

Exhibit 3.9: Percentages of Students Reaching International Benchmarks of Mathematics Achievement Across Assessment Years

Country	Advanced International Benchmark (625)							High International Benchmark (550)						
	Percent of Students							Percent of Students						
	2019	2015	2011	2007	2003	1999	1995	2019	2015	2011	2007	2003	1999	1995
Singapore	51	54	48	40 ▲	44 ▲	42 ▲	40 ▲	79	81	78	70 ▲	77	77	84 ▼
Chinese Taipei	49	44 ▲	49	45	38 ▲	37 ▲		75	72 ▲	73	71 ▲	66 ▲	67 ▲	
Korea, Rep. of	45	43	47	40 ▲	35 ▲	32 ▲	31 ▲	74	75	77 ▼	71 ▲	70 ▲	70 ▲	67 ▲
Japan	37	34	27 ▲	26 ▲	24 ▲	29 ▲	29 ▲	71	67 ▲	61 ▲	61 ▲	62 ▲	66 ▲	67 ▲
Hong Kong SAR	32	37	34	31	31	28	23 ▲	66	75 ▼	71	64	73 ▼	70	65
Russian Federation	16	14	14	8 ▲	6 ▲	12	9 ▲	48	46	47	33 ▲	30 ▲	39 ▲	38 ▲
Israel	15	13	12					40	38	40				
United States	14	10 ▲	7 ▲	6 ▲	7 ▲	7 ▲	4 ▲	38	37	30 ▲	31 ▲	29 ▲	30 ▲	26 ▲
Turkey	12	6 ▲	7 ▲					32	20 ▲	20 ▲				
Australia	11	7 ▲	9	6 ▲	7 ▲		7 ▲	36	30 ▲	29 ▲	24 ▲	29 ▲		33
Hungary	11	12	8 ▲	10	11	13	10	36	37	32 ▲	36	41	43 ▼	40
England	11	10	8	8	5 ▲	6 ▲	6 ▲	35	36	32	35	26 ▲	25 ▲	27 ▲
Lithuania	10	6 ▲	5 ▲	6 ▲	5 ▲	3 ▲	2 ▲	37	33	29 ▲	30 ▲	28 ▲	18 ▲	17 ▲
Ireland	7	7					8	38	38					37
United Arab Emirates	7	5 ▲	2 ▲					24	20 ▲	14 ▲				
Romania	6		5	4 ▲	4 ▲	4	4 ▲	25		19 ▲	20 ▲	21	20	21
Cyprus	6			2 ▲	1 ▲	2 ▲	3 ▲	29			17 ▲	13 ▲	19 ▲	19 ▲
New Zealand	6	6	5		5	6	6	22	27 ▼	24		24	26	28 ▼
Bahrain	5	2 ▲	1 ▲	0 ▲	0 ▲			25	12 ▲	8 ▲	3 ▲	2 ▲		
Norway (9)	5	5						29	30					
Sweden	5	3 ▲	1 ▲	2 ▲	3 ▲		12 ▼	28	26	16 ▲	20 ▲	24		46 ▼
Finland	5		4					29		30				
Kazakhstan	5		3					23		23				
Portugal	5						1 ▲	25						7 ▲
Malaysia	4	3 ▲	2 ▲	2 ▲	6	10 ▼		17	18	12 ▲	18	30 ▼	36 ▼	
Qatar	3	3	2					14	14	10 ▲				
Italy	3	3	3	3	3	4		24	24	24	17 ▲	19 ▲	21	
Iran, Islamic Rep. of	3	2	2	1 ▲	0 ▲	1 ▲	0 ▲	14	12	8 ▲	5 ▲	3 ▲	6 ▲	4 ▲
Georgia	3	2	3	1 ▲				17	15	13	7 ▲			
France	2						6 ▼	17						38 ▼
Oman	1	1	0 ▲	0 ▲				7	6	4 ▲	2 ▲			
Egypt	1	0		1	1			7	5		5	6		
Chile	1	1	1			0	1	7	7	5 ▲		3 ▲	4 ▲	
South Africa (9)	1	1	1					3	3	3				
Jordan	0	0	0	1 ▼	1	3 ▼		6	3 ▲	6	11 ▼	8	12 ▼	
Kuwait	0	1						5	5					
Lebanon	0	0	1	1	0			5	8 ▼	9 ▼	10 ▼	4		
Saudi Arabia	0	0	1					2	2	5 ▼				
Morocco	0	0	0					2	2	2				
Benchmarking Participants														
Dubai, UAE	17	10 ▲	5 ▲	3 ▲				48	36 ▲	23 ▲	17 ▲			
Ontario, Canada	11	6 ▲	4 ▲	6 ▲	6 ▲	6 ▲	3 ▲	41	37	31 ▲	33 ▲	34 ▲	32 ▲	26 ▲
Quebec, Canada	11	9	6 ▲	8	8	18 ▼	14	47	47	40 ▲	37 ▲	45	60 ▼	54
Abu Dhabi, UAE	3	3	2 ▲					15	14	12				

▲ 2019 percent significantly higher
▼ 2019 percent significantly lower

An empty cell indicates a country did not participate in that year's assessment or did not have comparable data. See Appendix A for country participation in previous TIMSS assessments. Results for Lithuania before 2015 do not include students taught in Polish or Russian.



Exhibit 3.9: Percentages of Students Reaching International Benchmarks of Mathematics Achievement Across Assessment Years

(Continued)

Country	Intermediate International Benchmark (475)							Low International Benchmark (400)						
	Percent of Students							Percent of Students						
	2019	2015	2011	2007	2003	1999	1995	2019	2015	2011	2007	2003	1999	1995
Singapore	92	94	92	88 ▲	93	94	98 ▼	98	99	99	97	99	99	100 ▼
Chinese Taipei	90	88 ▲	88 ▲	86 ▲	85 ▲	85 ▲		98	97 ▲	96 ▲	95 ▲	96 ▲	95 ▲	
Korea, Rep. of	90	93 ▼	93 ▼	90	90	91	89	97	99 ▼	99 ▼	98	98	99 ▼	97
Japan	92	89 ▲	87 ▲	87 ▲	88 ▲	90 ▲	91	99	98 ▲	97 ▲	97 ▲	98 ▲	98	98
Hong Kong SAR	87	92 ▼	89	85	93 ▼	92 ▼	88	96	98	97	94	98 ▼	98 ▼	96
Russian Federation	80	78	78	68 ▲	66 ▲	73 ▲	73 ▲	96	95	95	91 ▲	92 ▲	93 ▲	93 ▲
Israel	67	65	68					87	84	87				
United States	66	70	68	67	64	62	61	87	91 ▼	92 ▼	92 ▼	90	87	86
Turkey	56	42 ▲	40 ▲					80	70 ▲	67 ▲				
Australia	68	64	63	61 ▲	65		68	90	89	89	89	90		90
Hungary	68	67	65	69	75 ▼	75 ▼	74 ▼	90	88	88	91	95 ▼	93 ▼	94 ▼
England	69	69	65	69	61 ▲	60 ▲	61 ▲	90	93	88	90	90	88	87
Lithuania	71	68	64 ▲	65 ▲	63 ▲	53 ▲	50 ▲	93	92	90 ▲	90 ▲	90 ▲	85 ▲	81 ▲
Ireland	76	76					73	94	94					91
United Arab Emirates	50	46 ▲	42 ▲					75	73	73				
Romania	52		44 ▲	46 ▲	52	51	52	78		71 ▲	73 ▲	79	79	79
Cyprus	63			48 ▲	45 ▲	53 ▲	51 ▲	88			78 ▲	77 ▲	82 ▲	77 ▲
New Zealand	53	58 ▼	57		59 ▼	57	64 ▼	82	85	84		88 ▼	84	89 ▼
Bahrain	55	39 ▲	26 ▲	19 ▲	17 ▲			79	75 ▲	53 ▲	49 ▲	51 ▲		
Norway (9)	65	70 ▼						90	94 ▼					
Sweden	64	65	57 ▲	60 ▲	64		81 ▼	90	91	89	90	91		96 ▼
Finland	69		73					93		96 ▼				
Kazakhstan	55		57					85		85				
Portugal	63						35 ▲	91						79 ▲
Malaysia	42	45	36	50 ▼	66 ▼	70 ▼		74	76	65 ▲	82 ▼	93 ▼	93 ▼	
Qatar	37	36	29 ▲					65	63	54 ▲				
Italy	62	62	64	54 ▲	56 ▲	53 ▲		91	89	90	85 ▲	86 ▲	82 ▲	
Iran, Islamic Rep. of	37	34	26 ▲	20 ▲	20 ▲	26 ▲	24 ▲	68	63 ▲	55 ▲	51 ▲	55 ▲	61 ▲	59 ▲
Georgia	44	42	36 ▲	26 ▲				75	72	62 ▲	56 ▲			
France	55						81 ▼	88						97 ▼
Oman	27	23 ▲	16 ▲	14 ▲				54	52	39 ▲	41 ▲			
Egypt	27	21 ▲		21 ▲	24			55	47 ▲		47 ▲	52		
Chile	33	28 ▲	23 ▲		15 ▲	16 ▲		70	63 ▲	57 ▲		41 ▲	46 ▲	
South Africa (9)	13	13	9 ▲					41	34 ▲	24 ▲				
Jordan	28	18 ▲	26	35 ▼	30	33 ▼		60	45 ▲	55 ▲	61	60	61	
Kuwait	21	18						50	45					
Lebanon	27	35 ▼	38 ▼	36 ▼	27			64	71 ▼	73 ▼	74 ▼	68		
Saudi Arabia	15	11 ▲	20 ▼					47	34 ▲	47				
Morocco	12	14 ▼	12					41	41	36 ▲				
Benchmarking Participants														
Dubai, UAE	76	67 ▲	53 ▲	47 ▲				92	88 ▲	79 ▲	74 ▲			
Ontario, Canada	76	75	71 ▲	74	75	72	65 ▲	95	95	94	95	97	96	91 ▲
Quebec, Canada	85	86	82	78 ▲	88	93 ▼	90	98	98	98	97	99 ▼	99	99
Abu Dhabi, UAE	37	37	39					61	65	71 ▼				

▲ 2019 percent significantly higher
▼ 2019 percent significantly lower