## Exhibit 1.10: Description of the TIMSS 2019 Low International Benchmark (400) of Mathematics Achievement





## Low International Benchmark

400

## Summary

Students have some basic mathematical knowledge. They can add, subtract, multiply, and divide one- and two-digit whole numbers. They can solve simple word problems. They have some knowledge of simple fractions and common geometric shapes. Students can read and complete simple bar graphs and tables.

Students at this level are familiar with numbers into the thousands. They can order, add, and subtract whole numbers. They have some knowledge of multiplication and division involving two-digit numbers. They can solve one-step word problems and number sentences. They can recognize pictorial representations of simple fractions.

Students can recognize basic measurement ideas. They can recognize and visualize common two- and three-dimensional geometric shapes.

Students can read and complete simple bar graphs and tables.



SOURCE: IEA's Trends in International Mathematics and Science Study - TIMSS 2019 Downloaded from http://timss2019.org/download



| Country                         | Percent<br>Full Credit   |
|---------------------------------|--------------------------|
| † Hong Kong SAR                 | 98 (0.6)                 |
| Korea, Rep. of                  | 96 (0.9)                 |
| Japan                           | 95 (0.9)                 |
| <sup>3</sup> Singapore          | 94 (1.0)                 |
| <sup>2</sup> Lithuania          | 93 (1.3)                 |
| <sup>2</sup> Latvia             | 93 (1.3)                 |
| † Northern Ireland              | 92 (1.3)                 |
| Ireland                         | 90 (1.3)                 |
| † Belgium (Flemish)             | 89 (1.2)                 |
| Poland                          | 88 (1.6)                 |
| <sup>2</sup> Russian Federation | 88 (1.5)                 |
| Chinese Taipei                  | 88 (1.7)                 |
| Czech Republic                  | 87 (1.5)                 |
| Australia                       | 87 (1.5)                 |
| Austria                         | 86 (1.4)                 |
| Finland                         | 86 (2.0)                 |
| † Norway (5)                    | 86 (1.7)                 |
| <sup>2</sup> England            | 84 (1.8) <b>A</b>        |
| 2 Portugal<br>■ Netherlands     |                          |
| - Netherlands<br>Cyprus         | 84 (1.9)<br>84 (1.7)     |
| Sweden                          | 83 (1.8)                 |
| Spain                           | 82 (1.9)                 |
| Hungary                         | 82 (2.3)                 |
| 2† United States                | 82 (1.3)                 |
| Germany                         | 82 (1.9)                 |
| † Denmark                       | 82 (1.7)                 |
| <sup>2</sup> Turkey (5)         | 81 (2.3)                 |
| Azerbaijan                      | 81 (1.7)                 |
| International Average           | 81 (0.3)                 |
| Malta                           | 80 (1.7)                 |
| <sup>2</sup> Slovak Republic    | 80 (1.9)                 |
| Croatia                         | 80 (2.1)                 |
| Italy                           | 79 (2.1)                 |
| <sup>2</sup> New Zealand        | 79 (1.8)                 |
| 12 Canada                       | 77 (1.5) ▽               |
| <sup>2</sup> Serbia             | 75 (3.3)                 |
| Bulgaria                        | 74 (2.6) $\nabla$        |
| France                          | 71 (2.1) $\nabla$        |
| United Arab Emirates            | 69 (0.7) ▽<br>69 (1.9) ▽ |
| Iran, Islamic Rep. of Bahrain   | 69 (1.9) ▽<br>64 (2.5) ▽ |
| Qatar                           | 63 (2.6)                 |
| Oman                            | 61 (1.8)                 |
| <sup>1</sup> Georgia            | 61 (2.9) $\nabla$        |
| <sup>2</sup> Kazakhstan         | 60 (2.3) $\nabla$        |
| Chile                           | 59 (2.2) ▽               |
| Armenia                         | 57 (2.9) ▽               |
| Albania                         |                          |
| Bosnia and Herzegovina          |                          |
| <sup>2</sup> Kosovo             |                          |
| Kuwait                          |                          |
| Montenegro                      |                          |
| Morocco                         |                          |
| North Macedonia                 |                          |
| <sup>2</sup> Pakistan           |                          |
| <sup>2</sup> Philippines        |                          |
| <sup>2</sup> Saudi Arabia       |                          |
| South Africa (5)                |                          |
| Benchmarking Participants       |                          |
| Moscow City, Russian Fed.       | 96 (0.8)                 |
| Quebec, Canada                  | 90 (1.3)                 |
| Madrid, Spain                   | 86 (1.6)                 |
| <sup>2</sup> Dubai, UAE         | 83 (1.1)                 |
| <sup>2</sup> Ontario, Canada    | 75 (2.4) ▽               |
| Abu Dhabi, UAE                  | 60 (1.6) ▽               |

Content Domain: Data Cognitive Domain: Applying Description: Represents data from a table in a bar graph

The table shows the weights of 4 bears.

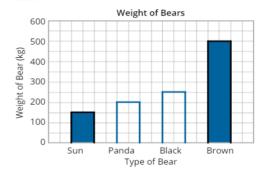
| Type of<br>Bear | Weight (kg) |
|-----------------|-------------|
| Sun             | 150         |
| Panda           | 200         |
| Black           | 250         |
| Brown           | 500         |

Use the data to complete the graph.









The answer shown illustrates the type of response that would receive full credit (1 point).

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>▲</sup> Percent significantly higher than international average

<sup>∇</sup> Percent significantly lower than international average

<sup>()</sup> Standard errors appear in parentheses. Because of rounding some results may appear inconsistent.

A dash (-) indicates comparable data not available. Item not included in TIMSS 2019 less difficult mathematics assessment.