

Exhibit 2.10: Description of the TIMSS 2019 Low International Benchmark (400) of Science Achievement

Low International Benchmark	
400	Summary <i>Students show limited understanding of scientific concepts and limited knowledge of foundational science facts.</i>
	Students at this level can recognize that some animals have backbones, that some materials conduct heat better than others, and that water and soil are natural resources.


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

Exhibit 2.10.1: Low International Benchmark of Science Achievement – Example Item 1


Content Domain: Life Science
Cognitive Domain: Knowing
Description: Recognizes an animal that has a backbone

Country	Percent Correct
Hungary	89 (1.6) ▲
² Latvia	88 (1.6) ▲
Croatia	87 (1.6) ▲
Korea, Rep. of	87 (1.6) ▲
Albania	86 (2.5) ▲
Armenia	85 (1.7) ▲
Chinese Taipei	85 (1.4) ▲
² Slovak Republic	84 (1.7) ▲
[†] Norway (5)	83 (2.0) ▲
¹ Georgia	83 (1.8) ▲
Bulgaria	83 (2.1) ▲
^{2†} United States	82 (1.2) ▲
² Serbia	82 (1.9) ▲
Poland	81 (1.6) ▲
Bosnia and Herzegovina	81 (1.7) ▲
² Turkey (5)	81 (1.8) ▲
Czech Republic	81 (1.9) ▲
North Macedonia	81 (2.1) ▲
² Russian Federation	80 (1.9) ▲
Japan	80 (1.5) ▲
[†] Denmark	79 (2.0) ▲
Malta	79 (1.7) ▲
Finland	79 (1.7) ▲
Sweden	79 (1.9) ▲
Australia	78 (1.7) ▲
² New Zealand	78 (1.8) ▲
¹² Canada	78 (1.5) ▲
² Kazakhstan	77 (1.8) ▲
² England	77 (2.4) ▲
France	76 (2.0) ▲
Azerbaijan	76 (2.0) ▲
[†] Northern Ireland	76 (2.0) ▲
Ireland	76 (2.1) ▲
Montenegro	75 (1.7) ▲
Cyprus	75 (1.8) ▲
² Lithuania	74 (2.0) ▲
International Average	74 (0.3)
Morocco	74 (1.7) ▲
² Kosovo	74 (1.8) ▲
[†] Hong Kong SAR	74 (2.3) ▲
Germany	73 (2.0) ▲
Italy	73 (2.2) ▲
Oman	73 (2.0) ▲
Austria	72 (2.2) ▲
United Arab Emirates	72 (1.0) ▼
³ Singapore	72 (1.5) ▲
Spain	71 (2.7) ▲
Qatar	70 (2.2) ▼
Chile	67 (2.1) ▼
Bahrain	67 (1.8) ▼
Iran, Islamic Rep. of	64 (2.1) ▼
Kuwait	61 (2.6) ▼
² Pakistan	61 (3.2) ▼
² Saudi Arabia	61 (1.8) ▼
² Portugal	60 (2.3) ▼
South Africa (5)	58 (1.6) ▼
² Philippines	56 (2.5) ▼
[†] Belgium (Flemish)	35 (2.1) ▼
[≡] Netherlands	27 (2.4) ▼
Benchmarking Participants	
Moscow City, Russian Fed.	79 (1.7) ▲
² Ontario, Canada	79 (2.1) ▲
² Dubai, UAE	78 (1.9) ▲
Quebec, Canada	73 (2.6) ▲
Madrid, Spain	69 (2.4) ▼
Abu Dhabi, UAE	66 (1.6) ▼


Which animal has a backbone?




A octopus



B spider



C butterfly



D frog

▲ Percent significantly higher than international average
 ▼ Percent significantly lower than international average

See Appendix B.2 for population coverage notes 1, 2, and 3. See Appendix B.5 for sampling guidelines and sampling participation notes †, ‡, and ≡.
 () Standard errors appear in parentheses. Because of rounding some results may appear inconsistent.