

## Grade Four Numeracy: An Item-level Analysis - Multiple Choice (Provincial Level)

**British Columbia**

**All Schools**

**FSA February/2008**

**FSA population (N=39,392)**

Provincial FSA Item-Level Response Reports include data for all BC students in Grade 4 who wrote a particular FSA test. Both public and independent schools are included. The FSA 2008 provincial Item-Level Response Reports display the proportion of students who made errors on each test item and a description of the misconception.

Since the English and French versions of the FSA Numeracy tests are identical, the Item-level Analysis – Multiple Choice provincial report includes all students.

Content Area	Item #	Number of Students who Responded to the Item	Percentage of Students who Answered Incorrectly	Specific Curricular Aspect that Needs Attention [ $>20\%$ selected incorrect response]
Number	1	39343	48%	<ul style="list-style-type: none"> <li>Students rounded downwards, rather than upwards on one item, when estimating the total cost of three.</li> </ul>
Number	2	39099	44%	*
Number	3	39213	49%	<ul style="list-style-type: none"> <li>In a word problem involving division, students made a calculation error.</li> </ul>
Number	4	39152	40%	<ul style="list-style-type: none"> <li>Students made a calculation error in a money question involving subtraction with decimals.</li> </ul>
Number	9	39107	66%	<ul style="list-style-type: none"> <li>Students were not able to find a term in a decreasing number pattern.</li> </ul>
Number	10	39028	33%	*
Number	11	39104	56%	<ul style="list-style-type: none"> <li>In a money problem involving addition and multiplication of decimals, students added correctly but did not perform the multiplication.</li> </ul>
Number	13	39026	47%	*
Number	20	39005	29%	*
Number	25	38793	36%	<ul style="list-style-type: none"> <li>Students added numbers in a table of admission costs but didn't complete the</li> </ul>

				question by multiplying one of those numbers.
Number	30	38412	53%	<ul style="list-style-type: none"> <li>In a question involving the perimeter of a figure formed by a number of joined squares, students did not include the end sides.</li> </ul>
Number	31	38399	43%	*
Number	33	38409	66%	<ul style="list-style-type: none"> <li>Students made a calculation error in a word problem involving division.</li> </ul>
Number	36	38127	44%	*
Number	37	38286	66%	<ul style="list-style-type: none"> <li>When estimating the sum of two numbers, students rounded down, rather than up, and also rounded to the nearest 10, rather than the nearest 100 as requested.</li> </ul>
Number	38	38118	45%	<ul style="list-style-type: none"> <li>In a two-step word problem involving addition and subtraction of 3-digit numbers, students made a numerical mistake in one step.</li> </ul>
Number	39	38173	40%	*
Patterns and Relations	5	39162	49%	<ul style="list-style-type: none"> <li>In a word problem involving division with a remainder, students subtracted the two numbers in the stem.</li> </ul>
Patterns and Relations	7	39115	63%	<ul style="list-style-type: none"> <li>In a word problem involving a relationship between two number patterns, students made a numerical mistake and obtained twice the result.</li> </ul>
Patterns and Relations	8	39069	55%	<ul style="list-style-type: none"> <li>Students found the mass needed to balance two sets of objects but left one step out of the problem.</li> </ul>
Patterns and Relations	14	39023	69%	<ul style="list-style-type: none"> <li>Students were able to identify the pattern shown in a series of diagrams but selected the next term in the pattern rather than a sum of the terms asked for.</li> <li>Students were not able to identify the pattern</li> </ul>

				shown in a series of diagrams. They appear to have guessed.
Patterns and Relations	16	38951	58%	<ul style="list-style-type: none"> <li>Students made a calculation error in finding the value of a fraction of a whole.</li> </ul>
Patterns and Relations	23	38666	58%	<ul style="list-style-type: none"> <li>The student just multiplied two numbers in the stem when finding the sum of n terms in a number series.</li> <li>The student made an error in adding a number of terms in a number series.</li> </ul>
Patterns and Relations	28	38531	70%	<ul style="list-style-type: none"> <li>Students were not able to find the correct term in a number pattern depicted.</li> </ul>
Patterns and Relations	29	38460	31%	*
Patterns and Relations	32	38341	44%	<ul style="list-style-type: none"> <li>Students were not able to obtain some terms in an increasing number pattern and made a numerical error when comparing two of them.</li> </ul>
Patterns and Relations	35	38254	60%	<ul style="list-style-type: none"> <li>Students found the term preceding the correct one in a number sequence.</li> </ul>
Shape and Space	6	38879	60%	<ul style="list-style-type: none"> <li>Students were not able to solve a word problem involving lengths and conversion of units. They divided two numbers in the stem, before converting to the same unit.</li> <li>Students were not able to solve a word problem involving lengths and conversion of units.</li> </ul>
Shape and Space	12	38973	52%	<ul style="list-style-type: none"> <li>Students were not able to estimate the distance between two objects and made a numerical error in unit conversion.</li> </ul>
Shape and Space	18	38755	42%	*
Shape and Space	22	38931	38%	*
Shape and Space	26	38499	71%	<ul style="list-style-type: none"> <li>In a three-step money problem involving multiplication, addition and subtraction,</li> </ul>

				students made a calculation error.
Shape and Space	27	38774	52%	<ul style="list-style-type: none"> <li>Students were not able to differentiate a square from a rectangle.</li> </ul>
Shape and Space	40	38075	51%	<ul style="list-style-type: none"> <li>Students made a calculation error using the 24-hour clock in trying to find a starting time for an event when given the event duration and end time.</li> </ul>
Statistics and Probability	15	38855	58%	<ul style="list-style-type: none"> <li>Students were not able to read and interpret a bar graph. They made a numerical error when subtracting the data for two groups of the graph.</li> <li>Students were not able to read and interpret a bar graph. The response selected was the sum of one half of the data rather than the difference between the two halves.</li> </ul>
Statistics and Probability	17	38989	22%	*
Statistics and Probability	19	38928	53%	<ul style="list-style-type: none"> <li>In a picto-graph, the student gave the difference in the number of symbols, rather than the difference of their values</li> </ul>
Statistics and Probability	21	38905	29%	*
Statistics and Probability	24	38834	22%	*
Statistics and Probability	34	38226	43%	*

Note: '**N/A**' represents that there were fewer than 20% of the students who incorrectly answered the item; '\*' represents that there was no specific curricular aspect that needed attention since each of the incorrect answers has been chosen by less than 20% of the students.