

Appendix C

PERCENTILES AND STANDARD DEVIATIONS OF ACHIEVEMENT IN SCIENCE

Table C.1

**Percentiles of Achievement in Science
Upper Grade (Fourth Grade*)**

Country	5th Percentile	25th Percentile	50th Percentile	75th Percentile	95th Percentile
Australia	403 (6.0)	502 (3.4)	568 (2.7)	626 (2.5)	707 (1.1)
Austria	429 (15.6)	513 (2.6)	568 (1.9)	619 (2.9)	692 (7.0)
Canada	409 (6.1)	493 (4.3)	552 (3.5)	607 (3.6)	691 (3.8)
Cyprus	348 (7.1)	427 (3.1)	476 (2.1)	528 (4.6)	595 (5.1)
Czech Republic	425 (3.9)	502 (3.2)	556 (3.8)	610 (3.8)	689 (2.9)
England	388 (7.8)	489 (3.3)	553 (4.4)	615 (2.8)	708 (8.6)
Greece	354 (8.5)	448 (4.0)	501 (4.0)	552 (5.1)	627 (4.0)
Hong Kong	401 (10.7)	483 (5.5)	536 (4.8)	585 (4.5)	657 (6.0)
Hungary	396 (6.4)	478 (3.5)	535 (3.3)	586 (5.8)	660 (6.9)
Iceland	360 (1.5)	447 (3.5)	507 (4.8)	564 (3.4)	632 (1.9)
Iran, Islamic Rep.	295 (4.0)	365 (3.9)	415 (3.1)	467 (5.5)	539 (4.1)
Ireland	388 (6.7)	487 (7.0)	544 (2.6)	596 (3.6)	674 (5.3)
Israel	366 (8.4)	446 (4.4)	506 (3.6)	564 (3.6)	646 (6.9)
Japan	453 (1.8)	527 (1.9)	576 (2.3)	624 (1.5)	687 (1.6)
Korea	481 (3.0)	554 (3.3)	600 (2.6)	643 (1.6)	704 (3.2)
Kuwait	260 (6.2)	345 (4.2)	401 (2.8)	458 (2.9)	541 (2.1)
Latvia (LSS)	378 (6.0)	457 (6.4)	510 (6.2)	563 (7.0)	649 (11.9)
Netherlands	448 (6.7)	514 (3.4)	556 (3.6)	602 (2.3)	661 (1.8)
New Zealand	364 (9.4)	471 (6.2)	534 (5.3)	598 (4.2)	683 (3.9)
Norway	387 (3.6)	476 (2.8)	534 (3.8)	592 (3.7)	663 (3.7)
Portugal	331 (6.7)	427 (3.6)	485 (3.6)	535 (3.8)	610 (3.6)
Scotland	376 (11.8)	472 (5.2)	540 (4.1)	598 (3.4)	687 (7.9)
Singapore	377 (6.0)	486 (4.3)	551 (6.9)	612 (7.6)	700 (7.8)
Slovenia	419 (7.6)	497 (4.5)	547 (4.0)	598 (2.5)	668 (9.3)
Thailand	353 (9.0)	424 (6.4)	474 (4.7)	520 (3.7)	589 (5.1)
United States	397 (5.7)	505 (5.0)	573 (4.0)	633 (3.1)	711 (4.3)

*Fourth grade in most countries; see Table 2 for more information about the grades tested in each country.
() Standard errors appear in parentheses.

SOURCE: IEA Third International Mathematics and Science Study (TIMSS), 1994-95.

Table C.2

Percentiles of Achievement in Science Lower Grade (Third Grade*)

Country	5th Percentile	25th Percentile	50th Percentile	75th Percentile	95th Percentile
Australia	338 (9.8)	449 (5.5)	513 (4.6)	580 (5.7)	661 (4.9)
Austria	351 (6.9)	449 (6.4)	511 (4.7)	564 (5.8)	640 (5.6)
Canada	339 (7.4)	433 (4.7)	494 (2.4)	552 (2.4)	630 (3.7)
Cyprus	297 (4.2)	365 (4.1)	415 (2.0)	463 (2.5)	534 (4.2)
Czech Republic	355 (6.5)	434 (4.3)	493 (4.3)	553 (3.5)	635 (8.0)
England	328 (6.9)	435 (4.1)	501 (4.3)	568 (3.4)	662 (6.2)
Greece	305 (8.2)	392 (4.2)	447 (3.6)	501 (4.2)	575 (11.4)
Hong Kong	358 (3.1)	432 (4.0)	485 (2.6)	533 (4.4)	598 (5.3)
Hungary	316 (9.4)	406 (5.8)	468 (6.7)	526 (4.0)	606 (11.5)
Iceland	294 (4.2)	381 (4.2)	439 (4.0)	492 (2.8)	566 (2.2)
Iran, Islamic Rep.	232 (6.6)	303 (3.4)	357 (5.4)	407 (6.4)	479 (7.5)
Ireland	325 (10.5)	424 (6.0)	482 (3.5)	538 (5.0)	616 (4.0)
Israel	- -	- -	- -	- -	- -
Japan	399 (2.4)	476 (1.6)	524 (2.4)	571 (2.6)	637 (2.7)
Korea	432 (4.2)	507 (2.8)	556 (2.9)	600 (2.0)	667 (4.1)
Kuwait	- -	- -	- -	- -	- -
Latvia (LSS)	328 (6.7)	412 (3.8)	464 (4.0)	520 (6.8)	597 (10.0)
Netherlands	395 (4.2)	460 (4.0)	500 (2.2)	540 (2.3)	599 (3.6)
New Zealand	301 (18.9)	410 (5.3)	478 (6.4)	541 (4.8)	632 (5.2)
Norway	297 (5.3)	390 (3.2)	451 (2.8)	514 (4.0)	592 (6.6)
Portugal	253 (23.8)	366 (5.5)	428 (3.8)	486 (4.1)	574 (6.7)
Scotland	324 (7.1)	423 (4.4)	486 (7.5)	549 (4.8)	635 (7.0)
Singapore	320 (5.2)	421 (6.8)	489 (6.5)	556 (5.1)	647 (7.2)
Slovenia	357 (6.3)	435 (2.2)	487 (2.9)	541 (2.9)	617 (7.3)
Thailand	304 (8.6)	382 (8.9)	434 (4.9)	486 (9.1)	555 (10.8)
United States	352 (5.3)	450 (4.3)	515 (4.5)	575 (3.4)	662 (12.0)

*Third grade in most countries; see Table 2 for more information about the grades tested in each country.

() Standard errors appear in parentheses.

A dash (-) indicates data are not available. Israel and Kuwait did not test the lower grades.

SOURCE: IEA Third International Mathematics and Science Study (TIMSS), 1994-95.

Table C.3

**Standard Deviations of Achievement in the Sciences
Upper Grade (Fourth Grade*)**

Country	Overall		Boys		Girls	
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
Australia	562 (2.9)	93 (1.9)	569 (3.3)	97 (2.2)	556 (3.2)	88 (2.0)
Austria	565 (3.3)	80 (2.0)	572 (3.9)	80 (2.5)	556 (3.7)	79 (2.2)
Canada	549 (3.0)	86 (1.8)	553 (3.7)	89 (2.1)	545 (3.2)	82 (2.2)
Cyprus	475 (3.3)	76 (1.5)	480 (4.0)	79 (2.1)	471 (3.1)	72 (1.4)
Czech Republic	557 (3.1)	81 (1.5)	565 (3.4)	81 (1.8)	548 (3.6)	81 (1.9)
England	551 (3.3)	96 (1.6)	555 (4.0)	102 (2.3)	548 (3.4)	90 (1.9)
Greece	497 (4.1)	83 (3.3)	501 (4.5)	84 (3.4)	494 (4.3)	82 (3.7)
Hong Kong	533 (3.7)	78 (1.7)	540 (4.1)	80 (2.0)	526 (3.8)	73 (2.2)
Hungary	532 (3.4)	81 (1.3)	539 (3.8)	81 (1.9)	525 (3.9)	79 (1.8)
Iceland	505 (3.3)	85 (1.5)	514 (4.3)	88 (2.2)	496 (3.3)	81 (2.0)
Iran, Islamic Rep.	416 (3.9)	74 (1.7)	421 (5.9)	76 (2.5)	412 (4.7)	72 (1.8)
Ireland	539 (3.3)	85 (1.7)	543 (3.5)	87 (1.9)	536 (4.5)	82 (2.2)
Israel	505 (3.6)	86 (1.5)	512 (4.5)	87 (2.0)	501 (3.8)	86 (2.0)
Japan	574 (1.8)	73 (1.0)	580 (2.0)	77 (1.5)	567 (2.0)	68 (1.0)
Korea	597 (1.9)	68 (0.9)	604 (2.2)	70 (1.5)	590 (2.5)	66 (1.3)
Kuwait	401 (3.1)	85 (1.8)	389 (5.8)	92 (2.4)	414 (3.1)	75 (1.5)
Latvia (LSS)	512 (4.9)	84 (3.6)	512 (5.4)	87 (4.8)	513 (5.5)	80 (3.2)
Netherlands	557 (3.1)	66 (1.7)	570 (3.6)	65 (2.2)	544 (3.5)	64 (2.2)
New Zealand	531 (4.9)	97 (3.1)	527 (6.1)	104 (3.8)	535 (4.8)	89 (2.9)
Norway	530 (3.6)	86 (1.8)	534 (4.7)	90 (2.7)	526 (3.7)	82 (1.7)
Portugal	480 (4.0)	84 (2.4)	481 (4.5)	87 (2.5)	478 (4.2)	81 (3.2)
Scotland	536 (4.2)	93 (1.7)	538 (4.5)	98 (2.2)	533 (4.3)	89 (2.0)
Singapore	547 (5.0)	97 (2.0)	549 (5.4)	101 (2.2)	545 (6.3)	93 (2.5)
Slovenia	546 (3.3)	76 (1.7)	548 (3.3)	78 (1.9)	544 (4.0)	75 (2.2)
Thailand	473 (4.9)	71 (2.4)	471 (5.9)	73 (3.2)	474 (4.3)	69 (2.1)
United States	565 (3.1)	95 (1.4)	571 (3.3)	97 (1.9)	560 (3.3)	92 (1.5)

*Fourth grade in most countries; see Table 2 for more information about the grades tested in each country.
() Standard errors appear in parentheses.

SOURCE: IEA Third International Mathematics and Science Study (TIMSS), 1994-95.

Table C.4

Standard Deviations of Achievement in the Sciences Lower Grade (Third Grade*)

Country	Overall		Boys		Girls	
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
Australia	510 (4.3)	98 (2.1)	510 (5.6)	104 (3.4)	510 (4.3)	92 (1.5)
Austria	505 (4.6)	88 (2.7)	508 (6.9)	92 (4.0)	501 (4.0)	83 (2.2)
Canada	490 (2.5)	88 (1.3)	496 (3.2)	91 (1.9)	486 (2.9)	84 (1.4)
Cyprus	415 (2.5)	73 (1.5)	418 (2.7)	75 (1.7)	412 (3.0)	71 (2.0)
Czech Republic	494 (3.4)	85 (1.4)	503 (4.1)	86 (1.7)	485 (3.9)	82 (1.9)
England	499 (3.5)	101 (1.9)	503 (4.8)	106 (2.4)	495 (3.4)	95 (2.3)
Greece	446 (3.9)	82 (2.6)	453 (4.6)	85 (3.2)	439 (3.9)	79 (2.3)
Hong Kong	482 (3.3)	74 (1.5)	488 (3.4)	75 (1.9)	473 (3.8)	71 (1.6)
Hungary	464 (4.1)	89 (1.7)	472 (4.2)	89 (2.1)	460 (4.7)	88 (2.0)
Iceland	435 (3.3)	82 (1.7)	440 (4.0)	85 (2.6)	431 (3.9)	79 (2.0)
Iran, Islamic Rep.	356 (4.2)	76 (2.5)	359 (5.7)	79 (3.0)	354 (5.7)	73 (3.2)
Ireland	479 (3.7)	88 (1.8)	481 (4.6)	91 (2.1)	477 (4.4)	84 (2.4)
Israel	- -	- -	- -	- -	- -	- -
Japan	522 (1.6)	73 (0.8)	523 (2.1)	74 (1.3)	521 (2.0)	71 (1.2)
Korea	553 (2.4)	71 (1.2)	562 (2.8)	73 (1.6)	543 (2.7)	69 (1.4)
Kuwait	- -	- -	- -	- -	- -	- -
Latvia (LSS)	465 (4.5)	83 (3.6)	462 (5.2)	83 (4.3)	469 (4.8)	82 (3.3)
Netherlands	499 (3.2)	63 (2.2)	504 (3.8)	63 (2.7)	493 (3.1)	63 (2.1)
New Zealand	473 (5.2)	100 (2.9)	470 (5.9)	103 (3.7)	476 (5.7)	96 (3.6)
Norway	450 (3.9)	90 (2.0)	457 (4.6)	91 (2.4)	444 (4.5)	88 (2.4)
Portugal	423 (4.3)	96 (2.8)	431 (4.3)	96 (3.1)	415 (5.4)	94 (4.2)
Scotland	484 (4.2)	95 (2.4)	485 (4.4)	94 (2.4)	482 (4.7)	96 (3.1)
Singapore	488 (5.0)	99 (2.0)	491 (5.8)	104 (2.3)	484 (5.2)	93 (2.2)
Slovenia	487 (2.8)	78 (1.2)	496 (3.4)	80 (1.8)	478 (3.4)	75 (2.0)
Thailand	433 (6.6)	78 (4.2)	428 (6.5)	79 (4.2)	437 (7.1)	76 (4.6)
United States	511 (3.2)	94 (2.1)	514 (4.2)	97 (2.6)	508 (3.2)	90 (2.2)

*Third grade in most countries; see Table 2 for more information about the grades tested in each country.

() Standard errors appear in parentheses.

A dash (-) indicates data are not available. Israel and Kuwait did not test the lower grades.

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