

Exhibit 2.3: Percentages of Students Reaching the International Benchmarks of Science 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	37	33	36	25 ▲	14 ▲	71	68	68	61 ▲	42 ▲
Korea, Rep. of	29	29			22 ▲	75	73			67 ▲
Russian Federation	20	16 ▲	16	11 ▲		62	52 ▲	49 ▲	39 ▲	
Japan	19	14 ▲	12 ▲	12 ▲	15 ▲	63	58 ▲	51 ▲	49 ▲	54 ▲
Kazakhstan	19	7 ▲				49	28 ▲			
Hong Kong SAR	16	9 ▲	14	7 ▲	5 ▲	55	45 ▲	55	47 ▲	30 ▲
United States	16	15	15	13 ▲	19	51	49	47 ▲	45 ▲	50
Chinese Taipei	14	15	19 ▼	14		56	53	55	52	
Hungary	14	13	13	10 ▲	7 ▲	50	46	47	42 ▲	32 ▲
Finland	13	20 ▼				54	65 ▼			
Sweden	11	10	8 ▲			47	44	37 ▲		
Slovenia	11	7 ▲	6 ▲	3 ▲	2 ▲	49	36 ▲	36 ▲	22 ▲	14 ▲
England	10	11	14 ▼	15 ▼	15 ▼	43	42	48 ▼	47 ▼	42
Slovak Republic	9	10	11			40	44 ▼	42		
Czech Republic	9	10	7		12 ▼	43	44	33 ▲		42
Serbia	8	8				40	35 ▲			
Australia	8	7	10 ▼	9	13 ▼	39	35	41	38	40
Germany	8	7	10 ▼			40	39	41		
Lithuania	7	4 ▲	3 ▲	3 ▲		40	31 ▲	30 ▲	30 ▲	
Ireland	7	7			8	40	35 ▲			36
Denmark	7	8	7			39	39	35		
New Zealand	6	5	8	9 ▼	11 ▼	32	28 ▲	32	38 ▼	35
United Arab Emirates	6	3 ▲				22	14 ▲			
Croatia	6	3 ▲				41	30 ▲			
Northern Ireland	5	5				34	33			
Spain	5	4				34	28 ▲			
Oman	4	1 ▲				16	7 ▲			
Bahrain	4	4				19	17			
Turkey	4	3				24	18 ▲			
Italy	4	8 ▼	13 ▼	9 ▼		32	37 ▼	44 ▼	35	
Qatar	3	2				15	11 ▲			
Netherlands	3	3	4	3	6 ▼	30	37 ▼	34	32	38 ▼
Belgium (Flemish)	3	2		2		27	24		28	
Portugal	2	7 ▼			2	25	35 ▼			13 ▲
Cyprus	2			2	1 ▲	18			17	11 ▲
Norway (4)	2	1	1	2	8 ▼	21	19	17 ▲	15 ▲	32 ▼
Chile	2	2				16	19			
Georgia	1	1	1			12	13	5 ▲		
Saudi Arabia	1	3				8	12 ▼			
Iran, Islamic Rep. of	1	3 ▼	2	1	0 ▲	9	16 ▼	12 ▼	7 ▲	3 ▲
ψ Morocco	1	0				5	1 ▲			
ψ Kuwait	0	1				2	4 ▼			

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

Benchmarking Participants

Florida, US	16	14				51	48			
Dubai, UAE	14	6 ▲	4 ▲			42	23 ▲	21 ▲		
Ontario, Canada	9	9	12 ▼	13 ▼	10	41	40	45	47 ▼	37 ▲
Quebec, Canada	6	3 ▲	5	3 ▲	9 ▼	35	29 ▲	32	25 ▲	40
Abu Dhabi, UAE	4	2 ▲				15	10 ▲			

- ▲ 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%.

Exhibit 2.3: Percentages of Students Reaching the International Benchmarks of Science 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	90	89	88	86 ▲	71 ▲	97	97	96	95 ▲	89 ▲
Korea, Rep. of	96	95			93 ▲	100	99			99 ▲
Russian Federation	91	86 ▲	82 ▲	74 ▲		99	98	96 ▲	93 ▲	
Japan	93	90 ▲	86 ▲	84 ▲	87 ▲	99	99	97 ▲	96 ▲	97 ▲
Kazakhstan	81	58 ▲				96	84 ▲			
Hong Kong SAR	88	82 ▲	88	87	69 ▲	98	96 ▲	98	98	91 ▲
United States	81	81	78 ▲	78 ▲	78 ▲	95	96	94	94	92 ▲
Chinese Taipei	88	85 ▲	86	87		98	97 ▲	97 ▲	98	
Hungary	81	78	78	76 ▲	67 ▲	94	93	93	94	90 ▲
Finland	89	92 ▼				99	99			
Sweden	82	79	76 ▲			96	95	95		
Slovenia	84	74 ▲	74 ▲	61 ▲	45 ▲	97	93 ▲	93 ▲	87 ▲	79 ▲
England	81	76 ▲	81	79	72 ▲	97	93 ▲	95 ▲	94 ▲	90 ▲
Slovak Republic	74	79 ▼	75			91	94 ▼	92		
Czech Republic	81	81	72 ▲		77 ▲	96	97	93 ▲		95 ▲
Serbia	77	72 ▲				93	91			
Australia	75	72 ▲	76	74	72	94	91 ▲	93	92	89 ▲
Germany	78	78	76			96	96	94 ▲		
Lithuania	79	73 ▲	74 ▲	73 ▲		96	95 ▲	95	95	
Ireland	79	72 ▲			70 ▲	96	92 ▲			91 ▲
Denmark	78	78	72 ▲			96	95	93 ▲		
New Zealand	67	63 ▲	65	73 ▼	66	88	86	87	91 ▼	85
United Arab Emirates	46	36 ▲				67	61 ▲			
Croatia	83	75 ▲				98	96 ▲			
Northern Ireland	76	74				95	94			
Spain	74	67 ▲				95	92 ▲			
Oman	38	23 ▲				61	45 ▲			
Bahrain	47	43 ▲				72	70			
Turkey	58	48 ▲				82	76 ▲			
Italy	75	76	78	70 ▲		95	95	94	91 ▲	
Qatar	39	29 ▲				64	50 ▲			
Netherlands	76	86 ▼	79	83 ▼	82 ▼	97	99 ▼	97	99 ▼	98
Belgium (Flemish)	73	73		79 ▼		96	96		98 ▼	
Portugal	72	75			43 ▲	96	95			73 ▲
Cyprus	56			55	39 ▲	86			86	74 ▲
Norway (4)	63	64	54 ▲	49 ▲	65	90	92	84 ▲	79 ▲	88
Chile	53	54				85	85			
Georgia	41	44	26 ▲			74	75	59 ▲		
Saudi Arabia	25	35 ▼				48	63 ▼			
Iran, Islamic Rep. of	33	44 ▼	36	28 ▲	15 ▲	61	72 ▼	65	58	42 ▲
ψ Morocco	17	6 ▲				35	16 ▲			
ψ Kuwait	10	16 ▼				25	37 ▼			
Benchmarking Participants										
Florida, US	83	82				96	97			
Dubai, UAE	70	48 ▲	48 ▲			86	72 ▲	72 ▲		
Ontario, Canada	79	77	79	81	71 ▲	96	94	95	96	90 ▲
Quebec, Canada	78	76	74	66 ▲	77	97	97	96	91 ▲	94 ▲
Abu Dhabi, UAE	35	30				55	55			

▲ 2015 percent significantly higher
▼ 2015 percent significantly lower

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