Curriculum Match to CAT4: Supplementary Document

April 2014

Kindergarten

	Overall Comments	Questions Beyond Grade Level	Additional Comments
Mathematics	Of the 36 math items, 33 items are aligned with the Kindergarten outcomes pg. 40 - 41 #1, 2, 3 pg. 42 – 43 #1, 3, 4, 5 pg. 44 – 55 #1, 3, 4 pg. 46 - 47 #1, 2, 3 Pg. 48 – 49 #1, 2, 3, 4, 5 Pg. 50 – 51 #2, 3, 4 Pg. 52 – 53 #1, 2, 3, 4 Pg. 54 – 55 #1, 2, 3, 4, 5 Pg. 56 – 57 #1, 2, 3	The following 3 items are not stated as outcomes for Kindergarten: pg. 42 #2 (uses the term "half full") pg. 44 #2 (must recognize coins) pg. 50 #1 (must understand the mathematical term "likely")	There are 8 items that have concepts aligned to the outcomes, but the wording or context should be checked to confirm that the item will be understood as worded by students. pg. 40 #2 and pg. 43 #3 (both use terms of position "above" and "on" that not specifically identified by the outcomes) pg. 48 #1, pg. 51 #4 and pg. 53 #3 (requires students to combine 2D shapes that will be evident through other activities stated as outcomes, but not a stated outcome) pg. 50 #2 and pg. 56 #1 (uses the term "graph", though the item can be solved by counting rather than graph skills) pg. 57 #3 (student must understand the term "square")

Grade 1

	Overall Comments	**Questions Beyond Grade Level**	**Additional Comments**
Mathematics	Of the 48 math items, 42 items are aligned with the grade 1 outcomes pg. 36 – 41 #1, 2, 3, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14 pg. 42 – 47 #1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 13, 14 pg. 48 – 53 #1, 2, 3, 4, 5, 6, 7, 8, 9, 10 pg. 54 – 57 #1, 2, 4, 5, 6, 9	The following 6 items are beyond the outcomes of grade 1: pg. 39 #9 (requires symmetry) pg. 41 #15, pg. 46 #11 (uses graphs) pg. 55 #3, pg. 57 #8 (uses coins) pg. 57 #7, (uses calendar)	There are 7 items that have number concepts aligned to the outcomes, but the context requires students to work with charts and tables normally associated with data management skills not specifically identified in grade 1. pg. 37 #5 pg. 40 #12 pg. 41 #13 pg. 42 #1 pg. 44 #6 pg. 49 #3 pg. 53 #9
Computation	All items (pg. 58 – 66) are fully aligned with the grade 1 outcomes.	none	

Grade 2

	Overall Comments	Questions Beyond Grade Level	Additional Comments
Mathematics	Of the 48 math items, 41 items are aligned with the grade 2 outcomes pg. 48 - 57 #1, 2, 3, 4, 5, 6, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 22, 23, 24 pg. 58 - 67 #1, 2, 3, 4, 6, 7, 9, 10, 11, 13, 14, 15, 16, 18, 19, 20, 21, 23, 24	The following 7 items are beyond the outcomes of grade x: pg. 50 #7 bar graph) pg. 55 #18 (bar graph) pg. 60 #5 (fractions) pg. 62 #8 (bar graph) pg. 63 #12 (probability) pg. 64 #17 (bar graph) pg. 66 #22 (transformations)	There are 3 items that have number concepts aligned to the outcomes, but the context requires students to work with charts and tables normally associated with data management skills not specifically identified in grade 2. pg. 48 #1 pg. 56 #19 pg. 65 #18
Computation	All items (pg. 68 – 74) are fully aligned with the grade 2 outcomes.	none	

Grade 3

	Overall Comments	Questions Beyond Grade Level	Additional Comments
Mathematics	Of the 48 math items, 41 items are taught in (or are foundational to) the outcomes of grade 3 mathematics *Curriculum Match* #1, 2, 3, 4, 5, 6, 8, 9, 11, 12, 13, 14, 15, 16, 17, 18, 20, 21, 23, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 42, 43, 44, 46, 47, 48	The following 7 items are beyond the outcomes of grade 3: #7 (uses money notation) #10 (probability) #19, #41 (uses circle graph) #22, #45 (symmetry, paper folding) #24 (specific name of 3D solid)	There are 4 items that are broadly within grade 3 outcomes, but the context or limits may not be familiar to students. #15 (has a toonie in the coins) #29, #40 (calculation is beyond limits of the grade, but question does not require paper/pencil calculation) #37 (coins are not shown as illustrations, but recorded in table)
Computation	Of the 36 computation items, 32 items are taught in (or are foundational to) the outcomes of grade 3 *Curriculum Match* #1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 27, 28, 30, 31, 32, 34, 35, 36	The following 4 items are beyond the outcomes of grade 3: #25, #26 (exceeds limits for multiplication) #29 (requires rounding) #33 (estimation using money notation)	

Grade 4

	Overall Comments	**Questions Beyond Grade Level**	**Additional Comments**
Mathematics	Of the 60 math items, 52 items are taught in (or are foundational to) the outcomes of grade 4 mathematics *Curriculum Match* #1, 2, 3, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 16, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 43, 44, 45, 46, 48, 49, 50, 53, 54, 55, 56, 58, 59, 60	The following 8 items are beyond the stated outcomes of grade 4: #8 (determine top view) #17 (transformations) #31 (converting between units) #42, #47 (circle graphs) #51 (rounding) #52 (use of grids) #57 (probability)	
Computation	Of the 36 computation items, 33 items are within the stated computational outcomes of grade 4 *Curriculum Match* #1, 2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17, 18, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36	The following 3 items are just marginally beyond the stated limits of grade 4 (addition of numbers with answers to 10 000): #3, #13, #22 (answers exceed limits for addition)	Grade 4 outcomes allow for the addition and subtraction of decimals to hundredths. All items on the test related to addition and subtraction of decimals are limited to tenths.

Grade 5

	Overall Comments	**Questions Beyond Grade Level**	**Additional Comments**
Mathematics	Of the 60 math items, 51 items are taught in (or are foundational to) the outcomes of grade 5 mathematics *Curriculum Match* #1, 2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 18, 19, 20, 22, 23, 24, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 39, 40, 41, 42, 44, 45, 46, 47, 48, 49, 50, 53, 54, 55, 56, 58, 59, 60	The following 9 items are beyond the outcomes of grade 5: #3, #17 (identify a net) #21 (requires understanding of grid coordinates) #25, #43 (probability expressed as fraction) #38 (interpret circle graph) #51, #52, #57 (interpret line graph)	
Computation	Of the 36 computation items, 34 items are taught in (or are foundational to) the outcomes of grade 5 *Curriculum Match* #1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 23, 24, 25, 26, 28, 29, 30, 31, 32, 33, 34, 35, 36	The curriculum identifies "front-end rounding" but does not identify the concept of "rounding to the nearest tenth or hundredth" at grade 5. As a result, items #22 and 27 may be beyond the requirements of grade 5.	Not able to confirm that "rounding" to a specific number placement is a skill identified by the curriculum by grade 5.

Grade 6

	Overall Comments	**Questions Beyond Grade Level**	**Additional Comments**
Mathematics	Of the 60 math items, 56 items are taught in (or are foundational to) the outcomes of grade 6 mathematics *Curriculum Match* #1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 51, 52, 53, 54, 55, 56, 58, 59, 60	The following 4 items are beyond the outcomes of grade 6: #21, #26 (identify nets of 3D objects) #50 (calculation with percentage) #57 (uses circle graph)	There are no items related to factors, multiples, or expressing a problem using a letter variable.
Computation	Of the 36 computation items, 27 items are taught in (or are foundational to) the outcomes of grade 6 *Curriculum Match* #1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 26, 27, 28, 30, 32, 33, 35, 36	The following 9 items are beyond the outcomes of grade 6: #14, #19 (exceeds 3-digit by 1-digit divisor limit) #20, #25, #29 (decimal multiplied by more than 1-digit multiplier) #23, #24, #31, #34 (multiplication of decimals by multiples of 10)	

Grade 7

	Overall Comments	**Questions Beyond Grade Level**	**Additional Comments**
Mathematics	Of the 60 math items, 53 items are taught in (or are foundational to) the outcomes of grade 7 mathematics *Curriculum Match* #1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 32, 33, 34, 35, 36, 37, 39, 40, 41, 42, 44, 46, 47, 48, 49, 50, 51, 53, 54, 55, 56, 57, 58, 60	The following 7 items are beyond the outcomes of grade 7: #19, #59 (surface area) #31, #38, #45 (views of 3D objects) #43 (exponents) #52 (similarity)	
Computation	Of the 36 computation items, 34 items are taught in (or are foundational to) the outcomes of grade 7 *Curriculum Match* #1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36	The following 2 items are beyond the outcomes of grade 7: #16, #24 (uses exponent notation)	No questions on test relate to divisibility tests, or to addition or subtraction of fractions.

Grade 8

	Overall Comments	**Questions Beyond Grade Level**	**Additional Comments**
Mathematics	Of the 60 math items, 56 items are taught in (or are foundational to) the outcomes of grade 8 mathematics *Curriculum Match* #1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 22, 23, 24, 25, 26, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 54, 55, 57, 58, 59, 60	The following 4 items are beyond the outcomes of grade 8: #18, #27 (use of variables with exponents) #53, #56 (use of power notation beyond squaring)	There is 1 item that uses angle properties that we could not reference in the K-8 curriculum. This item is used indirectly evident in the curriculum but no specific reference was found. #37 (opposite angles equal) The graphs of two-variable linear relations is only partially evident on the test.
Computation	Of the 36 computation items, 33 items are taught in (or are foundational to) the outcomes of grade 8 *Curriculum Match* #1, 2, 3, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 28, 29, 30, 31, 32, 33, 34, 35, 36	The following 3 items are beyond the outcomes of grade 8: #4, #5, #27 (uses powers beyond squaring)	

Grade 9

	Overall Comments	Questions Beyond Grade Level	Additional Comments
Mathematics	Of the 60 math items, 54 items are taught in (or are foundational to) the outcomes of grade 9 mathematics *Curriculum Match* #1, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 16, 17, 18, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60	The following 6 items are beyond the outcomes of grade 9: #2, #19 (angle properties) #15 (line of best fit) #22 (scatter plots) #42, #43 (exponent rules applied to variables)	
Computation	Of the 36 computation items, 33 items are taught in (or are foundational to) the outcomes of grade 9 *Curriculum Match* #1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 27, 28, 29, 31, 32, 33, 35, 36	The following 3 items are beyond the outcomes of grade 9: #26, #30 (uses negative exponents) #34 (uses scientific notation)	It is assumed that students are NOT expected to understand the meaning of scientific notation in grade 9.

Grade 10 (10C Mathematics)

	Overall Comments	**Questions Beyond Grade Level**	**Additional Comments**
Algebra	Of the 40 math items, 29 items are taught in (or are foundational to) the outcomes of mathematics 10C *Curriculum Match* #1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 13, 14, 15, 16, 17, 19, 21, 24, 25, 26, 29, 31, 32, 33, 34, 35, 36, 37, 38	The following 11 items are beyond the outcomes of math 10C: #5, #28 (exponential equations) #12 (rational expressions) #18, #27, #39 (quadratic functions) #20, 23 (quadratic equations) #22 (function notation, non-linear) #30 (trigonometry beyond right triangles) #40 (exponential functions)	
Pre-Algebra	All 40 items of pre-algebra are taught in or are foundational to grade 10 outcomes *Curriculum Match* #1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40		Items #4, #13, and #35 are best done with a knowledge of scientific notation. Scientific notation is not specifically identified in the curriculum, so these items may require alternate approaches.
Computation	All 36 items are taught in or are foundational to the outcomes of grade 10 *Curriculum Match* #1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36		Only integral exponents are new to 10C Math

Grade 11 (Mathematics 20-1)

	Overall Comments	Questions Beyond Grade Level	Additional Comments
Algebra	Of the 40 math items, 37 items are taught in (or are foundational to) the outcomes of mathematics 20-1 *Curriculum Match* #1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39	The following 3 items are beyond the outcomes of math 20-1: #5, #28 (exponential equations) #40 (exponential functions)	
Pre-Algebra	All 40 items of pre-algebra are foundational to grade 11 outcomes *Curriculum Match* #1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40		
Computation	All 36 items are foundational to the outcomes of grade 11 *Curriculum Match* #1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36		

Grade 12 (Mathematics 30-2)

	Overall Comments	Questions Beyond Grade Level	Additional Comments
Algebra	All 40 items are taught in (or are foundational to) the outcomes of mathematics 30-2 *Curriculum Match* #1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40		
Pre-Algebra	All 40 items of pre-algebra are foundational to grade 12 outcomes *Curriculum Match* #1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40		
Computation	All 36 items are foundational to the outcomes of grade 12 *Curriculum Match* #1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36		