems and check answers				
STI.20	use strategies for adding or subtracting numbers				
STI.21	add two 1-digit or 2-digit numbers, with regrouping, in horizontal and vertical format				
STI.22	add 2-digit numbers, with regrouping, in horizontal and vertical format				
STI.23	subtract a 1-digit and a 2-digit number from a 2-digit number with regrouping				
STI.24	subtract a 2-digit or a 3-digit number from a 3 digit number without regrouping				
STI.25	solve problems involving addition and subtraction of 2 and 3-digit numbers				
STI.26	know and use the family of facts to find missing addends or minuends				
STI.27	add up to five 1-digit numbers horizontally and vertically				

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I. NUMBER SENSE (Continued)

By the end of the Grade 2, students will be able to...

	Degree of mastery: A= 75% or more of the students B=about half C=fewer than 25%	Q	Q	Q	Q
		1	2	3	4
STI.28	know and memorize multiplication facts for the table of 2's, 5's, and 10's				
STI.29	show multiplication as repeated addition, arrays, and counting by multiples				
STI.30	perform division by repeated subtraction and equal sharing with and without remainders				
STI.31	identify fraction models as part of a group and as part of a whole				
STI.32	identify models divided into equal parts				
STI.33	recognize, name, and compare fractional parts (halves, thirds, fourths) of whole objects or sets of objects up to 1/2				
STI.34	divide a circle, square, or rectangle into 1/2, 1/3, 1/4, and 3/4				
STI.35	know fraction models that equal the whole or one (three thirds equal one)				
STI.36	estimate, prior to counting, the number of concrete objects or pictures by 2's, 5's, and 10's, or by using ordinal numbers				
STI.37	make reasonable estimates for addition and subtraction statements, involving numbers that use the ones, tens, hundreds, and thousands places				
STI.38	estimate amounts by using front end digits				
STI.39	using mental math, count by 10's to 1000				
STI.40	use mental math to find the sum or differences of two 2-digit numbers				
STI.41	handle and identify all coins, including half dollars				
STI.42	make change up to 50 cents				
STI.43	play trading games to show equivalencies for pennies, nickels, dimes, and quarters				
STI.44	solve problems using coin and dollar bill combinations				
STI.45	compare amounts of dollars as more than, less than, or the same				
STI.46	buy items, given an amount of money				
STI.47	read and write C and \$ with money amounts				
STI.48	know how to use the decimal notation and dollars and cents symbols for money				
STI.49	estimate the value of a given collection of coins				
STI.50	estimate the expected amount of change				

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II. ALGEBRA and FUNCTIONS

By the end of the Grade 2, students will be able to...

	Degree of mastery: A= 75% or more of the students B=about half C=fewer than 25%	Q 1	Q 2	Q 3	Q 4
STII.1	know and use the associative and commutative properties of addition in mental calculations and checking results				
STII.2	relate problem situations to number sentences using addition and subtraction				
STII.3	model and solve problems, including addition and subtraction problems) by using a pictograph, bar graph, chart, table, or number sentence				

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III. MEASUREMENT and GEOMETRY

By the end of the Grade 2, students will be able to...

	Degree of mastery: A= 75% or more of the students B=about half C=fewer than 25%	Q 1	Q 2	Q 3	Q 4
STIII.1	name, describe and compare the attributes of simple geometric shapes: square, triangle, rectangle, oval, diamond, sphere, pyramid, cube, rectangular prism				
STIII.2	describe and classify the name with 3-dimensional figures: cube, sphere, cylinder, cone, pyramid, and rectangular prism according to the number and shapes of faces, edges, and vertices				
STIII.3	observe and identify the differences between the 3-dimensional figures				
STIII.4	recognize the 2-dimensional shapes as surfaces of 3-dimensional figures				
STIII.5	count the faces, the edges, and the corners of 3-dimensional figures				
STIII.6	given a plane figure copy it, draw it larger or smaller				
STIII.7	given a number of sides draw a plane figure				
STIII.8	create or continue geometric patterns that have more than one direction				
STIII.9	copy simple geometric figures				
STIII.10	recognize lines of symmetry in real life and in representations				
STIII.11	identify congruent figures				
STIII.12	identify the plane figures that have the same shape and same size, and that have the same shape but are a different size				
STIII.13	investigate perimeter using concrete models				
STIII.14	identify plane figures that have the same shape and same size, and that have the same shape but are a different size				
STIII.15	put shapes together and take them apart to form other shapes				
STIII.16	find dates and days on the calendar				
STIII.17	identify and order the days of the week, the months of the year, seasons of the year				
STIII.18	explore time equivalences: minute, hour, day, week, month, year				
STIII.19	estimate the reasonable amount to complete a given activity				
STIII.20	discuss and compare time for real life events e.g. use hourglass, egg timer, etc.				
STIII.21	tell the approximate or plausible time when events will occur, such as recess, lunch, bed time				
STIII.22	read and write time to the nearest half hour and nearest quarter of an hour on analog and digital clocks				
STIII.23	draw the hands on a clock to show time to the hour and the half hour				
STIII.24	estimate and find elapsed time e.g. 11:00 AM – 2:00 PM)				
STIII.25	estimate the reasonable amount of time needed to complete an activity				
STIII.26	properly place a ruler when measuring				
STIII.27	measure down to 1/2 inch and to 1 centimeter				
STIII.28	accurately measure out a given amount of liquid using: pint, cup, quart, gallon, and liter				

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III. MEASUREMENT and GEOMETRY (Continued)

By the end of the Grade 2, students will be able to...

	Degree of mastery: A= 75% or more of the students B=about half C=fewer than 25%	Q 1	Q 2	Q 3	Q 4
STIII.29	determine an amount of liquid to the cup				
STIII.30	estimate and measure length using non-standard and the standard units of meters, centimeters, feet, inches				
STIII.31	use different units to measure the same object and predict the measure will be greater or smaller when a different unit is used				
STIII.32	estimate and measure weight using non-standard and the standard unit of pound				
STIII.33	compare and order more than two objects, by their size, weight, etc				
STIII.34	estimate and measure the capacity of a larger container in terms of a smaller container				
STIII.35	read the temperature on a thermometer				
STIII.36	use a balance scale to compare weights of objects				
STIII.37	explore estimating length, capacity, distance, and weight of familiar looking objects, using non-standard and the studied standard units for measurement				
STIII.38	using real life experiences, explore using $\frac{1}{4}$, $\frac{1}{2}$, and $\frac{3}{4}$ of quantities as benchmarks to estimate				

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IV. STATISTICS, DATA ANALYSIS, and PROBABILITY

By the end of the Grade 2, students will be able to...

	Degree of mastery: A= 75% or more of the students B=about half C=fewer than 25%	Q 1	Q 2	Q 3	Q 4
STIV.1	collect, organize, and display numerical data and represent with a pictograph or a bar graph, and represent the same data set in more than one way				
STIV.2	explore pictographs and bar graphs, and tally charts by making identifications, comparisons, and predictions				
STIV.3	identify information about data sets such as mode, median, range				
STIV.4	identify information, ask and answer simple questions related to graphs, charts, and data sets				
STIV.5	make a list, a tally chart, or a pictograph to sort information in a systematic way				
STIV.6	predict what comes next or what will be the most likely draw				
STIV.7	identify events that are likely to happen, sure to happen, and those we cannot be sure about				
STIV.8	compare two sets of objects to determine whether there are about the same number of items in each set when the objects are arranged randomly or in a familiar pattern				
STIV.9	represent, copy, and continue patterns of up to five objects or symbols				
STIV.10	sort objects on multiple attributes and justify the similarities and differences in these objects				
STIV.11	recognize and describe linear patterns of up to 5 objects or symbols				
STIV.12	identify and extend missing elements of repeating patterns and sequences of numbers				
STIV.13	solve problems involving simple patterns				

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V. MATHEMATICAL REASONING

By the end of the Grade 2, students will be able to...

	Degree of mastery: A= 75% or more of the students B=about half C=fewer than 25%	Q 1	Q 2	Q 3	Q 4
STV.1	students will be able to reason, set up, and solve problems relating to the California Content Standards for mathematics, using the following skills and strategies				
STV.2	retell the problem				
STV.3	identify needed information, approach, and strategies, to solve a problem				
STV.4	use manipulatives or other materials to clarify thinking , model, and solve problems				
STV.5	read and use data from a pictograph, bar graph, table, tally chart, a diagram, or other representations				
STV.6	draw a picture to illustrate the problem solving approach				
STV.7	act the problem out or role play to find a solution.				
STV.8	guess and check, or look for a pattern to predict a solution.				
STV.9	choose the correct operation				
STV.10	use daily experiences to apply problem solving skills				
STV.11	look for patterns of numbers to predict a solution				
STV.12	after calculation, test the reasonableness of the answer				
STV.13	work cooperatively in groups or with a partner to solve problems				
STV.14	note connections between one problem and another				
STV.15	explore situations for which an estimate is appropriate				
STV.16	verify estimates by using the most appropriate method for computing				
STV.17	justify reasoning and procedures to solve a problem				

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**VI. NCTM STANDARD
MATHEMATICAL CONNECTIONS**

By the end of the Grade 2, students will be able to...

	Degree of mastery: A= 75% or more of the students B=about half C=fewer than 25%	Q 1	Q 2	Q 3	Q 4
STVI.1	discover mathematics in the real worlds				
STVI.2	discover and appreciate the usefulness and beauty of mathematics				
STVI.3	play indoor and outdoor games involving mathematical concepts				
STVI.4	complete arts and craft projects involving patterns				
STVI.5	listen for rhythm, tempo, and patterns in music				
STVI.6	skip count during physical education classes				
STVI.7	discover and enjoy mathematical ideas and words in children’s literature				
STVI.8	make up “math” stories				
STVI.9	practice printing numbers and math symbols				
STVI.10	practice spelling key math terms and expressions				
	Use technology: Please Note: <i>The State of California Content Standards do not require of teachers to include the use of the calculator at this grade level. Teachers have the option to omit the use of the calculator or to follow the following NCTM guidelines.</i>				
STVI.11	explore using a calculator to find sums and differences under 100				
STVI.12	explore using a calculator to find up to 4 addends whose sum equals a given number				
STVI.13	explore using a calculator to skip count by 3’s, 4,s, and 6’s				
STVI.14	explore using a calculator to find the cost of selected items (in \$ units)				
STVI.15	explore using a calculator to add or subtract a series of numbers using the equal key only once				
STVI.16	explore drawing shapes, patterns, pictures, using a computer draw program				

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**VII . NCTM STANDARD
MATHEMATICS AS COMMUNICATION**

By the end of the Grade 2, students will be able to...

	Degree of mastery: A= 75% or more of the students B=about half C=fewer than 25%	Q 1	Q 2	Q 3	Q 4
	understand and use mathematical vocabulary and language associated with:				
STVII.1	size, position, time, distance, content, money:				
STVII.2	(more/less, most/lest, few/many, large/small, big/little, heavy/light, thick/thin, over/under, above/below, top/bottom, right/left/middle, beside/in front of/behind, the least, the most, the greatest, most likely, least likely, less than,/more than, full/empty, half full/half empty, in all, now/later/earlier, next week/month/year, last week/month/year, before/after/never, far/close/near				
STVII.3	ordinal numbers ex. fifth <u>from</u> the tree, from your left, etc				
STVII.4	grade level math terms such as: family of facts, equal, unequal, shaded parts, pattern, tally chart, tokens, pegs, length, distance, coins, amount, value				
STVII.5	names and attributes of simple geometric shapes, ex. square, circle, triangle, diamond, oval, rectangular, round, side, vertex				
STVII.6	show ideas and explain strategies by drawing, using words, and numbers and by building with a variety of concrete materials, such as connecting cubes, pattern blocks, buttons, beads, color tiles, etc. and by pasting paper representations of materials				
STVII.7	give reason for choosing an appropriate computation method: paper/pen, mental math, calculator				
STVII.8	work cooperatively with a partner				