

Exhibit 1.16: TIMSS 2015 Achievement Items by Cognitive Domain and Item Format – Fourth Grade

Cognitive Domain	Multiple-Choice Items		Constructed Response Items		Total Items	Percentage of Score Points
	Four Response Options	Compound	1 Point	2 Points		
Mathematics Items						
Knowing	35 (35)	2 (2)	26 (26)	1 (2)	64 (65)	36%
Applying	36 (36)		28 (28)	8 (16)	72 (80)	44%
Reasoning	16 (16)		13 (13)	4 (8)	33 (37)	20%
Total	87 (87)	2 (2)	67 (67)	13 (26)	169 (182)	
Achieved Percentage of Score Points	49%		51%			
Target Percentage of Score Points	50%		50%			
Mathematics – Numeracy Items						
Knowing	29 (29)	1 (1)	25 (25)		55 (55)	52%
Applying	11 (11)		23 (23)	1 (2)	35 (36)	34%
Reasoning	5 (5)		4 (4)	3 (6)	12 (15)	14%
Total	45 (45)	1 (1)	52 (52)	4 (8)	102 (106)	
Achieved Percentage of Score Points	43%		57%			
Target Percentage of Score Points	50%		50%			
Science Items						
Knowing	42 (42)	5 (5)	19 (19)	6 (12)	72 (78)	41%
Applying	31 (31)	1 (1)	31 (31)	4 (8)	67 (71)	38%
Reasoning	17 (17)	2 (2)	16 (16)	2 (4)	37 (39)	21%
Total	90 (90)	8 (8)	66 (66)	12 (24)	176 (188)	
Achieved Percentage of Score Points	52%		48%			
Target Percentage of Score Points	50%		50%			

Score points are shown in parentheses.

Because percentages are rounded to the nearest whole number, some totals may appear inconsistent.

Counts of TIMSS Numeracy achievement items do not include the two fourth grade TIMSS 2015 mathematics blocks (see [Chapter 4](#) of the *TIMSS 2015 Assessment Frameworks*).