# Appendix 11B: Trend Scoring Reliability for the Constructed Response Items

**TIMSS 2015 Trend Scoring Reliability for the Fourth Grade Constructed Response Mathematics Items**

| Country | Correctness Score Agreement | | | Diagnostic Score Agreement | | |
|---|---|---|---|---|---|---|
| | Average of Exact Percent Agreement Across Items | Range of Exact Percent Agreement | | Average of Exact Percent Agreement Across Items | Range of Exact Percent Agreement | |
| | | Minimum | Maximum | | Minimum | Maximum |
| Australia | 99 | 95 | 100 | 97 | 88 | 100 |
| Bahrain | 98 | 82 | 100 | 94 | 68 | 100 |
| Belgium (Flemish) | 97 | 89 | 100 | 95 | 62 | 100 |
| Canada | 98 | 85 | 100 | 95 | 78 | 100 |
| Chile | 97 | 71 | 100 | 94 | 69 | 99 |
| Chinese Taipei | 97 | 77 | 100 | 96 | 69 | 100 |
| Croatia | 98 | 89 | 100 | 97 | 85 | 100 |
| Czech Republic | 98 | 82 | 100 | 95 | 78 | 99 |
| Denmark | 97 | 80 | 100 | 95 | 77 | 100 |
| England | 98 | 85 | 100 | 96 | 52 | 100 |
| Finland | 98 | 84 | 100 | 97 | 83 | 100 |
| Georgia | 98 | 87 | 100 | 96 | 82 | 100 |
| Germany | 99 | 93 | 100 | 98 | 92 | 100 |
| Hungary | 98 | 76 | 100 | 97 | 76 | 100 |
| Iran, Islamic Rep. of | 98 | 90 | 100 | 96 | 85 | 99 |
| Ireland | 98 | 80 | 100 | 96 | 76 | 100 |
| Italy | 97 | 82 | 100 | 95 | 82 | 100 |
| Japan | 98 | 87 | 100 | 97 | 75 | 100 |
| Kazakhstan | 94 | 72 | 99 | 91 | 66 | 99 |
| Korea, Rep. of | 99 | 89 | 100 | 99 | 85 | 100 |
| Kuwait | 95 | 72 | 100 | 89 | 60 | 99 |
| Lithuania | 98 | 88 | 100 | 97 | 81 | 100 |
| Netherlands | 97 | 79 | 99 | 95 | 79 | 99 |
| New Zealand | 97 | 78 | 100 | 95 | 77 | 100 |
| Northern Ireland | 98 | 80 | 100 | 97 | 79 | 100 |
| Norway | 97 | 70 | 100 | 95 | 69 | 100 |
| Oman | 97 | 82 | 100 | 93 | 74 | 99 |
| Poland | 98 | 89 | 100 | 96 | 86 | 99 |

**TIMSS 2015 Trend Scoring Reliability for the Fourth Grade Constructed Response Mathematics Items (Continued)**

| Country | Correctness Score Agreement | | | Diagnostic Score Agreement | | |
|---|---|---|---|---|---|---|
| | Average of Exact Percent Agreement Across Items | Range of Exact Percent Agreement | | Average of Exact Percent Agreement Across Items | Range of Exact Percent Agreement | |
| | | Minimum | Maximum | | Minimum | Maximum |
| Portugal | 98 | 91 | 100 | 98 | 90 | 100 |
| Qatar | 98 | 86 | 100 | 95 | 74 | 100 |
| Russian Federation | 97 | 81 | 100 | 95 | 48 | 100 |
| Serbia | 98 | 87 | 100 | 96 | 70 | 100 |
| Singapore | 98 | 87 | 100 | 98 | 82 | 100 |
| Slovak Republic | 98 | 96 | 100 | 97 | 91 | 100 |
| Slovenia | 96 | 84 | 99 | 93 | 73 | 99 |
| Spain | 96 | 72 | 100 | 93 | 67 | 100 |
| Sweden | 98 | 80 | 100 | 96 | 79 | 100 |
| Turkey | 97 | 78 | 100 | 95 | 75 | 100 |
| United Arab Emirates | 97 | 86 | 100 | 94 | 59 | 99 |
| United States | 97 | 84 | 100 | 96 | 83 | 100 |
| **International Avg.** | **98** | **83** | **100** | **95** | **76** | **100** |
| **Benchmarking Participant** | | | | | | |
| Dubai, UAE | 98 | 83 | 100 | 94 | 63 | 100 |

## TIMSS 2015 Trend Scoring Reliability for the Fourth Grade Constructed Response Science Items

| Country | Correctness Score Agreement | | | Diagnostic Score Agreement | | |
|---|---|---|---|---|---|---|
| | Average of Exact Percent Agreement Across Items | Range of Exact Percent Agreement | | Average of Exact Percent Agreement Across Items | Range of Exact Percent Agreement | |
| | | Minimum | Maximum | | Minimum | Maximum |
| Australia | 94 | 88 | 100 | 93 | 85 | 99 |
| Bahrain | 88 | 73 | 96 | 85 | 70 | 96 |
| Belgium (Flemish) | 89 | 61 | 98 | 87 | 61 | 98 |
| Canada | 91 | 81 | 99 | 89 | 77 | 99 |
| Chile | 91 | 75 | 99 | 89 | 72 | 99 |
| Chinese Taipei | 87 | 62 | 99 | 84 | 55 | 99 |
| Croatia | 92 | 74 | 100 | 91 | 74 | 99 |
| Czech Republic | 92 | 71 | 100 | 90 | 69 | 100 |
| Denmark | 87 | 69 | 98 | 85 | 67 | 97 |
| England | 92 | 74 | 100 | 91 | 74 | 100 |
| Finland | 94 | 84 | 100 | 93 | 81 | 100 |
| Georgia | 92 | 78 | 99 | 89 | 71 | 99 |
| Germany | 95 | 89 | 99 | 94 | 88 | 99 |
| Hungary | 94 | 84 | 100 | 93 | 83 | 99 |
| Iran, Islamic Rep. of | 92 | 75 | 99 | 90 | 72 | 99 |
| Ireland | 91 | 67 | 99 | 89 | 66 | 99 |
| Italy | 95 | 85 | 100 | 93 | 85 | 99 |
| Japan | 89 | 55 | 100 | 88 | 53 | 100 |
| Kazakhstan | 83 | 60 | 95 | 76 | 50 | 95 |
| Korea, Rep. of | 94 | 80 | 100 | 94 | 78 | 100 |
| Kuwait | 93 | 85 | 99 | 88 | 76 | 96 |
| Lithuania | 93 | 56 | 100 | 91 | 56 | 99 |
| Netherlands | 89 | 65 | 99 | 88 | 65 | 99 |
| New Zealand | 94 | 82 | 100 | 93 | 80 | 99 |
| Northern Ireland | 94 | 78 | 100 | 93 | 78 | 100 |
| Norway | 91 | 69 | 99 | 90 | 69 | 99 |
| Oman | 94 | 84 | 99 | 89 | 77 | 99 |
| Poland | 90 | 65 | 99 | 87 | 65 | 98 |
| Portugal | 95 | 83 | 99 | 93 | 83 | 99 |
| Qatar | 92 | 83 | 99 | 90 | 80 | 98 |

**TIMSS 2015 Trend Scoring Reliability for the Fourth Grade Constructed Response Science Items (Continued)**

| Country | Correctness Score Agreement | | | Diagnostic Score Agreement | | |
|---|---|---|---|---|---|---|
| | Average of Exact Percent Agreement Across Items | Range of Exact Percent Agreement | | Average of Exact Percent Agreement Across Items | Range of Exact Percent Agreement | |
| | | Minimum | Maximum | | Minimum | Maximum |
| Russian Federation | 95 | 82 | 100 | 94 | 81 | 100 |
| Serbia | 89 | 68 | 98 | 86 | 67 | 98 |
| Singapore | 93 | 85 | 100 | 93 | 83 | 100 |
| Slovak Republic | 97 | 90 | 99 | 96 | 89 | 99 |
| Slovenia | 89 | 62 | 99 | 86 | 62 | 97 |
| Spain | 88 | 70 | 99 | 85 | 68 | 99 |
| Sweden | 92 | 75 | 99 | 91 | 75 | 99 |
| Turkey | 92 | 68 | 98 | 90 | 68 | 98 |
| United Arab Emirates | 92 | 76 | 98 | 88 | 72 | 97 |
| United States | 92 | 77 | 100 | 92 | 76 | 100 |
| **International Avg.** | **92** | **75** | **99** | **90** | **73** | **99** |
| **Benchmarking Participant** | | | | | | |
| Dubai, UAE | 91 | 78 | 100 | 89 | 77 | 100 |

## TIMSS 2015 Trend Scoring Reliability for the Eighth Grade Constructed Response Mathematics Items

| Country | Correctness Score Agreement | | | Diagnostic Score Agreement | | |
|---|---|---|---|---|---|---|
| | Average of Exact Percent Agreement Across Items | Range of Exact Percent Agreement | | Average of Exact Percent Agreement Across Items | Range of Exact Percent Agreement | |
| | | Minimum | Maximum | | Minimum | Maximum |
| Australia | 98 | 91 | 100 | 96 | 86 | 100 |
| Bahrain | 97 | 75 | 100 | 93 | 60 | 100 |
| Botswana | 96 | 77 | 100 | 92 | 63 | 100 |
| Canada | 95 | 83 | 100 | 92 | 77 | 98 |
| Chinese Taipei | 95 | 67 | 100 | 94 | 67 | 100 |
| England | 97 | 80 | 100 | 94 | 76 | 100 |
| Georgia | 97 | 86 | 100 | 93 | 66 | 100 |
| Hong Kong SAR | 97 | 82 | 100 | 95 | 76 | 100 |
| Hungary | 97 | 79 | 100 | 96 | 78 | 100 |
| Iran, Islamic Rep. of | 97 | 76 | 100 | 94 | 67 | 100 |
| Israel | 97 | 83 | 100 | 95 | 81 | 100 |
| Italy | 98 | 86 | 100 | 96 | 83 | 100 |
| Japan | 97 | 84 | 100 | 95 | 77 | 100 |
| Jordan | 97 | 84 | 100 | 93 | 61 | 100 |
| Kazakhstan | 91 | 74 | 100 | 87 | 60 | 100 |
| Korea, Rep. of | 98 | 91 | 100 | 97 | 88 | 100 |
| Lithuania | 98 | 85 | 100 | 97 | 81 | 100 |
| Malaysia | 97 | 86 | 100 | 92 | 70 | 99 |
| New Zealand | 96 | 75 | 100 | 94 | 68 | 100 |
| Norway | 97 | 76 | 100 | 94 | 68 | 100 |
| Oman | 97 | 84 | 100 | 91 | 60 | 98 |
| Qatar | 97 | 88 | 100 | 95 | 83 | 99 |
| Russian Federation | 97 | 81 | 100 | 94 | 76 | 100 |
| Singapore | 97 | 79 | 100 | 96 | 73 | 100 |
| Slovenia | 96 | 71 | 100 | 93 | 71 | 100 |
| South Africa | 96 | 87 | 99 | 91 | 71 | 99 |
| Sweden | 97 | 79 | 100 | 95 | 74 | 100 |
| Thailand | 98 | 91 | 100 | 96 | 82 | 100 |
| Turkey | 96 | 83 | 100 | 92 | 72 | 100 |
| United Arab Emirates | 97 | 85 | 100 | 94 | 81 | 100 |
| United States | 96 | 69 | 100 | 94 | 62 | 100 |
| **International Avg.** | **97** | **81** | **100** | **94** | **73** | **100** |
| **Benchmarking Participant** | | | | | | |
| Dubai, UAE | 97 | 85 | 100 | 95 | 78 | 100 |

## TIMSS 2015 Trend Scoring Reliability for the Eighth Grade Constructed Response Science Items

| Country | Correctness Score Agreement | | | Diagnostic Score Agreement | | |
|---|---|---|---|---|---|---|
| | Average of Exact Percent Agreement Across Items | Range of Exact Percent Agreement | | Average of Exact Percent Agreement Across Items | Range of Exact Percent Agreement | |
| | | Minimum | Maximum | | Minimum | Maximum |
| Australia | 94 | 85 | 100 | 92 | 85 | 100 |
| Bahrain | 90 | 71 | 99 | 86 | 60 | 98 |
| Botswana | 90 | 67 | 98 | 84 | 61 | 96 |
| Canada | 90 | 66 | 100 | 85 | 64 | 100 |
| Chinese Taipei | 93 | 75 | 100 | 90 | 75 | 100 |
| England | 92 | 57 | 100 | 89 | 57 | 100 |
| Georgia | 94 | 76 | 99 | 89 | 58 | 99 |
| Hong Kong SAR | 93 | 67 | 100 | 91 | 66 | 100 |
| Hungary | 95 | 70 | 100 | 93 | 70 | 100 |
| Iran, Islamic Rep. of | 92 | 68 | 99 | 88 | 67 | 98 |
| Israel | 93 | 73 | 100 | 90 | 72 | 100 |
| Italy | 94 | 86 | 99 | 91 | 77 | 99 |
| Japan | 93 | 73 | 100 | 89 | 54 | 99 |
| Jordan | 94 | 76 | 99 | 88 | 70 | 99 |
| Kazakhstan | 85 | 52 | 100 | 77 | 52 | 99 |
| Korea, Rep. of | 95 | 79 | 100 | 93 | 76 | 100 |
| Lithuania | 96 | 81 | 100 | 95 | 77 | 100 |
| Malaysia | 92 | 66 | 99 | 82 | 59 | 97 |
| New Zealand | 94 | 73 | 100 | 91 | 73 | 100 |
| Norway | 93 | 64 | 100 | 91 | 64 | 100 |
| Oman | 93 | 65 | 99 | 87 | 61 | 98 |
| Qatar | 92 | 79 | 99 | 87 | 76 | 98 |
| Russian Federation | 94 | 68 | 100 | 92 | 68 | 100 |
| Singapore | 93 | 66 | 100 | 91 | 66 | 100 |
| Slovenia | 90 | 57 | 99 | 88 | 56 | 98 |
| South Africa | 95 | 82 | 100 | 88 | 47 | 100 |
| Sweden | 94 | 72 | 100 | 91 | 69 | 100 |
| Thailand | 96 | 81 | 100 | 93 | 77 | 100 |
| Turkey | 94 | 77 | 100 | 91 | 77 | 99 |
| United Arab Emirates | 93 | 66 | 100 | 90 | 64 | 99 |
| United States | 94 | 61 | 100 | 90 | 60 | 99 |
| **International Avg.** | **93** | **71** | **100** | **89** | **66** | **99** |
| **Benchmarking Participant** | | | | | | |
| Dubai, UAE | 93 | 72 | 100 | 90 | 72 | 100 |