

Exhibit 13.14: School Resources for Conducting Science Experiments

Students' Results based on Principals' Reports

Country	Schools Have a Science Laboratory				Teachers Have Assistance Available when Students are Conducting Experiments			
	Yes		No		Yes		No	
	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement
Japan	100 (0.0)	562 (1.8)	0 (0.0)	~ ~	36 (4.3)	559 (3.0)	64 (4.3)	563 (2.0)
Korea, Rep. of	99 (0.9)	588 (2.2)	1 (0.9)	~ ~	74 (4.0)	590 (2.4)	26 (4.0)	581 (4.3)
Singapore	98 (0.0)	595 (3.4)	2 (0.0)	~ ~	67 (0.0)	597 (4.3)	33 (0.0)	590 (5.1)
Kuwait	95 (1.5)	392 (6.5)	5 (1.5)	400 (28.9)	78 (3.3)	393 (7.2)	22 (3.3)	388 (15.8)
Chinese Taipei	93 (1.9)	557 (1.8)	7 (1.9)	567 (5.1)	90 (2.5)	558 (1.9)	10 (2.5)	558 (5.2)
United Arab Emirates	85 (1.2)	468 (2.5)	15 (1.2)	488 (6.2)	83 (1.1)	474 (2.5)	17 (1.1)	455 (3.5)
Bahrain	85 (2.0)	490 (4.0)	15 (2.0)	507 (6.4)	74 (2.7)	489 (4.0)	26 (2.7)	501 (6.2)
Denmark	r 84 (3.2)	522 (2.8)	16 (3.2)	526 (4.8)	r 7 (1.9)	532 (5.6)	93 (1.9)	522 (2.7)
Qatar	83 (3.0)	440 (4.6)	17 (3.0)	497 (11.2)	86 (2.0)	442 (4.5)	14 (2.0)	495 (9.1)
Saudi Arabia	80 (2.9)	405 (4.9)	20 (2.9)	391 (13.6)	71 (3.5)	398 (5.3)	29 (3.5)	416 (7.1)
Poland	66 (3.2)	535 (3.1)	34 (3.2)	524 (4.8)	50 (4.5)	532 (3.7)	50 (4.5)	529 (3.8)
Cyprus	66 (4.5)	514 (3.8)	34 (4.5)	504 (4.8)	20 (3.8)	519 (7.2)	80 (3.8)	508 (3.4)
Turkey (5)	62 (4.3)	534 (5.2)	38 (4.3)	514 (8.4)	13 (2.7)	536 (13.1)	87 (2.7)	525 (4.8)
Chile	57 (3.9)	478 (3.7)	43 (3.9)	458 (5.0)	39 (4.5)	473 (3.9)	61 (4.5)	467 (4.1)
Georgia	50 (3.8)	454 (5.1)	50 (3.8)	455 (5.6)	8 (2.5)	470 (10.2)	92 (2.5)	453 (4.2)
Lithuania	48 (4.8)	537 (4.2)	52 (4.8)	539 (4.8)	12 (2.8)	542 (10.9)	88 (2.8)	538 (2.9)
Armenia	45 (4.3)	464 (4.3)	55 (4.3)	468 (4.7)	89 (2.5)	465 (3.4)	11 (2.5)	476 (8.8)
Iran, Islamic Rep. of	42 (3.1)	458 (6.8)	58 (3.1)	429 (5.5)	18 (3.1)	455 (9.5)	82 (3.1)	438 (4.8)
Hong Kong SAR	42 (4.8)	543 (5.5)	58 (4.8)	523 (5.6)	62 (3.9)	534 (3.8)	38 (3.9)	528 (6.4)
Portugal	41 (3.7)	504 (3.9)	59 (3.7)	504 (3.1)	39 (4.0)	500 (3.3)	61 (4.0)	506 (3.1)
Kazakhstan	38 (3.8)	494 (6.4)	62 (3.8)	495 (4.5)	61 (3.9)	494 (4.5)	39 (3.9)	492 (6.0)
Italy	36 (3.9)	505 (4.9)	64 (3.9)	513 (3.4)	13 (2.8)	508 (7.7)	87 (2.8)	510 (3.1)
Pakistan	36 (8.2)	297 (29.4)	64 (8.2)	287 (11.8)	55 (6.4)	300 (20.4)	45 (6.4)	279 (14.1)
Latvia	36 (3.7)	542 (4.3)	64 (3.7)	542 (2.8)	71 (3.5)	541 (3.1)	29 (3.5)	543 (3.8)
Czech Republic	35 (3.9)	521 (4.2)	65 (3.9)	541 (3.0)	8 (2.3)	535 (12.6)	92 (2.3)	534 (2.6)
Russian Federation	33 (3.0)	572 (5.2)	67 (3.0)	565 (3.9)	30 (3.0)	566 (4.0)	70 (3.0)	568 (4.0)
Spain	32 (2.9)	524 (3.4)	68 (2.9)	505 (2.8)	20 (2.9)	515 (7.9)	80 (2.9)	510 (2.6)
Sweden	31 (4.1)	529 (6.7)	69 (4.1)	540 (3.7)	17 (3.7)	533 (6.9)	83 (3.7)	537 (4.1)
Oman	30 (2.3)	418 (7.2)	70 (2.3)	441 (5.4)	29 (2.7)	423 (7.7)	71 (2.7)	437 (5.3)
Norway (5)	r 28 (4.7)	545 (4.5)	72 (4.7)	538 (3.0)	r 24 (4.1)	539 (6.4)	76 (4.1)	540 (2.7)
England	s 24 (4.6)	543 (11.3)	76 (4.6)	536 (4.3)	s 37 (5.3)	537 (8.3)	63 (5.3)	538 (4.7)
Slovak Republic	22 (3.4)	531 (5.4)	78 (3.4)	518 (4.8)	13 (2.4)	516 (9.6)	87 (2.4)	522 (4.3)
United States	21 (2.5)	547 (6.1)	79 (2.5)	537 (3.5)	19 (2.4)	539 (7.8)	81 (2.4)	538 (3.5)
Australia	21 (2.9)	537 (6.3)	79 (2.9)	531 (3.5)	15 (2.7)	537 (6.6)	85 (2.7)	531 (3.2)
Montenegro	21 (0.3)	453 (5.9)	79 (0.3)	453 (2.6)	27 (0.6)	456 (3.8)	73 (0.6)	452 (2.6)
Kosovo	20 (3.9)	419 (8.5)	80 (3.9)	412 (4.4)	12 (3.1)	410 (8.6)	88 (3.1)	413 (3.9)
Albania	18 (2.3)	525 (5.5)	82 (2.3)	482 (3.9)	15 (2.8)	519 (8.7)	85 (2.8)	485 (3.9)
Malta	16 (0.3)	518 (2.7)	84 (0.3)	492 (1.5)	47 (0.4)	496 (1.7)	53 (0.4)	496 (1.8)
Philippines	16 (2.8)	294 (18.7)	84 (2.8)	241 (8.7)	65 (4.2)	240 (8.3)	35 (4.2)	266 (11.8)
Bosnia and Herzegovina	14 (2.8)	462 (7.6)	86 (2.8)	458 (3.0)	25 (3.4)	457 (6.1)	75 (3.4)	459 (3.0)
Azerbaijan	13 (2.7)	425 (9.9)	87 (2.7)	427 (3.4)	48 (3.8)	425 (4.9)	52 (3.8)	429 (5.0)
Finland	13 (3.0)	556 (6.9)	87 (3.0)	554 (2.7)	32 (3.4)	556 (4.8)	68 (3.4)	554 (2.7)
Germany	13 (2.1)	512 (7.1)	87 (2.1)	519 (2.6)	6 (1.6)	526 (9.3)	94 (1.6)	518 (2.4)
South Africa (5)	13 (2.4)	401 (21.9)	87 (2.4)	314 (5.0)	20 (3.3)	302 (11.5)	80 (3.3)	332 (5.9)
Serbia	11 (2.4)	506 (8.1)	89 (2.4)	518 (3.7)	33 (4.3)	522 (5.1)	67 (4.3)	514 (4.2)
Canada	11 (1.1)	537 (7.1)	89 (1.1)	522 (1.9)	20 (2.4)	528 (5.7)	80 (2.4)	522 (2.2)
Morocco	10 (2.5)	450 (24.1)	90 (2.5)	365 (6.6)	50 (3.1)	392 (7.9)	50 (3.1)	359 (8.1)
Hungary	9 (2.5)	546 (9.9)	91 (2.5)	527 (3.0)	17 (3.3)	537 (9.1)	83 (3.3)	527 (3.3)
Croatia	6 (2.2)	530 (10.5)	94 (2.2)	524 (2.2)	15 (3.0)	532 (6.5)	85 (3.0)	523 (2.0)
North Macedonia	6 (2.0)	400 (17.4)	94 (2.0)	428 (6.4)	34 (4.1)	437 (9.3)	66 (4.1)	420 (8.5)
New Zealand	6 (1.5)	539 (13.4)	94 (1.5)	500 (2.5)	18 (3.1)	484 (9.0)	82 (3.1)	507 (3.0)
Bulgaria	5 (1.8)	554 (14.9)	95 (1.8)	519 (5.3)	1 (1.0)	~ ~	99 (1.0)	521 (5.1)
Netherlands	s 3 (1.9)	525 (16.8)	97 (1.9)	518 (3.3)	s 21 (4.6)	517 (6.9)	79 (4.6)	519 (3.6)
Austria	2 (1.1)	~ ~	98 (1.1)	522 (2.6)	5 (1.6)	505 (15.3)	95 (1.6)	523 (2.7)
Ireland	2 (1.0)	~ ~	98 (1.0)	528 (3.2)	9 (2.5)	519 (24.0)	91 (2.5)	529 (2.6)
France	2 (1.1)	~ ~	98 (1.1)	488 (3.0)	5 (1.8)	494 (16.5)	95 (1.8)	488 (3.0)
Belgium (Flemish)	1 (0.8)	~ ~	99 (0.8)	501 (2.2)	61 (4.1)	497 (3.0)	39 (4.1)	508 (3.0)
Northern Ireland	r 0 (0.0)	~ ~	100 (0.0)	520 (2.7)	r 19 (3.7)	517 (7.4)	81 (3.7)	521 (2.7)
International Average	36 (0.4)	496 (1.3)	64 (0.4)	486 (0.9)	35 (0.4)	491 (1.1)	65 (0.4)	491 (0.7)
Benchmarking Participants								
Abu Dhabi, UAE	r 87 (1.0)	407 (3.6)	13 (1.0)	447 (7.3)	r 79 (0.7)	414 (3.4)	21 (0.7)	405 (4.7)
Dubai, UAE	r 77 (0.3)	541 (2.3)	23 (0.3)	560 (2.9)	r 81 (0.2)	543 (2.2)	19 (0.2)	556 (3.1)
Moscow City, Russian Fed.	64 (4.2)	595 (2.8)	36 (4.2)	595 (3.5)	17 (3.2)	600 (5.2)	83 (3.2)	594 (2.4)
Madrid, Spain	44 (3.5)	529 (2.6)	56 (3.5)	518 (3.1)	16 (2.7)	526 (4.8)	84 (2.7)	523 (2.3)
Ontario, Canada	8 (1.4)	562 (14.7)	92 (1.4)	521 (3.0)	9 (4.0)	534 (28.5)	91 (4.0)	523 (3.2)
Quebec, Canada	7 (2.1)	510 (9.1)	93 (2.1)	523 (2.7)	33 (4.2)	524 (4.1)	67 (4.2)	521 (3.0)

() Standard errors appear in parentheses. Because of rounding some results may appear inconsistent.

A tilde (~) indicates insufficient data to report achievement.

An "r" indicates data are available for at least 70% but less than 85% of the students. An "s" indicates data are available for at least 50% but less than 70% of the students.

Exhibit 13.15: School Resources for Conducting Science Experiments
Students' Results based on Principals' Reports

Country	Schools Have a Science Laboratory				Teachers Have Assistance Available when Students are Conducting Experiments			
	Yes		No		Yes		No	
	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement
Australia	100 (0.0)	530 (3.3)	0 (0.0)	~ ~	66 (3.4)	532 (3.5)	34 (3.4)	526 (7.6)
Ireland	100 (0.0)	525 (2.8)	0 (0.0)	~ ~	14 (2.9)	535 (8.2)	86 (2.9)	523 (3.1)
Korea, Rep. of	100 (0.0)	561 (2.1)	0 (0.0)	~ ~	46 (3.6)	565 (3.7)	54 (3.6)	557 (2.9)
Singapore	100 (0.0)	608 (3.9)	0 (0.0)	~ ~	99 (0.0)	609 (4.0)	1 (0.0)	~ ~
Sweden	100 (0.0)	522 (3.2)	0 (0.0)	~ ~	15 (3.2)	501 (12.3)	85 (3.2)	526 (3.6)
Oman	100 (0.3)	457 (3.0)	0 (0.3)	~ ~	82 (3.0)	459 (3.4)	18 (3.0)	452 (7.3)
Bahrain	100 (0.1)	486 (1.9)	0 (0.1)	~ ~	92 (0.1)	487 (2.0)	8 (0.1)	476 (5.6)
Hong Kong SAR	99 (0.7)	504 (5.3)	1 (0.7)	~ ~	98 (1.3)	504 (5.4)	2 (1.3)	~ ~
Japan	99 (0.9)	570 (2.2)	1 (0.9)	~ ~	35 (4.0)	570 (4.2)	65 (4.0)	569 (2.9)
Kuwait	99 (0.6)	443 (5.4)	1 (0.6)	~ ~	83 (3.3)	443 (6.2)	17 (3.3)	445 (13.1)
New Zealand	99 (0.9)	505 (3.6)	1 (0.9)	~ ~	53 (5.1)	500 (5.1)	47 (5.1)	507 (5.7)
England	s 99 (1.0)	521 (5.7)	1 (1.0)	~ ~	s 71 (4.6)	518 (7.2)	29 (4.6)	526 (12.8)
Malaysia	99 (0.3)	460 (3.6)	1 (0.3)	~ ~	91 (2.1)	461 (4.0)	9 (2.1)	449 (10.1)
Cyprus	r 99 (0.0)	483 (2.2)	1 (0.0)	~ ~	r 36 (0.4)	494 (3.6)	64 (0.4)	477 (2.6)
Chinese Taipei	99 (0.8)	575 (2.0)	1 (0.8)	~ ~	92 (1.6)	577 (2.0)	8 (1.6)	544 (8.4)
Qatar	99 (1.0)	475 (4.3)	1 (1.0)	~ ~	94 (1.7)	473 (4.5)	6 (1.7)	502 (21.0)
Portugal	98 (1.3)	519 (2.9)	2 (1.3)	~ ~	46 (4.8)	524 (4.7)	54 (4.8)	514 (4.2)
United Arab Emirates	97 (0.7)	472 (2.4)	3 (0.7)	430 (6.1)	91 (1.0)	471 (2.4)	9 (1.0)	462 (5.6)
Egypt	95 (1.8)	390 (5.6)	5 (1.8)	374 (22.8)	94 (1.8)	391 (6.0)	6 (1.8)	373 (24.7)
Norway (9)	r 93 (2.4)	497 (3.6)	7 (2.4)	490 (12.6)	r 34 (4.6)	494 (5.8)	66 (4.6)	498 (4.3)
Saudi Arabia	92 (1.8)	433 (2.8)	8 (1.8)	420 (14.3)	82 (3.4)	433 (3.2)	18 (3.4)	434 (8.4)
Jordan	92 (1.9)	458 (4.5)	8 (1.9)	390 (13.1)	89 (2.0)	456 (5.2)	11 (2.0)	420 (8.9)
Israel	90 (2.7)	514 (4.7)	10 (2.7)	509 (15.8)	85 (2.8)	513 (4.6)	15 (2.8)	516 (10.9)
Lebanon	89 (2.5)	378 (5.2)	11 (2.5)	368 (12.8)	65 (3.2)	388 (6.4)	35 (3.2)	355 (9.9)
Finland	87 (3.2)	544 (3.3)	13 (3.2)	535 (9.5)	19 (3.2)	542 (6.0)	81 (3.2)	543 (3.7)
Morocco	83 (2.4)	395 (3.3)	17 (2.4)	393 (7.5)	43 (3.7)	400 (4.7)	57 (3.7)	390 (4.3)
Kazakhstan	81 (2.8)	480 (3.7)	19 (2.8)	467 (7.0)	92 (1.5)	478 (3.4)	8 (1.5)	476 (8.8)
United States	80 (2.8)	531 (3.9)	20 (2.8)	510 (15.1)	34 (3.4)	519 (7.2)	66 (3.4)	530 (6.1)
Russian Federation	79 (3.1)	545 (4.0)	21 (3.1)	535 (9.0)	46 (3.6)	540 (6.3)	54 (3.6)	545 (4.0)
France	r 75 (4.1)	493 (3.6)	25 (4.1)	482 (6.6)	r 13 (2.8)	510 (10.5)	87 (2.8)	488 (3.4)
Italy	75 (3.7)	501 (2.9)	25 (3.7)	504 (5.7)	13 (2.9)	492 (11.3)	87 (2.9)	503 (2.5)
Georgia	70 (3.7)	446 (4.6)	30 (3.7)	450 (5.8)	6 (2.2)	488 (24.7)	94 (2.2)	444 (3.8)
Chile	68 (3.1)	473 (3.8)	32 (3.1)	439 (6.1)	32 (3.5)	474 (6.5)	68 (3.5)	457 (4.1)
Iran, Islamic Rep. of	67 (3.5)	461 (4.9)	33 (3.5)	424 (6.0)	27 (3.1)	465 (8.0)	73 (3.1)	444 (4.4)
Turkey	63 (3.7)	525 (5.1)	37 (3.7)	500 (5.7)	14 (2.6)	542 (13.5)	86 (2.6)	511 (4.2)
Romania	62 (3.3)	485 (6.3)	38 (3.3)	447 (4.9)	38 (3.3)	491 (7.2)	62 (3.3)	458 (4.7)
South Africa (9)	46 (2.5)	406 (5.6)	54 (2.5)	339 (3.6)	35 (2.7)	371 (6.7)	65 (2.7)	370 (3.8)
Lithuania	27 (3.8)	547 (5.2)	73 (3.8)	526 (3.9)	7 (2.3)	519 (6.7)	93 (2.3)	533 (3.0)
Hungary	26 (3.8)	553 (8.0)	74 (3.8)	522 (3.3)	17 (3.1)	560 (10.6)	83 (3.1)	524 (3.7)
International Average	85 (0.4)	494 (0.7)	15 (0.4)	457 (2.2)	54 (0.5)	494 (1.2)	46 (0.5)	483 (1.4)
Benchmarking Participants								
Quebec, Canada	100 (0.0)	540 (3.5)	0 (0.0)	~ ~	98 (1.3)	540 (3.6)	2 (1.3)	~ ~
Dubai, UAE	r 98 (0.0)	546 (2.3)	2 (0.0)	~ ~	r 92 (0.2)	546 (2.4)	8 (0.2)	555 (6.0)
Abu Dhabi, UAE	r 98 (0.1)	418 (4.3)	2 (0.1)	~ ~	r 91 (0.9)	416 (4.6)	9 (0.9)	430 (8.5)
Moscow City, Russian Fed.	97 (1.3)	567 (3.0)	3 (1.3)	567 (16.1)	28 (3.6)	573 (6.0)	72 (3.6)	564 (3.3)
Western Cape, RSA (9)	73 (3.8)	452 (7.3)	27 (3.8)	408 (9.1)	22 (3.9)	476 (20.3)	78 (3.9)	431 (6.7)
Gauteng, RSA (9)	65 (3.9)	434 (5.3)	35 (3.9)	400 (8.7)	42 (4.5)	429 (8.0)	58 (4.5)	416 (6.2)
Ontario, Canada	r 44 (4.7)	532 (4.3)	56 (4.7)	512 (4.3)	r 18 (4.6)	530 (12.7)	82 (4.6)	519 (3.4)

() Standard errors appear in parentheses. Because of rounding some results may appear inconsistent.

A tilde (~) indicates insufficient data to report achievement.

An "r" indicates data are available for at least 70% but less than 85% of the students. An "s" indicates data are available for at least 50% but less than 70% of the students.

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