

Exhibit 1.9: Relative Achievement of 2011 Fourth Grade Cohort as Eighth Grade Students in 2015 – Countries Assessed Both Grades in Both Assessment Years

Follow the blue arrow pointing diagonally downwards to compare relative performance among the TIMSS countries at the fourth grade in 2011 (upper-left panel) to relative performance at the eighth grade in 2015 (lower-right panel).

2011 - Fourth Grade			2015 - Fourth Grade		
Country	Achievement Difference from TIMSS Scale Centerpoint (500)		Country	Achievement Difference from TIMSS Scale Centerpoint (500)	
Singapore	106 (3.2)	▲	Singapore	118 (3.8)	▲
Korea, Rep. of	105 (1.9)	▲	Hong Kong SAR	115 (2.9)	▲
Hong Kong SAR	102 (3.4)	▲	Korea, Rep. of	108 (2.2)	▲
Chinese Taipei	91 (2.0)	▲	Chinese Taipei	97 (1.9)	▲
Japan	85 (1.7)	▲	Japan	93 (2.0)	▲
England	42 (3.5)	▲	Russian Federation	64 (3.4)	▲
Russian Federation	42 (3.7)	▲	England	46 (2.8)	▲
United States	41 (1.9)	▲	Kazakhstan	44 (4.5)	▲
Lithuania	34 (2.4)	▲	United States	39 (2.3)	▲
Australia	16 (3.0)	▲	Lithuania	36 (2.7)	▲
Hungary	15 (3.4)	▲	Hungary	29 (3.2)	▲
Slovenia	13 (2.1)	▲	Slovenia	20 (1.9)	▲
Italy	8 (2.6)	▲	Sweden	19 (2.8)	▲
Sweden	4 (2.1)	▲	Australia	17 (3.1)	▲
Kazakhstan	1 (4.5)		Italy	7 (2.6)	▲
Norway (4)	-5 (2.8)		Norway (4)	-7 (2.3)	▼
New Zealand	-14 (2.6)	▼	New Zealand	-9 (2.3)	▼
Turkey	-31 (4.7)	▼	Turkey	-17 (3.1)	▼
Chile	-38 (2.3)	▼	Georgia	-37 (3.6)	▼
Georgia	-50 (3.7)	▼	Chile	-41 (2.4)	▼
Bahrain	-64 (3.2)	▼	United Arab Emirates	-48 (2.4)	▼
United Arab Emirates	-66 (2.0)	▼	Bahrain	-49 (1.6)	▼
Iran, Islamic Rep. of	-69 (3.5)	▼	Qatar	-61 (3.4)	▼
Qatar	-87 (3.4)	▼	Iran, Islamic Rep. of	-69 (3.2)	▼
Saudi Arabia	-90 (5.2)	▼	Oman	-75 (2.5)	▼
Oman	-115 (2.9)	▼	Saudi Arabia	-117 (4.1)	▼
Morocco	-165 (4.0)	▼	Morocco	-123 (3.4)	▼

2011 - Eighth Grade			2015 - Eighth Grade		
Country	Achievement Difference from TIMSS Scale Centerpoint (500)		Country	Achievement Difference from TIMSS Scale Centerpoint (500)	
Korea, Rep. of	113 (2.9)	▲	Singapore	121 (3.2)	▲
Singapore	111 (3.8)	▲	Korea, Rep. of	106 (2.6)	▲
Chinese Taipei	109 (3.2)	▲	Chinese Taipei	99 (2.4)	▲
Hong Kong SAR	86 (3.9)	▲	Hong Kong SAR	94 (4.6)	▲
Japan	70 (2.6)	▲	Japan	86 (2.3)	▲
Russian Federation	39 (3.6)	▲	Russian Federation	38 (4.7)	▲
United States	9 (2.7)	▲	Kazakhstan	28 (5.3)	▲
England	7 (5.6)		United States	18 (3.1)	▲
Hungary	5 (3.5)		England	18 (4.2)	▲
Australia	5 (5.2)		Slovenia	16 (2.1)	▲
Slovenia	5 (2.2)	▲	Hungary	14 (3.8)	▲
Lithuania	2 (2.5)		Lithuania	12 (2.9)	▲
Italy	-2 (2.3)		Australia	5 (3.1)	
New Zealand	-12 (5.4)	▼	Sweden	1 (2.8)	
Kazakhstan	-13 (4.2)	▼	Italy	-6 (2.5)	▼
Sweden	-16 (1.9)	▼	New Zealand	-7 (3.4)	▼
Norway (8)	-25 (2.5)	▼	Norway (8)	-13 (2.0)	▼
United Arab Emirates	-44 (2.1)	▼	United Arab Emirates	-35 (2.0)	▼
Turkey	-48 (4.0)	▼	Turkey	-42 (4.7)	▼
Georgia	-69 (3.7)	▼	Bahrain	-46 (1.4)	▼
Chile	-84 (2.7)	▼	Georgia	-47 (3.4)	▼
Iran, Islamic Rep. of	-85 (4.3)	▼	Qatar	-63 (3.0)	▼
Qatar	-90 (3.1)	▼	Iran, Islamic Rep. of	-64 (4.6)	▼
Bahrain	-91 (1.9)	▼	Chile	-73 (3.2)	▼
Saudi Arabia	-106 (4.7)	▼	Oman	-97 (2.4)	▼
Morocco	-129 (2.0)	▼	Morocco	-116 (2.3)	▼
Oman	-134 (2.9)	▼	Saudi Arabia	-132 (4.6)	▼

- ▲ Country average significantly higher than the centerpoint of the TIMSS scale
- ▼ Country average significantly lower than the centerpoint of the TIMSS scale

Trend results for Lithuania do not include students taught in Polish or in Russian.

() Standard errors appear in parentheses. Because of rounding some results may appear inconsistent.

SOURCE: IEA's Trends in International Mathematics and Science Study – TIMSS 2015

Exhibit 1.9: Relative Achievement of 2011 Fourth Grade Cohort as Eighth Grade Students in 2015 – Countries Assessed Both Grades in Both Assessment Years (Continued)

2011 - Fourth Grade			2015 - Fourth Grade		
Country	Achievement Difference from TIMSS Scale Centerpoint (500)		Country	Achievement Difference from TIMSS Scale Centerpoint (500)	
Benchmarking Participants			Benchmarking Participants		
Florida, US	45 (3.0)	▲	Florida, US	46 (4.7)	▲
Quebec, Canada	33 (2.5)	▲	Quebec, Canada	36 (4.0)	▲
Ontario, Canada	18 (3.0)	▲	Ontario, Canada	12 (2.3)	▲
Dubai, UAE	-32 (1.7)	▼	Dubai, UAE	11 (1.4)	▲
Abu Dhabi, UAE	-83 (4.6)	▼	Abu Dhabi, UAE	-81 (4.7)	▼

2011 - Eighth Grade			2015 - Eighth Grade		
Country	Achievement Difference from TIMSS Scale Centerpoint (500)		Country	Achievement Difference from TIMSS Scale Centerpoint (500)	
Benchmarking Participants			Benchmarking Participants		
Quebec, Canada	32 (2.4)	▲	Quebec, Canada	43 (3.9)	▲
Florida, US	13 (6.6)	▲	Ontario, Canada	22 (2.9)	▲
Ontario, Canada	12 (2.4)	▲	Dubai, UAE	12 (2.1)	▲
Dubai, UAE	-22 (2.2)	▼	Florida, US	-7 (6.4)	▼
Abu Dhabi, UAE	-51 (3.7)	▼	Abu Dhabi, UAE	-58 (4.7)	▼

- ▲ Country average significantly higher than the centerpoint of the TIMSS scale
- ▼ Country average significantly lower than the centerpoint of the TIMSS scale

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