

Appendix 18A: TIMSS 2019 Re-Estimated Fourth Grade Physical Science Content Domain

Country	Physical Science		
	Published Score	Re-Estimated Score	Difference
Albania	493 (4.1)	493 (4.1)	0.1 (0.18)
Armenia	454 (3.4)	454 (3.4)	-0.2 (0.29)
Australia	526 (2.7)	526 (2.7)	-0.1 (0.15)
Austria	519 (2.6)	519 (2.6)	-0.1 (0.06)
Azerbaijan	427 (3.3)	427 (3.3)	0.0 (0.10)
Bahrain	496 (3.8)	496 (3.8)	0.0 (0.12)
Belgium (Flemish)	502 (2.3)	502 (2.3)	0.0 (0.05)
Bosnia and Herzegovina	450 (3.3)	450 (3.4)	-0.1 (0.13)
Bulgaria	518 (6.4)	518 (6.4)	0.0 (0.11)
Canada	513 (1.8)	513 (1.8)	-0.1 (0.10)
Chile	458 (3.8)	458 (3.8)	0.0 (0.10)
Chinese Taipei	573 (1.9)	573 (1.9)	0.0 (0.09)
Croatia	528 (2.4)	528 (2.3)	-0.1 (0.10)
Cyprus	511 (3.2)	511 (3.2)	-0.1 (0.10)
Czech Republic	528 (2.5)	528 (2.5)	-0.1 (0.07)
Denmark	507 (2.3)	507 (2.3)	-0.1 (0.07)
England	537 (3.2)	537 (3.2)	0.0 (0.13)
Finland	544 (3.2)	544 (3.2)	-0.1 (0.08)
France	477 (3.1)	477 (3.1)	0.0 (0.21)
Georgia	452 (4.6)	453 (4.6)	0.0 (0.17)
Germany	518 (3.0)	518 (3.0)	-0.1 (0.10)
Hong Kong SAR	529 (3.5)	529 (3.5)	0.0 (0.12)
Hungary	524 (2.8)	524 (2.8)	0.0 (0.07)
Iran, Islamic Rep. of	453 (4.7)	453 (4.7)	0.0 (0.18)
Ireland	523 (3.2)	523 (3.2)	0.0 (0.06)
Italy	502 (3.4)	502 (3.4)	0.0 (0.11)
Japan	579 (1.9)	579 (1.9)	0.0 (0.09)
Kazakhstan	506 (3.3)	506 (3.3)	0.0 (0.12)
Korea, Rep. of	607 (2.7)	607 (2.8)	0.0 (0.14)
Kosovo	415 (4.2)	415 (4.2)	0.3 (0.19)
Kuwait	--	--	--
Latvia	553 (3.6)	553 (3.6)	0.0 (0.06)
Lithuania	547 (3.0)	547 (3.1)	-0.1 (0.08)
Malta	492 (2.9)	492 (2.8)	-0.1 (0.11)
Montenegro	446 (2.8)	446 (2.8)	-0.1 (0.08)
Morocco	379 (6.2)	378 (6.3)	0.3 (0.11)
Netherlands	516 (2.8)	516 (2.8)	0.0 (0.10)
New Zealand	492 (2.1)	492 (2.1)	-0.1 (0.06)
North Macedonia	432 (7.2)	432 (7.2)	-0.1 (0.11)

A dash (–) indicates comparable data not available because average achievement could not be accurately estimated.

Country	Physical Science		
	Published Score	Re-Estimated Score	Difference
Northern Ireland	511 (2.2)	511 (2.2)	0.0 (0.05)
Norway (5)	525 (3.0)	525 (3.1)	-0.1 (0.19)
Oman	437 (4.7)	437 (4.6)	-0.1 (0.08)
Pakistan	--	--	--
Philippines	--	--	--
Poland	526 (2.9)	526 (2.9)	-0.1 (0.11)
Portugal	496 (2.4)	497 (2.4)	-0.1 (0.29)
Qatar	451 (4.0)	451 (4.0)	0.0 (0.14)
Russian Federation	572 (2.9)	572 (2.9)	-0.1 (0.13)
Saudi Arabia	--	--	--
Serbia	524 (4.2)	524 (4.3)	-0.1 (0.21)
Singapore	613 (3.7)	613 (3.7)	0.0 (0.06)
Slovak Republic	525 (3.9)	525 (3.9)	-0.1 (0.08)
South Africa (5)	--	--	--
Spain	503 (2.3)	503 (2.3)	0.0 (0.08)
Sweden	525 (3.3)	525 (3.3)	-0.1 (0.08)
Turkey (5)	538 (4.6)	538 (4.6)	0.0 (0.16)
United Arab Emirates	477 (2.2)	477 (2.2)	-0.1 (0.17)
United States	527 (2.8)	527 (2.8)	-0.1 (0.06)
Benchmarking Participants			
Ontario, Canada	512 (2.9)	512 (2.9)	-0.1 (0.14)
Quebec, Canada	514 (2.8)	514 (2.7)	-0.1 (0.21)
Moscow City, Russian Fed.	598 (2.7)	599 (2.7)	-0.1 (0.17)
Madrid, Spain	514 (2.5)	514 (2.6)	-0.1 (0.10)
Abu Dhabi, UAE	418 (2.6)	418 (2.6)	0.0 (0.34)
Dubai, UAE	556 (2.1)	556 (2.1)	-0.1 (0.27)

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Appendix 18B: TIMSS 2019 Re-estimated Eighth Grade Chemistry and Physics Content Domains

Country	Chemistry			Physics		
	Published Score	Re-Estimated Score	Difference	Published Score	Re-Estimated Score	Difference
Australia	515 (3.8)	515 (3.8)	0.0 (0.04)	529 (3.6)	529 (3.6)	-0.1 (0.07)
Bahrain	480 (2.4)	480 (2.4)	0.0 (0.08)	480 (2.6)	480 (2.6)	0.0 (0.07)
Chile	442 (2.9)	442 (2.9)	-0.1 (0.04)	450 (3.7)	450 (3.7)	-0.1 (0.06)
Chinese Taipei	594 (2.4)	594 (2.4)	0.0 (0.03)	555 (2.7)	555 (2.7)	0.0 (0.03)
Cyprus	478 (2.1)	478 (2.1)	0.1 (0.08)	480 (3.6)	480 (3.7)	-0.1 (0.08)
Egypt	397 (5.9)	397 (5.9)	0.1 (0.06)	394 (5.0)	394 (5.0)	0.0 (0.07)
England	512 (6.0)	512 (6.0)	0.0 (0.06)	516 (5.1)	516 (5.1)	0.0 (0.05)
Finland	545 (3.8)	545 (3.8)	0.0 (0.06)	539 (3.9)	539 (3.9)	0.0 (0.17)
France	465 (3.2)	465 (3.2)	0.1 (0.13)	491 (3.6)	491 (3.5)	-0.1 (0.20)
Georgia	456 (4.3)	456 (4.3)	0.1 (0.14)	436 (5.0)	436 (4.9)	0.0 (0.20)
Hong Kong SAR	485 (5.5)	485 (5.5)	0.0 (0.12)	510 (5.6)	510 (5.6)	-0.1 (0.10)
Hungary	527 (3.5)	527 (3.5)	0.1 (0.07)	528 (2.9)	528 (2.9)	0.0 (0.07)
Iran, Islamic Rep. of	450 (4.5)	450 (4.5)	-0.1 (0.04)	453 (4.2)	454 (4.1)	-0.1 (0.06)
Ireland	512 (3.9)	512 (3.9)	-0.1 (0.08)	519 (3.8)	519 (3.8)	0.0 (0.06)
Israel	518 (4.6)	519 (4.6)	-0.1 (0.08)	520 (4.9)	520 (4.9)	0.0 (0.07)
Italy	484 (3.0)	484 (3.0)	0.0 (0.06)	487 (4.5)	486 (4.5)	0.2 (0.06)
Japan	560 (2.7)	560 (2.7)	0.0 (0.06)	570 (2.5)	570 (2.5)	0.0 (0.11)
Jordan	454 (5.3)	454 (5.3)	-0.1 (0.05)	449 (4.6)	449 (4.6)	-0.1 (0.04)
Kazakhstan	494 (3.6)	494 (3.6)	-0.1 (0.15)	476 (3.9)	475 (3.8)	0.1 (0.29)
Korea, Rep. of	551 (2.5)	551 (2.5)	0.1 (0.07)	569 (2.7)	569 (2.8)	-0.1 (0.14)
Kuwait	--	--	--	--	--	--
Lebanon	412 (4.6)	412 (4.6)	0.2 (0.06)	378 (4.9)	378 (4.9)	0.2 (0.06)
Lithuania	530 (3.2)	530 (3.2)	0.0 (0.05)	529 (3.5)	529 (3.4)	0.0 (0.10)
Malaysia	434 (4.2)	434 (4.2)	-0.1 (0.04)	475 (3.4)	475 (3.4)	-0.1 (0.04)
Morocco	402 (3.0)	402 (3.0)	-0.1 (0.06)	402 (2.9)	402 (2.9)	0.0 (0.07)
New Zealand	482 (3.8)	482 (3.8)	0.0 (0.04)	502 (3.8)	502 (3.8)	-0.1 (0.04)
Norway (9)	492 (3.7)	492 (3.7)	-0.1 (0.15)	493 (3.6)	493 (3.6)	0.0 (0.19)
Oman	443 (3.1)	443 (3.2)	0.0 (0.07)	449 (3.1)	449 (3.1)	0.1 (0.05)
Portugal	512 (3.5)	512 (3.5)	0.1 (0.06)	497 (3.5)	497 (3.5)	0.0 (0.08)
Qatar	474 (4.4)	474 (4.4)	0.0 (0.10)	469 (4.4)	470 (4.4)	-0.1 (0.08)
Romania	466 (5.0)	467 (5.0)	-0.1 (0.28)	458 (4.3)	458 (4.3)	-0.1 (0.21)
Russian Federation	551 (4.2)	551 (4.2)	0.1 (0.15)	540 (4.7)	540 (4.7)	0.0 (0.15)
Saudi Arabia	--	--	--	--	--	--
Singapore	616 (5.0)	615 (5.0)	0.1 (0.14)	619 (4.1)	619 (4.1)	0.0 (0.12)
South Africa (9)	372 (4.2)	371 (4.2)	0.1 (0.06)	381 (3.0)	381 (3.1)	0.0 (0.06)
Sweden	509 (3.7)	509 (3.7)	-0.2 (0.24)	520 (3.8)	520 (3.8)	0.0 (0.09)
Turkey	516 (4.8)	516 (4.8)	-0.1 (0.06)	518 (4.0)	518 (4.0)	-0.2 (0.10)
United Arab Emirates	475 (2.4)	475 (2.4)	0.2 (0.04)	469 (2.3)	469 (2.3)	0.1 (0.03)
United States	509 (5.2)	509 (5.2)	0.0 (0.04)	515 (5.0)	515 (5.0)	0.0 (0.05)

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Country	Chemistry			Physics		
	Published Score	Re-Estimated Score	Difference	Published Score	Re-Estimated Score	Difference
Benchmarking Participants						
Ontario, Canada	492 (3.9)	492 (4.0)	-0.1 (0.07)	520 (3.5)	520 (3.5)	-0.1 (0.07)
Quebec, Canada	548 (4.1)	548 (4.1)	0.0 (0.11)	521 (4.2)	521 (4.3)	-0.1 (0.17)
Moscow City, Russian Fed.	561 (2.9)	561 (2.9)	0.0 (0.05)	576 (3.6)	576 (3.6)	0.0 (0.13)
Gauteng, RSA (9)	423 (4.2)	422 (4.2)	0.1 (0.08)	428 (4.5)	428 (4.5)	0.0 (0.07)
Western Cape, RSA (9)	442 (7.2)	442 (7.3)	0.1 (0.10)	442 (6.2)	442 (6.2)	0.1 (0.07)
Abu Dhabi, UAE	421 (4.1)	421 (4.1)	0.2 (0.05)	420 (3.8)	420 (3.8)	0.2 (0.04)
Dubai, UAE	554 (2.2)	554 (2.2)	0.1 (0.09)	539 (2.6)	539 (2.6)	0.0 (0.05)