

2010 Grade 4 Mathematics Item Analysis- Multiple Choice Items

MATH Question 1

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	49	.0	.0	.0
*	54	.0	.0	.0
1	6296	2.9	2.9	2.9
3	49022	22.3	22.3	25.2
4	3141	1.4	1.4	26.6
B	161675	73.4	73.4	100.0
Total	220237	100.0	100.0	

MATH Question 2

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	74	.0	.0	.0
*	53	.0	.0	.1
1	2358	1.1	1.1	1.1
2	1295	.6	.6	1.7
3	4879	2.2	2.2	3.9
D	211578	96.1	96.1	100.0
Total	220237	100.0	100.0	

MATH Question 3

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	86	.0	.0	.0
*	84	.0	.0	.1
1	1061	.5	.5	.6
2	9254	4.2	4.2	4.8
4	4659	2.1	2.1	6.9
C	205093	93.1	93.1	100.0
Total	220237	100.0	100.0	

MATH Question 4

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	105	.0	.0	.0
*	124	.1	.1	.1
1	3945	1.8	1.8	1.9
2	6665	3.0	3.0	4.9
3	4224	1.9	1.9	6.8
D	205174	93.2	93.2	100.0
Total	220237	100.0	100.0	

MATH Question 5

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	114	.1	.1	.1
*	117	.1	.1	.1
1	5283	2.4	2.4	2.5
3	20754	9.4	9.4	11.9
4	12394	5.6	5.6	17.6
B	181575	82.4	82.4	100.0
Total	220237	100.0	100.0	

MATH Question 6

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	126	.1	.1	.1
*	153	.1	.1	.1
1	8108	3.7	3.7	3.8
2	2394	1.1	1.1	4.9
3	16328	7.4	7.4	12.3
D	193128	87.7	87.7	100.0
Total	220237	100.0	100.0	

MATH Question 7

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	110	.0	.0	.0
*	74	.0	.0	.1
2	2175	1.0	1.0	1.1
3	8255	3.7	3.7	4.8
4	5866	2.7	2.7	7.5
A	203757	92.5	92.5	100.0
Total	220237	100.0	100.0	

MATH Question 8

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	120	.1	.1	.1
*	54	.0	.0	.1
1	9318	4.2	4.2	4.3
3	42258	19.2	19.2	23.5
4	4939	2.2	2.2	25.7
B	163548	74.3	74.3	100.0
Total	220237	100.0	100.0	

MATH Question 9

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	74	.0	.0	.0
*	25	.0	.0	.0
1	2251	1.0	1.0	1.1
2	5483	2.5	2.5	3.6
4	6859	3.1	3.1	6.7
C	205545	93.3	93.3	100.0
Total	220237	100.0	100.0	

MATH Question 10

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	156	.1	.1	.1
*	50	.0	.0	.1
1	14683	6.7	6.7	6.8
3	15920	7.2	7.2	14.0
4	15515	7.0	7.0	21.0
B	173913	79.0	79.0	100.0
Total	220237	100.0	100.0	

MATH Question 11

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	192	.1	.1	.1
*	55	.0	.0	.1
1	16318	7.4	7.4	7.5
3	14145	6.4	6.4	13.9
4	14010	6.4	6.4	20.3
B	175517	79.7	79.7	100.0
Total	220237	100.0	100.0	

MATH Question 12

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	179	.1	.1	.1
*	65	.0	.0	.1
1	9566	4.3	4.3	4.5
2	10598	4.8	4.8	9.3
3	48942	22.2	22.2	31.5
D	150887	68.5	68.5	100.0
Total	220237	100.0	100.0	

MATH Question 13

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	171	.1	.1	.1
*	41	.0	.0	.1
1	19337	8.8	8.8	8.9
2	10588	4.8	4.8	13.7
4	4204	1.9	1.9	15.6
C	185896	84.4	84.4	100.0
Total	220237	100.0	100.0	

MATH Question 14

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	186	.1	.1	.1
*	56	.0	.0	.1
1	6059	2.8	2.8	2.9
2	11241	5.1	5.1	8.0
4	5048	2.3	2.3	10.3
C	197647	89.7	89.7	100.0
Total	220237	100.0	100.0	

MATH Question 15

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	170	.1	.1	.1
*	102	.0	.0	.1
2	1658	.8	.8	.9
3	3428	1.6	1.6	2.4
4	37675	17.1	17.1	19.5
A	177204	80.5	80.5	100.0
Total	220237	100.0	100.0	

MATH Question 16

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	189	.1	.1	.1
*	120	.1	.1	.1
1	6782	3.1	3.1	3.2
2	5301	2.4	2.4	5.6
4	59916	27.2	27.2	32.8
C	147929	67.2	67.2	100.0
Total	220237	100.0	100.0	

MATH Question 17

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	213	.1	.1	.1
*	85	.0	.0	.1
2	11342	5.1	5.1	5.3
3	13351	6.1	6.1	11.3
4	12472	5.7	5.7	17.0
A	182774	83.0	83.0	100.0
Total	220237	100.0	100.0	

MATH Question 18

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	236	.1	.1	.1
*	69	.0	.0	.1
1	16735	7.6	7.6	7.7
2	18348	8.3	8.3	16.1
4	16713	7.6	7.6	23.7
C	168136	76.3	76.3	100.0
Total	220237	100.0	100.0	

MATH Question 19

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	196	.1	.1	.1
*	63	.0	.0	.1
2	24931	11.3	11.3	11.4
3	26513	12.0	12.0	23.5
4	16680	7.6	7.6	31.0
A	151854	69.0	69.0	100.0
Total	220237	100.0	100.0	

MATH Question 20

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	124	.1	.1	.1
*	54	.0	.0	.1
1	6280	2.9	2.9	2.9
3	12851	5.8	5.8	8.8
4	5058	2.3	2.3	11.1
B	195870	88.9	88.9	100.0
Total	220237	100.0	100.0	

MATH Question 21

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	252	.1	.1	.1
*	105	.0	.0	.2
1	8111	3.7	3.7	3.8
2	65366	29.7	29.7	33.5
3	17043	7.7	7.7	41.3
D	129360	58.7	58.7	100.0
Total	220237	100.0	100.0	

MATH Question 22

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	215	.1	.1	.1
*	125	.1	.1	.2
2	11881	5.4	5.4	5.5
3	3972	1.8	1.8	7.4
4	1904	.9	.9	8.2
A	202140	91.8	91.8	100.0
Total	220237	100.0	100.0	

MATH Question 23

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	220	.1	.1	.1
*	73	.0	.0	.1
1	4652	2.1	2.1	2.2
2	12367	5.6	5.6	7.9
4	5356	2.4	2.4	10.3
C	197569	89.7	89.7	100.0
Total	220237	100.0	100.0	

MATH Question 24

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	407	.2	.2	.2
*	98	.0	.0	.2
1	52936	24.0	24.0	24.3
2	24689	11.2	11.2	35.5
4	31467	14.3	14.3	49.8
C	110640	50.2	50.2	100.0
Total	220237	100.0	100.0	

MATH Question 25

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	299	.1	.1	.1
*	100	.0	.0	.2
1	49739	22.6	22.6	22.8
2	15795	7.2	7.2	29.9
3	32389	14.7	14.7	44.6
D	121915	55.4	55.4	100.0
Total	220237	100.0	100.0	

MATH Question 26

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	297	.1	.1	.1
*	102	.0	.0	.2
2	22796	10.4	10.4	10.5
3	10574	4.8	4.8	15.3
4	11914	5.4	5.4	20.7
A	174554	79.3	79.3	100.0
Total	220237	100.0	100.0	

MATH Question 27

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	283	.1	.1	.1
*	90	.0	.0	.2
1	18205	8.3	8.3	8.4
2	11160	5.1	5.1	13.5
4	36302	16.5	16.5	30.0
C	154197	70.0	70.0	100.0
Total	220237	100.0	100.0	

MATH Question 28

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	304	.1	.1	.1
*	97	.0	.0	.2
1	17046	7.7	7.7	7.9
3	18013	8.2	8.2	16.1
4	25482	11.6	11.6	27.7
B	159295	72.3	72.3	100.0
Total	220237	100.0	100.0	

MATH Question 29

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	409	.2	.2	.2
*	75	.0	.0	.2
1	25429	11.5	11.5	11.8
2	46067	20.9	20.9	32.7
4	34286	15.6	15.6	48.3
C	113971	51.7	51.7	100.0
Total	220237	100.0	100.0	

MATH Question 30

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	653	.3	.3	.3
*	52	.0	.0	.3
1	14232	6.5	6.5	6.8
2	18743	8.5	8.5	15.3
3	17600	8.0	8.0	23.3
D	168957	76.7	76.7	100.0
Total	220237	100.0	100.0	

2010 Grade 4 Mathematics Item Analysis- Constructed Response Items

Descriptive Statistics

	N	Mean		Std.
	Statistic	Statistic	Std. Error	Statistic
MATH Q31 Score Value	220103	1.7155	.00109	.51326
MATH Q32 Score Value	219999	1.4436	.00132	.62006
MATH Q33 Score Value	219745	1.6149	.00158	.73932
Math Q34 Score Value	219845	1.4750	.00175	.82247
Math Q35 Score Value	219852	1.6704	.00132	.62057
Math Q36 Score Value	219880	1.6700	.00115	.53723
Math Q37 Score Value	219218	.8758	.00203	.95146
Math Q38 Score Value	219908	2.4364	.00185	.86677
Math Q39 Score Value	219798	2.2382	.00211	.98707
Math Q40 Score Value	220003	1.3318	.00179	.83930
Math Q41 Score Value	219882	1.5396	.00145	.68145
Math Q42 Score Value	219916	1.6058	.00140	.65877
Math Q43 Score Value	219871	1.4826	.00177	.82914
Math Q44 Score Value	219939	1.5572	.00160	.75209
Math Q45 Score Value	219546	1.3293	.00147	.68793
Math Q46 Score Value	219709	1.1077	.00169	.79074
Math Q47 Score Value	219807	2.0930	.00204	.95587
Math Q48 Score Value	219683	1.8570	.00255	1.19307
Valid N (listwise)	216717			

2010 Grade 4 Mathematics Item Analysis- SPI Items

Descriptive Statistics

	N	Mean		Std.
	Statistic	Statistic	Std. Error	Statistic
MATH Standard 1 Performance Index	220236	71.84	.047	22.163
MATH Standard 2 Performance Index	220236	75.06	.044	20.575
MATH Standard 3 Performance Index	220236	80.07	.030	14.043
MATH Standard 4 Performance Index	220236	78.47	.039	18.433
MATH Standard 5 Performance Index	220236	79.23	.043	20.159
Valid N (listwise)	220236			