

Exhibit 2.3: Percentages of Students Reaching the International Benchmarks of Mathematics Achievement Across Assessment Years

Country	Advanced International Benchmark (625)					High International Benchmark (550)				
	Percent of Students					Percent of Students				
	2015	2011	2007	2003	1995	2015	2011	2007	2003	1995
Singapore	50	43 ▲	41 ▲	38 ▲	38 ▲	80	78	74 ▲	73 ▲	70 ▲
Hong Kong SAR	45	37 ▲	40	22 ▲	17 ▲	84	80	81	67 ▲	56 ▲
Korea, Rep. of	41	39			25 ▲	81	80			70 ▲
Chinese Taipei	35	34	24 ▲	16 ▲		76	74	66 ▲	61 ▲	
Japan	32	30	23 ▲	21 ▲	22 ▲	74	70 ▲	61 ▲	60 ▲	61 ▲
Northern Ireland	27	24 ▲				61	59			
Russian Federation	20	13 ▲	16	11 ▲		59	47 ▲	48 ▲	41 ▲	
England	17	18	16	14	7 ▲	49	49	48	43 ▲	24 ▲
Kazakhstan	16	7 ▲				47	29 ▲			
United States	14	13	10 ▲	7 ▲	9 ▲	47	47	40 ▲	35 ▲	37 ▲
Ireland	14	9 ▲			10 ▲	51	41 ▲			40 ▲
Hungary	13	10 ▲	9 ▲	10 ▲	11	44	37 ▲	35 ▲	41	38 ▲
Portugal	12	8 ▲			1 ▲	46	40 ▲			11 ▲
Denmark	12	10	7 ▲			46	44	36 ▲		
Serbia	10	9				37	36			
Lithuania	10	10	10	10		45	43	42	44	
Belgium (Flemish)	10	10		10		47	50		51	
Cyprus	10			8 ▲	5 ▲	39			34 ▲	21 ▲
Australia	9	10	9	5 ▲	6 ▲	36	35	35	26 ▲	27 ▲
Finland	8	12 ▼				43	49 ▼			
Czech Republic	8	4 ▲	2 ▲		16 ▼	38	30 ▲	19 ▲		46 ▼
New Zealand	6	4 ▲	5	5	4 ▲	26	23 ▲	26	26	19 ▲
Slovenia	6	4 ▲	3 ▲	2 ▲	2 ▲	34	31	25 ▲	18 ▲	14 ▲
Germany	5	5	6			34	37	37		
Sweden	5	3 ▲	3 ▲			34	25 ▲	24 ▲		
United Arab Emirates	5	2 ▲				18	12			
Turkey	5	4				25	21 ▲			
Italy	4	5	6	6		28	28	29	29	
Slovak Republic	4	5	5			26	30 ▼	26		
Netherlands	4	5	7 ▼	5	12 ▼	37	44 ▼	42 ▼	44 ▼	50 ▼
Spain	3	1 ▲				27	17 ▲			
Norway (4)	3	2	2 ▲	1 ▲	2	21	21	15 ▲	10 ▲	16 ▲
Croatia	3	2 ▲				24	19 ▲			
Qatar	3	2				13	10 ▲			
Georgia	2	2	1			15	12	10 ▲		
Oman	2	1 ▲				11	5 ▲			
Bahrain	2	1				13	10 ▲			
Iran, Islamic Rep. of	1	1	0 ▲	0 ▲	0 ▲	11	9	3 ▲	2 ▲	3 ▲
Chile	1	2				10	14 ▼			
ψ Saudi Arabia	0	2				3	7 ▼			
Morocco	0	0				3	2			
ψ Kuwait	0	0				1	1			
Benchmarking Participants										
Florida, US	16	14				49	47			
Dubai, UAE	11	5 ▲	2 ▲			35	22 ▲	12 ▲		
Quebec, Canada	9	6	5 ▲	3 ▲	13 ▼	42	40	34 ▲	25 ▲	50
Ontario, Canada	6	7	4	5	4 ▲	31	34	29	29	22 ▲
ψ Abu Dhabi, UAE	3	1 ▲				12	8 ▲			

▲ 2015 percent significantly higher
▼ 2015 percent significantly lower

An empty cell indicates a country did not participate in that year's assessment.

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

ψ Reservations about reliability because the percentage of students with achievement too low for estimation exceeds 15% but does not exceed 25%.

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

Exhibit 2.3: Percentages of Students Reaching the International Benchmarks of Mathematics Achievement Across Assessment Years (Continued)

Country	Intermediate International Benchmark (475)					Low International Benchmark (400)				
	Percent of Students					Percent of Students				
	2015	2011	2007	2003	1995	2015	2011	2007	2003	1995
Singapore	93	94	92	91	89 ▲	99	99	98	97	96 ▲
Hong Kong SAR	98	96	97	94 ▲	87 ▲	100	99	100	99 ▲	97 ▲
Korea, Rep. of	97	97			94 ▲	100	100			99 ▲
Chinese Taipei	95	93 ▲	92 ▲	92 ▲		100	99	99 ▲	99 ▲	
Japan	95	93 ▲	89 ▲	89 ▲	89 ▲	99	99	98 ▲	98 ▲	98 ▲
Northern Ireland	86	85				97	96			
Russian Federation	89	82 ▲	81 ▲	76 ▲		98	97 ▲	95 ▲	95 ▲	
England	80	78	79	75 ▲	54 ▲	96	93 ▲	94	93 ▲	82 ▲
Kazakhstan	80	62 ▲				96	88 ▲			
United States	79	81	77	72 ▲	71 ▲	95	96 ▼	95	93 ▲	92 ▲
Ireland	84	77 ▲			73 ▲	97	94 ▲			91 ▲
Hungary	75	70 ▲	67 ▲	76	72	92	90	88 ▲	94 ▼	91
Portugal	82	80			37 ▲	97	97			70 ▲
Denmark	80	82	76 ▲			96	97	95		
Serbia	72	70				91	90			
Lithuania	81	79	77 ▲	79		96	96	94 ▲	96	
Belgium (Flemish)	88	89		90		99	99		99	
Cyprus	74			68 ▲	52 ▲	93			89 ▲	79 ▲
Australia	70	70	71	64 ▲	61 ▲	91	90	91	88 ▲	86 ▲
Finland	82	85				97	98			
Czech Republic	78	72 ▲	59 ▲		79	96	93 ▲	88 ▲		95
New Zealand	59	58	61	61	51 ▲	84	85	85	86	78 ▲
Slovenia	75	72	67 ▲	55 ▲	45 ▲	95	94	92 ▲	84 ▲	77 ▲
Germany	77	81 ▼	78			96	97	96		
Sweden	75	69 ▲	68 ▲			95	93	93		
United Arab Emirates	42	35 ▲				68	64 ▲			
Turkey	57	51 ▲				81	77 ▲			
Italy	69	69	67	65		93	93	91	89 ▲	
Slovak Republic	65	69	63			88	90	88		
Netherlands	83	88 ▼	84	89 ▼	87 ▼	99	99	98	99	99
Spain	67	56 ▲				93	87 ▲			
Norway (4)	62	63	52 ▲	41 ▲	53 ▲	90	91	83 ▲	75 ▲	84 ▲
Croatia	67	60 ▲				93	90 ▲			
Qatar	36	29 ▲				65	55 ▲			
Georgia	47	41 ▲	35 ▲			78	72 ▲	67 ▲		
Oman	32	20 ▲				60	46 ▲			
Bahrain	41	34 ▲				72	67 ▲			
Iran, Islamic Rep. of	36	33	20 ▲	17 ▲	15 ▲	65	64	53 ▲	45 ▲	44 ▲
Chile	42	44				78	77			
ψ Saudi Arabia	16	24 ▼				43	55 ▼			
Morocco	17	10 ▲				41	26 ▲			
ψ Kuwait	7	9 ▼				23	30 ▼			
Benchmarking Participants										
Florida, US	82	83				96	97			
Dubai, UAE	66	50 ▲	37 ▲			87	75 ▲	69 ▲		
Quebec, Canada	82	83	74 ▲	69 ▲	87 ▼	98	99	96 ▲	94 ▲	98
Ontario, Canada	70	73	71	70	59 ▲	93	94	94	94	86 ▲
ψ Abu Dhabi, UAE	32	29				56	58			

▲ 2015 percent significantly higher
▼ 2015 percent significantly lower

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