

## Appendix B.6: Trends in Student Populations

Country	Years of Formal Schooling*	Average Age at Time of Testing	Overall Exclusion Rates	Overall Participation Rates (After Replacement)
<b>Armenia</b>				
2019	4	9.9	1.2%	97%
Δ 2015	4	9.9	1.0%	96%
2011	4	10.0	2.0%	98%
2003	4	10.9	2.9%	90%
<b>Australia</b>				
2019	4	10.1	4.8%	94%
2015	4	10.0	4.2%	94%
2011	4	10.0	4.4%	93%
2007	4	9.9	4.0%	95%
† 2003	4	9.9	2.7%	85%
≡ 1995	4 or 5	10.2	1.8%	66%
<b>Austria</b>				
2019	4	10.4	5.4%	97%
2011	4	10.3	5.1%	98%
2007	4	10.3	5.0%	97%
≡ 1995	4	10.5	2.8%	69%
<b>Azerbaijan</b>				
2019	4	10.3	2.6%	92%
<sup>2</sup> 2011	4	10.2	7.2%	100%
<b>Bahrain</b>				
2019	4	9.8	0.8%	98%
<sup>2</sup> 2015	4	9.9	5.6%	99%
Δ 2011	4	10.4	1.1%	90%
<b>Belgium (Flemish)</b>				
† 2019	4	10.0	3.0%	89%
† 2015	4	10.1	1.4%	95%
2011	4	10.0	5.0%	92%
<sup>2</sup> 2003	4	10.0	6.3%	97%
<b>Bulgaria</b>				
2019	4	10.7	3.4%	95%
2015	4	10.8	2.9%	93%
<b>Canada</b>				
<sup>1,2</sup> 2019	4	9.9	7.0%	86%
<sup>1,2</sup> † 2015	4	9.9	6.1%	80%
<b>Chile</b>				
2019	4	10.1	3.8%	95%
2015	4	10.2	3.7%	88%
2011	4	10.1	3.7%	95%
<b>Chinese Taipei</b>				
2019	4	10.2	2.0%	98%
2015	4	10.2	2.4%	99%
2011	4	10.2	1.4%	99%
2007	4	10.2	2.8%	100%
2003	4	10.2	3.1%	99%
<b>Croatia</b>				
2019	4	10.5	4.2%	87%
2015	4	10.6	4.4%	94%
<sup>2</sup> 2011	4	10.7	7.9%	95%
<b>Cyprus</b>				
2019	4	9.8	4.6%	97%
2015	4	9.8	4.6%	98%
2003	4	9.9	2.9%	97%
1995	4	9.8	3.2%	83%
<b>Czech Republic</b>				
2019	4	10.4	4.7%	96%
2015	4	10.4	4.2%	95%
2011	4	10.4	5.1%	94%
2007	4	10.3	4.9%	92%
1995	4	10.4	4.1%	86%
<b>Denmark</b>				
† 2019	4	10.9	3.1%	83%
<sup>2</sup> † 2015	4	10.9	7.5%	86%
<sup>2</sup> 2011	4	11.0	6.3%	87%
<sup>2</sup> 2007	4	11.0	4.1%	85%

\* Represents years of schooling counting from the first year of ISCED Level 1.

Data are included only for assessment years with comparable results for each country.

See Appendix B.2 for population coverage notes 1, 2, and 3. See Appendix B.5 for sampling guidelines and sampling participation notes †, ‡, and ≡.

Δ Tested the same cohort of students as other countries, but later in the assessment year.

Armenia began testing younger students in 2011 due to educational reforms.

Bahrain in 2015 administered both TIMSS and TIMSS Numeracy assessments to fourth grade students. Results for 2015 in mathematics are based on the average of both.

Appendix B.6: Trends in Student Populations

(Continued)

Country	Years of Formal Schooling*	Average Age at Time of Testing	Overall Exclusion Rates	Overall Participation Rates (After Replacement)
<b>England</b>				
<sup>2</sup> 2019	5	10.2	5.8%	89%
2015	5	10.1	2.3%	96%
2011	5	10.2	2.0%	78%
2007	5	10.2	2.1%	84%
<sup>†</sup> 2003	5	10.3	1.9%	76%
<sup>3†</sup> 1995	5	10.0	12.1%	83%
<b>Finland</b>				
2019	4	10.8	3.3%	97%
2015	4	10.8	2.0%	97%
2011	4	10.8	3.1%	96%
<b>France</b>				
2019	4	9.9	4.4%	98%
2015	4	9.9	5.3%	97%
<b>Georgia</b>				
<sup>1</sup> 2019	4	10.1	4.7%	96%
<sup>1</sup> 2015	4	9.7	4.9%	98%
<sup>1</sup> 2011	4	10.0	4.9%	96%
<sup>1</sup> 2007	4	10.1	4.8%	98%
<b>Germany</b>				
2019	4	10.4	3.9%	97%
2015	4	10.4	2.7%	95%
2011	4	10.4	1.9%	95%
2007	4	10.4	1.3%	96%
<b>Hong Kong SAR</b>				
<sup>†</sup> 2019	4	10.1	3.5%	79%
<sup>†</sup> 2015	4	10.1	2.2%	76%
<sup>2</sup> 2011	4	10.1	8.5%	82%
2007	4	10.2	5.4%	81%
<sup>†</sup> 2003	4	10.2	3.8%	83%
1995	4	10.1	2.7%	83%
<b>Hungary</b>				
2019	4	10.5	4.1%	96%
2015	4	10.7	4.8%	96%
2011	4	10.7	4.2%	96%
2007	4	10.7	4.4%	96%
<sup>2</sup> 2003	4	10.5	8.1%	93%
1995	4	10.4	3.8%	92%
<b>Iran, Islamic Rep. of</b>				
2019	4	10.2	4.2%	99%
2015	4	10.2	4.0%	99%
2011	4	10.2	4.5%	99%
2007	4	10.2	3.0%	99%
<sup>2</sup> 2003	4	10.4	5.7%	98%
1995	4	10.5	1.3%	97%
<b>Ireland</b>				
2019	4	10.4	3.0%	91%
2015	4	10.4	2.7%	96%
2011	4	10.3	2.5%	95%
<sup>2</sup> 1995	4	10.3	6.9%	90%
<b>Italy</b>				
2019	4	9.6	4.9%	97%
<sup>2</sup> 2015	4	9.7	6.2%	94%
2011	4	9.7	3.7%	95%
2007	4	9.8	5.3%	97%
2003	4	9.8	4.2%	97%
<b>Japan</b>				
2019	4	10.4	2.2%	95%
2015	4	10.5	2.9%	97%
2011	4	10.5	3.2%	96%
2007	4	10.5	1.1%	95%
2003	4	10.4	0.8%	97%
1995	4	10.4	3.0%	92%

\* Represents years of schooling counting from the first year of ISCED Level 1. Data are included only for assessment years with comparable results for each country. See Appendix B.2 for population coverage notes 1, 2, and 3. See Appendix B.5 for sampling guidelines and sampling participation notes †, ‡, and ≡. Georgia in 2011 excluded schools in South Ossetia and Abkhazia due to lack of access and absence of official statistics. Abkhazia refugee schools in other territories of Georgia were included in the sample frame. Iran in 2015 administered both TIMSS and TIMSS Numeracy assessments to fourth grade students. Results for 2015 in mathematics are based on the average of both.

## Appendix B.6: Trends in Student Populations

(Continued)

Country	Years of Formal Schooling*	Average Age at Time of Testing	Overall Exclusion Rates	Overall Participation Rates (After Replacement)
<b>Kazakhstan</b>				
<sup>2</sup> 2019	4	10.4	5.8%	99%
<sup>2</sup> 2011	4	10.4	6.3%	99%
<b>Korea, Rep. of</b>				
2019	4	10.5	2.3%	97%
2015	4	10.5	2.5%	97%
2011	4	10.4	2.5%	98%
<sup>2</sup> 1995	4	10.3	6.6%	95%
<b>Kuwait</b>				
2019	4	9.7	1.7%	94%
2015	4	9.7	3.0%	90%
<b>Latvia</b>				
<sup>2</sup> 2019	4	10.8	6.9%	93%
2003	4	11.1	4.4%	88%
<b>Lithuania</b>				
<sup>2</sup> 2019	4	10.7	6.7%	94%
<sup>2</sup> 2015	4	10.7	6.1%	94%
<sup>12</sup> 2011	4	10.7	5.6%	94%
<sup>1</sup> 2007	4	10.8	5.4%	94%
<sup>1</sup> 2003	4	10.9	4.6%	87%
<b>Malta</b>				
2019	4	9.8	4.5%	96%
2011	5	9.8	3.6%	95%
<b>Morocco</b>				
2019	4	10.1	1.8%	99%
2015	4	10.3	1.5%	99%
2011	4	10.5	2.0%	96%
<b>Netherlands</b>				
<sup>≡</sup> 2019	4	10.1	3.5%	73%
<sup>†</sup> 2015	4	10.0	3.2%	83%
<sup>†</sup> 2011	4	10.2	4.0%	79%
<sup>‡</sup> 2007	4	10.2	4.8%	91%
<sup>†</sup> 2003	4	10.2	5.2%	84%
<sup>≡</sup> 1995	4	10.3	4.4%	59%
<b>New Zealand</b>				
<sup>2</sup> 2019	4.5 - 5.5	10.0	6.9%	93%
2015	4.5 - 5.5	10.0	4.8%	90%
2011	4.5 - 5.5	9.9	4.9%	90%
2007	4.5 - 5.5	10.0	5.4%	96%
2003	4.5 - 5.5	10.0	4.0%	93%
1995	4.5 - 5.5	10.0	1.3%	95%
<b>Northern Ireland</b>				
<sup>†</sup> 2019	4	10.4	2.8%	78%
<sup>‡</sup> 2015	4	10.4	2.7%	71%
<sup>†</sup> 2011	4	10.4	3.5%	79%
<b>Norway (5)</b>				
<sup>†</sup> 2019	5	10.7	4.7%	84%
2015	5	10.7	4.7%	89%
<b>Norway (4)</b>				
2015	4	9.7	5.0%	89%
<sup>‡</sup> 2011	4	9.7	4.3%	70%
2007	4	9.8	5.1%	92%
2003	3	9.8	4.4%	88%
1995	3	9.9	3.0%	91%
<b>Oman</b>				
2019	4	9.7	2.2%	98%
2015	4	9.6	0.8%	97%
2011	4	9.9	1.5%	96%
<b>Philippines</b>				
<sup>2</sup> 2019	4	10.1	7.7%	98%
2003	4	10.8	4.5%	81%

\* Represents years of schooling counting from the first year of ISCED Level 1.

Data are included only for assessment years with comparable results for each country.

See Appendix B.2 for population coverage notes 1, 2, and 3. See Appendix B.5 for sampling guidelines and sampling participation notes †, ‡, and ≡.

Results for Lithuania before 2015 do not include students taught in Polish or Russian.

Morocco and the Philippines in 2019 administered the less difficult fourth grade mathematics assessment.

Kuwait and Morocco in 2015 administered both TIMSS and TIMSS Numeracy assessments to fourth grade students. Results for 2015 in mathematics are based on the average of both.

## Appendix B.6: Trends in Student Populations

(Continued)

Country	Years of Formal Schooling*	Average Age at Time of Testing	Overall Exclusion Rates	Overall Participation Rates (After Replacement)
<b>Poland</b>				
2019	4	10.3	3.1%	93%
2015	4	10.7	4.0%	92%
<b>Portugal</b>				
<sup>2</sup> 2019	4	10.0	7.8%	94%
<sup>2</sup> 2015	4	9.9	6.5%	92%
2011	4	10.0	2.5%	92%
<sup>2</sup> 1995	4	10.4	7.3%	92%
<b>Qatar</b>				
2019	4	9.9	2.2%	97%
2015	4	10.1	3.8%	99%
<sup>2</sup> 2011	4	10.0	6.2%	99%
<b>Russian Federation</b>				
<sup>2</sup> 2019	4	10.8	6.3%	97%
2015	4	10.8	4.0%	98%
2011	4	10.8	5.3%	98%
2007	4	10.8	3.6%	98%
<sup>2</sup> 2003	3 or 4	10.6	6.8%	97%
<b>Saudi Arabia</b>				
<sup>2</sup> 2019	4	9.9	10.5%	98%
2015	4	10.0	1.9%	93%
2011	4	10.0	1.6%	99%
<b>Serbia</b>				
<sup>2</sup> 2019	4	10.6	8.2%	97%
<sup>3</sup> 2015	4	10.7	11.3%	96%
<sup>2</sup> 2011	4	10.8	9.4%	97%
<b>Singapore</b>				
<sup>3</sup> 2019	4	10.4	12.8%	97%
<sup>2</sup> 2015	4	10.4	10.1%	96%
<sup>2</sup> 2011	4	10.4	6.3%	96%
2007	4	10.4	1.5%	96%
2003	4	10.3	0.0%	98%
1995	4	10.3	0.0%	98%
<b>Slovak Republic</b>				
<sup>2</sup> 2019	4	10.4	5.5%	96%
2015	4	10.4	4.2%	97%
2011	4	10.4	4.6%	96%
2007	4	10.4	3.3%	97%
<b>South Africa (5)</b>				
2019	5	11.5	1.1%	97%
<sup>x</sup> 2015	5	11.5	2.2%	98%
<b>Spain</b>				
2019	4	9.9	5.4%	95%
<sup>2</sup> 2015	4	9.9	5.6%	95%
2011	4	9.8	5.3%	97%
<b>Sweden</b>				
2019	4	10.8	5.4%	95%
<sup>2</sup> 2015	4	10.8	5.7%	95%
2011	4	10.7	4.1%	91%
2007	4	10.8	3.1%	97%
<b>United Arab Emirates</b>				
2019	4	9.7	3.2%	96%
2015	4	9.8	4.7%	97%
2011	4	9.8	3.3%	97%
<b>United States</b>				
<sup>2</sup> † 2019	4	10.2	7.2%	84%
<sup>2</sup> † 2015	4	10.2	6.8%	81%
<sup>2</sup> 2011	4	10.2	7.0%	80%
<sup>2</sup> † 2007	4	10.3	9.2%	84%
† 2003	4	10.2	5.1%	78%
1995	4	10.2	4.7%	80%

\* Represents years of schooling counting from the first year of ISCED Level 1.

Data are included only for assessment years with comparable results for each country.

See Appendix B.2 for population coverage notes 1, 2, and 3. See Appendix B.5 for sampling guidelines and sampling participation notes †, ‡, and ≡.

<sup>x</sup> Tested the same cohort of students as other countries, but later in the assessment year.

Saudi Arabia and South Africa in 2019 administered the less difficult fourth grade mathematics assessment. South Africa in 2015 participated in only TIMSS Numeracy at the fifth grade.

Appendix B.6: Trends in Student Populations

(Continued)

Country	Years of Formal Schooling*	Average Age at Time of Testing	Overall Exclusion Rates	Overall Participation Rates (After Replacement)
<b>Benchmarking Participants</b>				
<b>Ontario, Canada</b>				
<sup>2</sup> 2019	4	9.8	7.0%	90%
2015	4	9.8	3.4%	90%
2011	4	9.8	5.3%	94%
<sup>2</sup> 2007	4	9.8	6.3%	92%
2003	4	9.8	4.8%	90%
<sup>2</sup> 1995	4	9.8	-	92%
<b>Quebec, Canada</b>				
2019	4	10.1	4.4%	83%
<sup>≡</sup> 2015	4	10.1	5.4%	59%
2011	4	10.1	3.7%	91%
<sup>2</sup> 2007	4	10.1	6.4%	84%
2003	4	10.1	3.6%	91%
1995	4	10.3	-	81%
<b>Abu Dhabi, UAE</b>				
2019	4	9.7	3.6%	95%
<sup>2</sup> 2015	4	9.8	5.8%	97%
2011	4	9.7	2.7%	97%
<b>Dubai, UAE</b>				
<sup>2</sup> 2019	4	9.9	5.6%	97%
2015	4	9.8	5.3%	97%
2011	4	9.8	5.1%	96%
<sup>ⓧ ‡</sup> 2007	4	10.0	5.4%	67%

\* Represents years of schooling counting from the first year of ISCED Level 1.  
 Data are included only for assessment years with comparable results for each country.  
 See Appendix B.2 for population coverage notes 1, 2, and 3. See Appendix B.5 for sampling guidelines and sampling participation notes †, ‡, and ≡.  
 ⓧ Tested the same cohort of students as other countries, but later in the assessment year.  
 Ontario and Quebec in 1995 participated as part of Canada. A dash (-) indicates comparable data not available.