

Table 409. Average 8th-grade science scores, by content areas, average time spent studying out of school, and country: 1999

Country	Average achievement scale score										Distribution of daily out-of-school study time in science, with mean science scores			
	Overall science scores	Earth science	Life science	Physics	Chemistry	Environmental and resource issues	Scientific inquiry and the nature of science	No time		Less than 1 hour		One hour or more		
								Percent	Mean score	Percent	Mean score	Percent	Mean score	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	
International average	488 (0.7)	488 (0.9)	488 (0.7)	488 (0.9)	488 (0.8)	488 (0.7)	488 (0.7)	14 (0.2)	462 (1.2)	49 (0.2)	495 (1.0)	36 (0.2)	486 (1.0)	
Australia	540 (4.4)	519 (6.1)	530 (4.4)	531 (6.3)	520 (5.0)	530 (6.3)	535 (4.9)	21 (1.4)	510 (6.6)	65 (1.4)	553 (4.4)	14 (0.8)	533 (6.9)	
Belgium (Flemish)	535 (3.1)	533 (3.5)	535 (4.6)	530 (3.5)	508 (3.3)	513 (3.5)	526 (4.9)	14 (1.1)	537 (8.7)	55 (1.2)	543 (4.0)	31 (1.4)	520 (3.9)	
Bulgaria	518 (5.4)	520 (5.7)	514 (6.9)	505 (5.8)	527 (5.7)	483 (6.4)	479 (5.6)	17 (1.6)	505 (8.7)	38 (1.2)	523 (6.7)	45 (1.5)	528 (7.0)	
Canada	533 (2.1)	519 (3.7)	523 (3.8)	521 (3.8)	521 (5.4)	521 (3.5)	532 (5.1)	20 (1.0)	525 (4.1)	62 (0.9)	541 (2.3)	18 (0.7)	515 (4.4)	
Chile	420 (3.7)	435 (7.0)	431 (3.7)	428 (5.6)	435 (5.2)	449 (4.8)	441 (4.7)	17 (0.7)	415 (4.9)	53 (0.8)	431 (4.7)	30 (1.0)	417 (5.4)	
Chinese Taipei	569 (4.4)	538 (3.0)	550 (3.3)	552 (3.9)	563 (4.3)	567 (4.0)	540 (4.9)	38 (1.3)	530 (5.7)	42 (0.9)	588 (4.4)	20 (0.9)	607 (4.7)	
Cyprus	460 (2.4)	459 (5.4)	468 (3.8)	459 (2.9)	470 (3.4)	475 (4.3)	467 (4.6)	18 (0.7)	425 (6.6)	57 (0.9)	474 (3.1)	25 (1.0)	461 (5.0)	
Czech Republic	539 (4.2)	533 (6.9)	544 (4.1)	526 (4.2)	512 (5.2)	516 (5.7)	522 (5.7)	18 (1.1)	529 (7.0)	62 (1.2)	546 (4.5)	20 (1.1)	530 (5.0)	
England	538 (4.8)	525 (3.9)	533 (6.2)	528 (4.5)	524 (5.5)	518 (5.8)	538 (5.1)	— (—)	— (—)	— (—)	— (—)	— (—)	— (—)	
Finland	535 (3.5)	520 (5.5)	520 (4.0)	520 (4.4)	535 (4.5)	514 (7.1)	528 (4.0)	8 (0.8)	514 (9.7)	84 (0.9)	541 (3.5)	8 (0.6)	511 (10.8)	
Hong Kong, SAR ¹	530 (3.7)	506 (4.3)	516 (5.5)	523 (4.9)	515 (5.2)	518 (4.9)	531 (2.8)	39 (1.3)	513 (4.2)	48 (1.0)	543 (4.0)	13 (0.6)	539 (6.6)	
Hungary	552 (3.7)	560 (3.9)	535 (4.0)	543 (4.3)	548 (4.7)	501 (6.6)	526 (5.9)	6 (0.6)	505 (8.6)	49 (1.2)	558 (4.0)	45 (1.3)	554 (4.0)	
Indonesia	435 (4.5)	431 (6.4)	448 (3.6)	452 (5.5)	425 (3.9)	489 (4.8)	446 (4.3)	13 (0.8)	432 (6.7)	40 (0.9)	442 (4.9)	47 (1.1)	435 (5.9)	
Iran, Islamic Republic	448 (3.8)	459 (5.2)	437 (3.7)	445 (5.7)	487 (4.1)	470 (5.5)	446 (5.3)	3 (0.3)	432 (16.0)	29 (1.0)	453 (4.1)	68 (1.1)	451 (4.6)	
Israel ²	468 (4.9)	472 (5.2)	463 (4.0)	484 (5.3)	479 (4.7)	458 (4.0)	476 (8.3)	17 (0.8)	449 (7.8)	60 (1.1)	487 (4.6)	23 (1.1)	450 (6.5)	
Italy	493 (3.9)	502 (5.9)	488 (4.6)	480 (4.1)	493 (4.8)	491 (5.4)	489 (4.6)	7 (0.7)	435 (8.6)	48 (1.4)	501 (4.3)	45 (1.4)	498 (4.3)	
Japan	550 (2.2)	533 (6.2)	534 (5.4)	544 (2.9)	530 (3.1)	506 (5.5)	543 (2.8)	39 (1.4)	535 (3.2)	50 (1.2)	560 (2.3)	12 (0.7)	555 (7.5)	
Jordan	450 (3.8)	446 (3.5)	448 (4.1)	459 (3.6)	483 (5.5)	476 (6.0)	440 (5.5)	7 (0.5)	396 (9.2)	37 (1.0)	466 (5.0)	56 (1.1)	465 (3.7)	
Korea, Republic of	549 (2.6)	532 (2.7)	528 (3.6)	544 (5.1)	523 (3.7)	523 (4.5)	545 (7.3)	45 (0.8)	527 (2.9)	42 (0.7)	564 (3.1)	13 (0.6)	578 (4.6)	
Latvia (Latvian-speaking schools) ²	503 (4.8)	495 (5.4)	509 (3.9)	495 (3.9)	490 (3.7)	493 (5.2)	495 (4.7)	9 (0.6)	480 (9.9)	66 (1.0)	509 (5.4)	25 (1.0)	496 (6.3)	
Lithuania ²	488 (4.1)	476 (4.4)	494 (4.6)	510 (4.3)	485 (4.6)	458 (5.1)	483 (6.4)	10 (0.9)	456 (8.2)	66 (1.2)	493 (4.8)	25 (1.2)	494 (4.9)	
Macedonia, Republic of	468 (5.2)	464 (4.2)	468 (4.9)	463 (6.0)	481 (6.1)	432 (4.2)	464 (3.6)	3 (0.3)	428 (15.3)	25 (1.0)	453 (5.9)	72 (1.2)	470 (5.3)	
Malaysia	482 (4.4)	491 (4.2)	479 (5.4)	494 (4.1)	485 (3.5)	502 (4.4)	488 (4.5)	4 (0.3)	460 (10.6)	36 (1.1)	493 (5.1)	60 (1.2)	495 (4.9)	
Moldova	459 (4.0)	466 (4.2)	477 (3.9)	457 (5.5)	451 (5.6)	444 (6.2)	471 (3.8)	7 (0.6)	439 (10.8)	29 (1.0)	460 (5.8)	63 (1.2)	467 (4.2)	
Morocco	323 (4.3)	363 (3.3)	347 (2.8)	352 (4.2)	372 (4.8)	396 (5.1)	391 (4.2)	14 (0.8)	323 (12.4)	35 (1.2)	330 (4.9)	61 (1.7)	335 (6.4)	
Netherlands	545 (6.9)	534 (7.2)	536 (7.2)	537 (6.5)	515 (6.4)	526 (8.5)	534 (6.5)	6 (0.8)	530 (11.6)	80 (1.5)	555 (6.4)	15 (1.3)	507 (12.9)	
New Zealand	510 (4.9)	504 (5.8)	501 (5.6)	499 (4.7)	503 (4.9)	503 (5.2)	521 (6.8)	18 (1.1)	472 (6.8)	66 (1.2)	528 (4.8)	15 (1.0)	517 (7.7)	
Philippines	345 (7.5)	390 (5.0)	378 (5.7)	393 (6.3)	394 (6.5)	391 (7.6)	403 (5.5)	5 (0.4)	294 (14.4)	41 (0.8)	365 (9.7)	54 (0.9)	348 (7.7)	
Romania	472 (5.8)	475 (5.5)	475 (6.0)	465 (6.8)	481 (6.1)	473 (6.6)	456 (5.5)	16 (0.9)	451 (8.4)	36 (1.0)	479 (7.8)	48 (1.3)	484 (5.6)	
Russian Federation	529 (6.4)	529 (5.1)	517 (6.5)	529 (6.3)	523 (8.0)	495 (6.6)	491 (4.9)	5 (0.4)	494 (8.4)	34 (1.3)	534 (7.1)	61 (1.3)	536 (6.4)	
Singapore	568 (8.0)	521 (7.3)	541 (7.2)	570 (6.7)	545 (8.3)	577 (8.3)	550 (5.9)	7 (0.6)	507 (13.2)	38 (1.1)	573 (9.9)	55 (1.2)	573 (7.1)	
Slovak Republic	535 (3.3)	537 (4.3)	535 (6.2)	518 (4.1)	525 (4.9)	512 (4.5)	507 (3.9)	8 (0.7)	521 (7.5)	67 (1.2)	539 (3.7)	25 (1.2)	532 (4.8)	
Slovenia	533 (3.2)	541 (4.3)	521 (3.9)	525 (4.4)	509 (5.4)	519 (3.4)	513 (4.3)	10 (0.8)	526 (6.7)	52 (1.1)	546 (3.7)	38 (1.1)	521 (4.2)	
South Africa	243 (7.8)	348 (4.8)	289 (7.3)	308 (6.7)	350 (4.0)	350 (8.5)	329 (5.0)	15 (1.8)	211 (14.0)	39 (1.1)	269 (11.1)	47 (1.3)	237 (8.7)	
Thailand	482 (4.0)	470 (3.9)	508 (4.5)	475 (4.2)	439 (4.3)	507 (3.5)	462 (4.2)	8 (0.5)	455 (4.8)	50 (1.1)	480 (4.8)	42 (1.2)	493 (5.2)	
Tunisia	430 (3.4)	442 (2.7)	441 (5.0)	425 (6.3)	439 (3.7)	462 (5.0)	451 (3.4)	13 (0.8)	438 (8.2)	39 (0.9)	434 (5.3)	48 (1.0)	425 (2.8)	
Turkey	433 (4.3)	435 (4.6)	444 (4.5)	441 (4.0)	437 (5.0)	461 (3.6)	445 (6.3)	6 (0.5)	409 (12.9)	44 (0.9)	433 (4.0)	51 (1.2)	444 (4.4)	
United States	515 (4.6)	504 (4.2)	520 (4.1)	498 (5.5)	508 (4.8)	509 (6.4)	522 (4.3)	24 (1.4)	495 (6.4)	60 (1.3)	532 (4.6)	16 (0.8)	502 (5.9)	

—Not available.

¹SAR=Special Administrative Region.²Countries not meeting all International Association for the Evaluation of Educational Achievement's sampling specifications.

NOTE: Data are for 8th-grade or equivalent in most countries. Possible scores range from 1 to 1,000. Detail may not sum to totals due to rounding. Standard errors appear in parentheses.

SOURCE: International Association for the Evaluation of Educational Achievement, Third International Mathematics and Science Study 1999, TIMSS 1999 International Science Report, by Michael O. Martin et al. Copyright © 2000. International Association for the Evaluation of Educational Achievement (IEA). (This table was prepared June 2001.)