

## APPENDIX F

# Average Percent Correct in the Content and Cognitive Domains

Appendix F.1: Average Percent Correct in the Mathematics Content and Cognitive Domains

eTIMSS							
Country	Overall Mathematics	Mathematics Content Domains			Mathematics Cognitive Domains		
		Number	Measurement and Geometry	Data	Knowing	Applying	Reasoning
Austria	50 (0.6)	52 (0.6)	48 (0.6)	50 (0.8)	58 (0.5)	49 (0.7)	42 (0.6)
Canada	43 (0.5)	42 (0.5)	42 (0.5)	48 (0.6)	50 (0.5)	42 (0.5)	37 (0.5)
Chile	27 (0.5)	27 (0.5)	27 (0.5)	29 (0.6)	32 (0.5)	26 (0.5)	24 (0.4)
Chinese Taipei	67 (0.4)	69 (0.5)	65 (0.5)	66 (0.6)	78 (0.4)	67 (0.5)	53 (0.5)
Croatia	43 (0.5)	44 (0.5)	42 (0.6)	41 (0.7)	51 (0.6)	41 (0.6)	36 (0.6)
Czech Republic	49 (0.6)	51 (0.7)	49 (0.6)	47 (0.7)	56 (0.6)	48 (0.7)	44 (0.7)
Denmark	47 (0.5)	46 (0.6)	47 (0.5)	49 (0.6)	54 (0.5)	45 (0.6)	41 (0.5)
England	55 (0.8)	57 (0.9)	50 (0.8)	60 (0.7)	63 (0.7)	54 (0.8)	47 (0.9)
Finland	49 (0.5)	48 (0.5)	48 (0.6)	52 (0.7)	56 (0.6)	48 (0.6)	42 (0.5)
France	37 (0.7)	37 (0.8)	39 (0.7)	38 (0.8)	46 (0.8)	35 (0.7)	30 (0.7)
Georgia	36 (0.8)	41 (0.8)	32 (0.7)	31 (0.9)	42 (0.9)	36 (0.8)	29 (0.8)
Germany	46 (0.6)	45 (0.6)	46 (0.6)	46 (0.8)	54 (0.6)	42 (0.6)	41 (0.7)
Hong Kong SAR	67 (0.8)	67 (0.9)	66 (0.9)	69 (0.8)	73 (0.7)	69 (0.9)	58 (1.1)
Hungary	47 (0.7)	50 (0.7)	44 (0.7)	45 (0.8)	56 (0.7)	45 (0.7)	40 (0.7)
Italy	44 (0.7)	47 (0.7)	40 (0.7)	42 (0.8)	53 (0.7)	43 (0.8)	33 (0.6)
Korea, Rep. of	67 (0.6)	67 (0.6)	66 (0.6)	70 (0.6)	75 (0.5)	66 (0.6)	59 (0.7)
Lithuania	51 (0.7)	51 (0.8)	49 (0.7)	55 (0.7)	58 (0.7)	52 (0.8)	42 (0.7)
Malta	43 (0.3)	44 (0.4)	38 (0.4)	46 (0.6)	51 (0.3)	41 (0.4)	35 (0.4)
Netherlands	50 (0.6)	49 (0.6)	47 (0.6)	56 (0.8)	56 (0.5)	48 (0.7)	44 (0.6)
Norway (5)	52 (0.6)	52 (0.6)	50 (0.6)	55 (0.8)	58 (0.5)	50 (0.7)	46 (0.6)
Portugal	47 (0.7)	48 (0.8)	44 (0.7)	49 (0.7)	55 (0.7)	47 (0.7)	38 (0.7)
Qatar	31 (0.7)	33 (0.8)	27 (0.7)	31 (0.9)	38 (0.8)	29 (0.8)	23 (0.6)
Russian Federation	58 (0.9)	60 (0.9)	56 (1.0)	58 (0.9)	62 (0.8)	59 (1.0)	52 (1.0)
Singapore	73 (0.9)	76 (0.9)	68 (1.0)	72 (0.9)	80 (0.8)	73 (1.0)	63 (1.1)
Slovak Republic	43 (0.8)	44 (0.8)	40 (0.8)	45 (0.9)	49 (0.8)	41 (0.9)	39 (0.8)
Spain	41 (0.4)	42 (0.5)	37 (0.5)	43 (0.5)	49 (0.4)	40 (0.5)	33 (0.5)
Sweden	46 (0.7)	45 (0.8)	44 (0.7)	50 (0.9)	52 (0.8)	44 (0.8)	42 (0.7)
Turkey (5)	48 (1.0)	50 (1.1)	46 (0.9)	47 (1.1)	54 (1.0)	49 (1.1)	38 (1.0)
United Arab Emirates	38 (0.3)	40 (0.4)	35 (0.3)	38 (0.3)	45 (0.4)	37 (0.4)	30 (0.3)
United States	50 (0.7)	52 (0.7)	44 (0.6)	52 (0.7)	58 (0.7)	49 (0.7)	40 (0.6)
<b>International Average</b>	<b>48 (0.1)</b>	<b>49 (0.1)</b>	<b>46 (0.1)</b>	<b>49 (0.1)</b>	<b>55 (0.1)</b>	<b>47 (0.1)</b>	<b>41 (0.1)</b>
<b>Benchmarking Participants</b>							
Ontario, Canada	44 (0.9)	41 (0.8)	43 (1.0)	49 (1.0)	49 (0.9)	43 (1.0)	38 (0.8)
Quebec, Canada	49 (0.6)	49 (0.6)	47 (0.6)	52 (0.8)	57 (0.5)	48 (0.7)	38 (0.6)
Moscow City, Russian Fed.	66 (0.6)	67 (0.7)	61 (0.7)	70 (0.7)	68 (0.5)	68 (0.7)	60 (0.8)
Madrid, Spain	45 (0.6)	47 (0.7)	40 (0.6)	46 (0.6)	53 (0.6)	43 (0.6)	36 (0.6)
Abu Dhabi, UAE	30 (0.4)	31 (0.4)	28 (0.4)	30 (0.4)	37 (0.4)	28 (0.4)	23 (0.4)
Dubai, UAE	52 (0.4)	54 (0.4)	48 (0.4)	55 (0.5)	59 (0.5)	52 (0.4)	43 (0.5)

paperTIMSS							
Country	Overall Mathematics	Mathematics Content Domains			Mathematics Cognitive Domains		
		Number	Measurement and Geometry	Data	Knowing	Applying	Reasoning
Armenia	42 (0.7)	48 (0.6)	38 (0.7)	32 (0.9)	49 (0.7)	42 (0.8)	31 (0.6)
Australia	48 (0.7)	46 (0.7)	46 (0.7)	54 (0.8)	53 (0.7)	47 (0.7)	42 (0.7)
Azerbaijan	48 (0.7)	51 (0.7)	42 (0.8)	47 (0.8)	54 (0.7)	48 (0.8)	38 (0.7)
Bahrain	39 (0.6)	39 (0.6)	36 (0.6)	41 (0.7)	46 (0.5)	37 (0.7)	31 (0.6)
Belgium (Flemish)	52 (0.5)	51 (0.6)	53 (0.6)	52 (0.6)	62 (0.5)	49 (0.6)	42 (0.6)
Bulgaria	48 (1.0)	50 (1.0)	46 (1.0)	44 (1.2)	54 (1.0)	48 (1.2)	39 (1.0)
Cyprus	51 (0.7)	54 (0.8)	48 (0.7)	51 (0.9)	58 (0.8)	52 (0.8)	42 (0.8)
Iran, Islamic Rep. of	31 (0.7)	33 (0.7)	31 (0.7)	29 (0.7)	38 (0.7)	31 (0.7)	22 (0.6)
Ireland	56 (0.7)	58 (0.7)	51 (0.7)	56 (0.8)	63 (0.7)	56 (0.7)	46 (0.7)
Japan	68 (0.4)	67 (0.4)	66 (0.6)	73 (0.5)	74 (0.4)	68 (0.5)	59 (0.6)
Kazakhstan	45 (0.7)	50 (0.7)	43 (0.7)	40 (0.7)	52 (0.6)	45 (0.8)	37 (0.7)
Latvia	55 (0.7)	57 (0.8)	52 (0.8)	56 (0.8)	60 (0.7)	55 (0.8)	49 (0.8)
New Zealand	40 (0.6)	39 (0.6)	37 (0.5)	46 (0.7)	45 (0.6)	39 (0.6)	36 (0.6)
Northern Ireland	60 (0.7)	63 (0.8)	55 (0.7)	61 (0.6)	68 (0.7)	60 (0.7)	51 (0.7)
Oman	30 (0.8)	30 (0.9)	30 (0.8)	31 (0.8)	36 (0.9)	29 (0.9)	24 (0.8)
Poland	48 (0.7)	47 (0.7)	48 (0.7)	51 (0.8)	52 (0.7)	48 (0.8)	42 (0.7)
Serbia	45 (0.7)	49 (0.7)	41 (0.8)	43 (1.0)	51 (0.8)	45 (0.8)	38 (0.8)
<b>International Average</b>	<b>47 (0.2)</b>	<b>49 (0.2)</b>	<b>45 (0.2)</b>	<b>48 (0.2)</b>	<b>54 (0.2)</b>	<b>47 (0.2)</b>	<b>39 (0.2)</b>

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

SOURCE: IEA's Trends in International Mathematics and Science Study TIMSS 2019  
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## Appendix F.1: Average Percent Correct in the Mathematics Content and Cognitive Domains

(Continued)

Country	Overall Mathematics	Mathematics Content Domains			Mathematics Cognitive Domains		
		Number	Measurement and Geometry	Data	Knowing	Applying	Reasoning
Albania	61 (0.8)	62 (0.9)	58 (0.7)	60 (0.8)	69 (0.8)	59 (0.8)	45 (0.8)
Bosnia and Herzegovina	49 (0.6)	51 (0.6)	49 (0.6)	43 (0.7)	57 (0.5)	45 (0.6)	38 (0.7)
Kosovo	49 (0.7)	50 (0.7)	48 (0.6)	46 (0.8)	59 (0.7)	46 (0.8)	33 (0.7)
Kuwait	39 (0.9)	39 (0.9)	37 (0.9)	40 (1.0)	48 (1.0)	35 (0.9)	25 (0.9)
Montenegro	50 (0.4)	50 (0.4)	50 (0.4)	49 (0.5)	57 (0.4)	47 (0.4)	39 (0.5)
Morocco	38 (0.8)	38 (0.8)	38 (0.8)	38 (1.0)	47 (0.8)	35 (0.9)	25 (0.9)
North Macedonia	55 (1.1)	56 (1.1)	54 (1.0)	55 (1.2)	64 (1.0)	53 (1.2)	41 (1.1)
<sup>ψ</sup> Pakistan	28 (1.9)	31 (2.0)	25 (1.7)	23 (2.0)	37 (2.3)	23 (1.8)	18 (1.3)
<sup>ψ</sup> Philippines	25 (0.8)	26 (0.8)	22 (0.7)	26 (1.0)	33 (1.0)	22 (0.8)	14 (0.5)
Saudi Arabia	41 (0.7)	41 (0.7)	40 (0.6)	42 (0.7)	50 (0.7)	37 (0.7)	29 (0.6)
South Africa (5)	36 (0.6)	35 (0.6)	34 (0.7)	40 (0.7)	45 (0.7)	33 (0.7)	23 (0.6)
<b>International Average</b>	<b>43 (0.3)</b>	<b>44 (0.3)</b>	<b>41 (0.3)</b>	<b>42 (0.3)</b>	<b>51 (0.3)</b>	<b>40 (0.3)</b>	<b>30 (0.2)</b>

<sup>ψ</sup> Reservations about reliability because the percentage of students with achievement too low for estimation exceeds 15% but does not exceed 25%.  
 ( ) Standard errors appear in parentheses. Because of rounding some results may appear inconsistent.

SOURCE: IEA's Trends in International Mathematics and Science Study TIMSS 2019  
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## Appendix F.2: Average Percent Correct in the Science Content and Cognitive Domains

Country	Overall Science	Science Content Domains			Science Cognitive Domains		
		Life Science	Physical Science	Earth Science	Knowing	Applying	Reasoning
Austria	51 (0.5)	50 (0.5)	54 (0.5)	50 (0.6)	54 (0.5)	52 (0.5)	44 (0.5)
Canada	52 (0.3)	52 (0.3)	52 (0.4)	49 (0.4)	55 (0.3)	51 (0.4)	44 (0.4)
Chile	40 (0.5)	41 (0.5)	40 (0.5)	38 (0.6)	44 (0.5)	39 (0.5)	34 (0.5)
Chinese Taipei	60 (0.3)	54 (0.3)	66 (0.4)	60 (0.4)	62 (0.3)	62 (0.4)	52 (0.5)
Croatia	51 (0.4)	49 (0.4)	55 (0.5)	49 (0.5)	56 (0.5)	51 (0.5)	44 (0.6)
Czech Republic	54 (0.4)	54 (0.5)	55 (0.4)	53 (0.5)	58 (0.4)	53 (0.5)	48 (0.5)
Denmark	51 (0.4)	51 (0.5)	51 (0.5)	53 (0.6)	54 (0.4)	51 (0.5)	45 (0.6)
England	55 (0.5)	53 (0.6)	57 (0.6)	53 (0.6)	59 (0.5)	53 (0.6)	49 (0.7)
Finland	59 (0.5)	58 (0.5)	60 (0.6)	59 (0.6)	61 (0.5)	59 (0.5)	54 (0.6)
France	45 (0.6)	45 (0.6)	45 (0.6)	44 (0.7)	48 (0.7)	47 (0.6)	35 (0.6)
Georgia	38 (0.6)	37 (0.6)	40 (0.7)	35 (0.7)	42 (0.7)	37 (0.6)	31 (0.6)
Germany	51 (0.5)	51 (0.5)	53 (0.6)	47 (0.6)	54 (0.5)	51 (0.5)	44 (0.6)
Hong Kong SAR	54 (0.6)	51 (0.7)	56 (0.7)	56 (0.8)	58 (0.6)	53 (0.7)	47 (0.7)
Hungary	53 (0.5)	53 (0.5)	54 (0.6)	52 (0.7)	57 (0.6)	53 (0.6)	47 (0.6)
Italy	49 (0.6)	49 (0.6)	49 (0.6)	47 (0.7)	53 (0.6)	48 (0.6)	40 (0.6)
Korea, Rep. of	66 (0.4)	62 (0.5)	73 (0.4)	64 (0.6)	67 (0.4)	69 (0.6)	60 (0.5)
Lithuania	55 (0.5)	53 (0.5)	60 (0.6)	51 (0.7)	58 (0.5)	54 (0.6)	50 (0.6)
Malta	47 (0.3)	46 (0.4)	48 (0.3)	44 (0.4)	51 (0.4)	47 (0.3)	38 (0.4)
Netherlands	50 (0.6)	49 (0.6)	52 (0.6)	49 (0.7)	52 (0.6)	51 (0.6)	44 (0.7)
Norway (5)	55 (0.5)	56 (0.5)	55 (0.6)	56 (0.6)	59 (0.5)	55 (0.5)	48 (0.6)
Portugal	47 (0.4)	47 (0.4)	48 (0.5)	46 (0.5)	50 (0.4)	47 (0.5)	40 (0.5)
Qatar	39 (0.7)	38 (0.7)	41 (0.7)	38 (0.8)	44 (0.7)	39 (0.7)	30 (0.7)
Russian Federation	62 (0.7)	61 (0.7)	66 (0.7)	57 (0.8)	63 (0.8)	65 (0.7)	55 (0.6)
Singapore	68 (0.7)	68 (0.7)	73 (0.7)	59 (0.8)	69 (0.7)	70 (0.8)	65 (0.8)
Slovak Republic	52 (0.7)	50 (0.7)	55 (0.7)	49 (0.7)	56 (0.7)	52 (0.7)	44 (0.7)
Spain	49 (0.4)	48 (0.3)	50 (0.5)	48 (0.5)	53 (0.4)	49 (0.5)	40 (0.5)
Sweden	55 (0.7)	55 (0.7)	55 (0.7)	56 (0.8)	59 (0.7)	55 (0.7)	49 (0.7)
Turkey (5)	54 (0.8)	51 (0.9)	59 (0.9)	51 (0.9)	58 (0.9)	54 (0.9)	45 (0.8)
United Arab Emirates	44 (0.3)	42 (0.4)	47 (0.4)	43 (0.3)	49 (0.3)	44 (0.4)	35 (0.4)
United States	55 (0.5)	56 (0.5)	55 (0.6)	54 (0.6)	59 (0.5)	55 (0.6)	48 (0.6)
<b>International Average</b>	<b>52 (0.1)</b>	<b>51 (0.1)</b>	<b>54 (0.1)</b>	<b>50 (0.1)</b>	<b>55 (0.1)</b>	<b>52 (0.1)</b>	<b>45 (0.1)</b>
<b>Benchmarking Participants</b>							
Ontario, Canada	52 (0.6)	53 (0.6)	52 (0.7)	49 (0.8)	55 (0.6)	51 (0.7)	45 (0.7)
Quebec, Canada	51 (0.5)	52 (0.5)	52 (0.6)	49 (0.7)	55 (0.5)	51 (0.6)	44 (0.6)
Moscow City, Russian Fed.	68 (0.5)	66 (0.5)	71 (0.6)	65 (0.6)	69 (0.5)	71 (0.5)	61 (0.6)
Madrid, Spain	51 (0.4)	50 (0.5)	53 (0.5)	51 (0.5)	55 (0.6)	52 (0.5)	44 (0.5)
Abu Dhabi, UAE	35 (0.4)	33 (0.4)	38 (0.4)	35 (0.4)	39 (0.4)	35 (0.4)	27 (0.3)
Dubai, UAE	57 (0.3)	55 (0.3)	62 (0.4)	55 (0.3)	63 (0.3)	57 (0.3)	47 (0.4)

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

SOURCE: IEA's Trends in International Mathematics and Science Study TIMSS 2019  
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## Appendix F.2: Average Percent Correct in the Science Content and Cognitive Domains

Country	Overall Science	Science Content Domains			Science Cognitive Domains		
		Life Science	Physical Science	Earth Science	Knowing	Applying	Reasoning
Albania	47 (0.7)	45 (0.6)	50 (0.7)	44 (0.9)	51 (0.7)	46 (0.7)	39 (0.8)
Armenia	41 (0.6)	42 (0.6)	41 (0.7)	38 (0.7)	45 (0.6)	39 (0.6)	38 (0.7)
Australia	55 (0.5)	55 (0.6)	56 (0.6)	54 (0.6)	59 (0.6)	54 (0.6)	50 (0.6)
Azerbaijan	36 (0.5)	34 (0.5)	39 (0.6)	35 (0.5)	39 (0.5)	35 (0.6)	31 (0.5)
Bahrain	48 (0.6)	47 (0.6)	51 (0.6)	44 (0.6)	52 (0.6)	48 (0.7)	38 (0.7)
Belgium (Flemish)	48 (0.4)	46 (0.4)	51 (0.5)	46 (0.5)	49 (0.5)	48 (0.5)	44 (0.5)
Bosnia and Herzegovina	40 (0.5)	41 (0.5)	41 (0.6)	35 (0.6)	42 (0.5)	40 (0.6)	34 (0.6)
Bulgaria	54 (1.0)	54 (1.0)	56 (1.1)	51 (0.9)	58 (0.9)	55 (1.0)	45 (1.0)
Cyprus	50 (0.6)	50 (0.7)	53 (0.7)	47 (0.6)	52 (0.7)	53 (0.6)	43 (0.7)
Iran, Islamic Rep. of	38 (0.7)	35 (0.7)	44 (0.8)	36 (0.7)	42 (0.7)	38 (0.7)	31 (0.6)
Ireland	54 (0.7)	53 (0.7)	55 (0.6)	55 (0.8)	58 (0.7)	54 (0.7)	47 (0.7)
Japan	61 (0.4)	57 (0.4)	68 (0.4)	60 (0.5)	58 (0.4)	66 (0.4)	60 (0.5)
Kazakhstan	47 (0.6)	44 (0.6)	52 (0.7)	44 (0.8)	49 (0.6)	47 (0.7)	41 (0.7)
Kosovo	33 (0.5)	31 (0.6)	36 (0.6)	32 (0.5)	39 (0.6)	31 (0.5)	26 (0.5)
Kuwait	33 (0.9)	32 (0.9)	35 (0.9)	32 (1.0)	38 (1.0)	32 (0.9)	25 (0.8)
Latvia	57 (0.5)	54 (0.5)	62 (0.6)	55 (0.8)	59 (0.5)	58 (0.6)	52 (0.7)
Montenegro	39 (0.4)	40 (0.4)	40 (0.4)	34 (0.5)	42 (0.3)	40 (0.5)	32 (0.4)
<sup>ψ</sup> Morocco	30 (0.8)	29 (0.7)	32 (0.9)	29 (0.9)	33 (0.8)	30 (0.9)	24 (0.7)
New Zealand	49 (0.4)	49 (0.5)	49 (0.5)	48 (0.5)	52 (0.4)	48 (0.5)	43 (0.5)
North Macedonia	36 (1.0)	34 (0.9)	40 (1.2)	33 (1.0)	39 (1.0)	35 (1.0)	30 (0.9)
Northern Ireland	52 (0.4)	51 (0.5)	53 (0.5)	52 (0.5)	56 (0.4)	51 (0.5)	45 (0.6)
Oman	39 (0.7)	38 (0.7)	42 (0.8)	36 (0.7)	42 (0.7)	38 (0.8)	33 (0.7)
* Pakistan	21 (1.1)	20 (1.1)	23 (1.4)	22 (0.7)	24 (1.2)	21 (1.2)	18 (0.9)
* Philippines	20 (0.5)	18 (0.5)	21 (0.6)	21 (0.5)	22 (0.6)	20 (0.5)	16 (0.4)
Poland	55 (0.5)	54 (0.5)	56 (0.6)	53 (0.6)	56 (0.5)	58 (0.5)	47 (0.7)
Saudi Arabia	34 (0.5)	32 (0.5)	37 (0.6)	32 (0.5)	39 (0.6)	33 (0.5)	25 (0.5)
Serbia	52 (0.7)	52 (0.7)	56 (0.8)	45 (0.8)	53 (0.6)	55 (0.8)	45 (0.7)
* South Africa (5)	25 (0.6)	24 (0.6)	26 (0.6)	26 (0.5)	27 (0.7)	25 (0.6)	21 (0.5)
<b>International Average</b>	<b>43 (0.1)</b>	<b>41 (0.1)</b>	<b>45 (0.1)</b>	<b>41 (0.1)</b>	<b>46 (0.1)</b>	<b>43 (0.1)</b>	<b>37 (0.1)</b>

<sup>ψ</sup> Reservations about reliability because the percentage of students with achievement too low for estimation exceeds 15% but does not exceed 25%.

\* Reservations about reliability because the percentage of students with achievement too low for estimation exceeds 25%.

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

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Appendix F.3: Average Percent Correct in the Mathematics Content and Cognitive Domains

eTIMSS		Mathematics Content Domains				Mathematics Cognitive Domains		
Country	Overall Mathematics	Number	Algebra	Geometry	Data and Probability	Knowing	Applying	Reasoning
ψ Chile	25 (0.5)	28 (0.6)	23 (0.5)	21 (0.5)	27 (0.6)	31 (0.6)	24 (0.5)	18 (0.5)
Chinese Taipei	66 (0.6)	70 (0.6)	66 (0.6)	64 (0.6)	64 (0.6)	72 (0.5)	66 (0.6)	60 (0.6)
England	42 (1.3)	46 (1.3)	37 (1.3)	36 (1.2)	48 (1.4)	47 (1.2)	43 (1.3)	32 (1.3)
Finland	39 (0.6)	45 (0.7)	33 (0.6)	36 (0.6)	45 (0.7)	45 (0.6)	40 (0.6)	30 (0.6)
France	33 (0.5)	35 (0.6)	27 (0.6)	31 (0.6)	40 (0.6)	38 (0.6)	33 (0.5)	24 (0.5)
Georgia	30 (0.9)	35 (1.1)	31 (1.0)	24 (0.8)	28 (0.8)	37 (1.0)	29 (0.9)	21 (0.9)
Hong Kong SAR	58 (1.0)	61 (0.9)	58 (0.9)	57 (1.0)	56 (1.2)	65 (0.9)	58 (1.0)	50 (1.0)
Hungary	42 (0.7)	46 (0.8)	38 (0.7)	39 (0.8)	47 (0.7)	49 (0.8)	43 (0.7)	32 (0.7)
Israel	44 (1.1)	47 (1.1)	45 (1.2)	36 (1.0)	45 (1.1)	51 (1.1)	44 (1.1)	36 (1.1)
Italy	37 (0.6)	40 (0.7)	32 (0.6)	35 (0.7)	39 (0.7)	43 (0.7)	36 (0.6)	29 (0.5)
Korea, Rep. of	65 (0.6)	68 (0.6)	63 (0.7)	62 (0.6)	65 (0.6)	72 (0.6)	65 (0.6)	57 (0.7)
Lithuania	43 (0.7)	45 (0.8)	40 (0.8)	40 (0.7)	46 (0.8)	49 (0.7)	44 (0.8)	32 (0.7)
Malaysia	30 (0.6)	33 (0.6)	28 (0.6)	28 (0.5)	33 (0.6)	36 (0.6)	31 (0.6)	22 (0.5)
Norway (9)	38 (0.5)	43 (0.6)	31 (0.6)	33 (0.5)	46 (0.8)	44 (0.5)	39 (0.6)	28 (0.5)
Portugal	37 (0.7)	40 (0.7)	35 (0.8)	34 (0.7)	40 (0.8)	45 (0.8)	37 (0.7)	29 (0.6)
ψ Qatar	28 (0.8)	30 (0.9)	28 (0.8)	22 (0.8)	28 (1.0)	35 (1.0)	27 (0.9)	20 (0.8)
Russian Federation	49 (1.2)	53 (1.2)	51 (1.3)	43 (1.3)	45 (1.1)	57 (1.3)	49 (1.2)	36 (1.2)
Singapore	68 (1.1)	71 (1.1)	67 (1.2)	63 (1.1)	70 (1.0)	73 (1.0)	68 (1.1)	61 (1.2)
Sweden	38 (0.6)	42 (0.6)	34 (0.6)	32 (0.6)	46 (0.8)	43 (0.6)	38 (0.7)	32 (0.7)
Turkey	39 (0.9)	41 (1.0)	38 (1.0)	33 (0.8)	43 (0.9)	47 (1.0)	37 (0.9)	31 (0.9)
United Arab Emirates	34 (0.4)	37 (0.4)	35 (0.5)	28 (0.4)	34 (0.3)	42 (0.4)	33 (0.4)	26 (0.4)
United States	43 (1.1)	47 (1.1)	44 (1.2)	35 (0.9)	45 (1.1)	52 (1.1)	43 (1.1)	32 (1.0)
<b>International Average</b>	<b>42 (0.2)</b>	<b>46 (0.2)</b>	<b>40 (0.2)</b>	<b>38 (0.2)</b>	<b>45 (0.2)</b>	<b>49 (0.2)</b>	<b>42 (0.2)</b>	<b>33 (0.2)</b>
<b>Benchmarking Participants</b>								
Ontario, Canada	45 (1.2)	49 (1.2)	38 (1.3)	42 (1.1)	52 (1.3)	49 (1.1)	45 (1.3)	38 1.1
Quebec, Canada	48 (1.0)	53 (1.1)	42 (1.0)	44 (1.1)	54 (1.0)	56 (0.9)	49 (1.1)	37 (1.1)
Moscow City, Russian Fed.	57 (1.1)	61 (1.1)	60 (1.2)	49 (1.1)	58 (1.0)	67 (1.0)	57 (1.2)	45 (1.2)
ψ Abu Dhabi, UAE	27 (0.5)	30 (0.5)	28 (0.6)	22 (0.5)	27 (0.5)	35 (0.6)	26 (0.5)	20 (0.4)
Dubai, UAE	48 (0.5)	52 (0.6)	49 (0.6)	41 (0.5)	49 (0.5)	56 (0.6)	47 (0.5)	39 (0.5)

paperTIMSS		Mathematics Content Domains				Mathematics Cognitive Domains		
Country	Overall Mathematics	Number	Algebra	Geometry	Data and Probability	Knowing	Applying	Reasoning
Australia	45 (1.0)	50 (1.0)	40 (1.1)	39 (1.0)	53 (0.9)	51 (1.0)	46 (1.0)	36 (1.1)
Bahrain	38 (0.4)	40 (0.5)	38 (0.4)	36 (0.5)	38 (0.4)	44 (0.5)	38 (0.4)	32 (0.5)
Cyprus	41 (0.4)	45 (0.5)	44 (0.5)	33 (0.5)	42 (0.5)	52 (0.5)	39 (0.4)	32 (0.4)
ψ Egypt	25 (0.9)	29 (1.0)	26 (1.0)	21 (0.8)	22 (0.8)	34 (1.0)	23 (0.8)	18 (0.8)
Iran, Islamic Rep. of	30 (0.8)	33 (0.9)	30 (0.8)	26 (0.8)	31 (0.8)	38 (0.9)	29 (0.8)	24 (0.8)
Ireland	47 (0.7)	56 (0.7)	40 (0.7)	36 (0.6)	55 (0.8)	56 (0.7)	47 (0.7)	33 (0.7)
Japan	65 (0.6)	64 (0.7)	65 (0.6)	64 (0.7)	69 (0.5)	69 (0.6)	67 (0.6)	58 (0.7)
ψ Jordan	25 (0.7)	26 (0.8)	29 (1.0)	20 (0.6)	24 (0.6)	33 (1.0)	23 (0.7)	19 (0.6)
Kazakhstan	38 (0.9)	41 (0.9)	42 (1.1)	32 (0.8)	36 (0.7)	47 (1.0)	37 (0.9)	29 (0.8)
ψ Kuwait	23 (0.8)	26 (0.9)	22 (0.8)	19 (0.8)	23 (0.8)	30 (1.0)	21 (0.8)	16 (0.7)
Lebanon	26 (0.5)	30 (0.6)	29 (0.6)	20 (0.5)	20 (0.6)	40 (0.6)	22 (0.5)	15 (0.5)
ψ Morocco	19 (0.4)	21 (0.4)	18 (0.5)	19 (0.4)	18 (0.3)	26 (0.5)	18 (0.3)	12 (0.4)
New Zealand	37 (0.7)	41 (0.8)	32 (0.7)	31 (0.6)	44 (0.8)	41 (0.7)	38 (0.7)	29 (0.6)
ψ Oman	25 (0.4)	25 (0.4)	27 (0.5)	22 (0.4)	24 (0.5)	32 (0.5)	23 (0.4)	18 (0.4)
Romania	37 (1.0)	41 (1.1)	40 (1.1)	31 (1.0)	35 (0.9)	47 (1.1)	35 (1.0)	29 (1.0)
ψ Saudi Arabia	21 (0.3)	22 (0.3)	21 (0.4)	16 (0.3)	24 (0.3)	27 (0.3)	20 (0.3)	14 (0.3)
✱ South Africa (9)	19 (0.3)	22 (0.3)	21 (0.4)	15 (0.2)	19 (0.3)	26 (0.4)	18 (0.3)	13 (0.2)
<b>International Average</b>	<b>33 (0.2)</b>	<b>36 (0.2)</b>	<b>33 (0.2)</b>	<b>28 (0.2)</b>	<b>34 (0.2)</b>	<b>41 (0.2)</b>	<b>32 (0.2)</b>	<b>25 (0.2)</b>
<b>Benchmarking Participants</b>								
ψ Gauteng, RSA (9)	24 (0.6)	27 (0.6)	25 (0.6)	18 (0.5)	23 (0.6)	31 (0.7)	23 (0.6)	17 (0.5)
ψ Western Cape, RSA (9)	28 (1.0)	32 (1.1)	30 (1.1)	22 (0.9)	28 (1.0)	36 (1.1)	28 (1.0)	21 (0.9)

ψ Reservations about reliability because the percentage of students with achievement too low for estimation exceeds 15% but does not exceed 25%.  
 ✱ Reservations about reliability because the percentage of students with achievement too low for estimation exceeds 25%.  
 ( ) Standard errors appear in parentheses. Because of rounding some results may appear inconsistent.

SOURCE: IEA's Trends in International Mathematics and Science Study TIMSS 2019  
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## Appendix F.4: Average Percent Correct in the Science Content and Cognitive Domains

eTIMSS		Science Content Domains				Science Cognitive Domains		
Country	Overall Science	Biology	Chemistry	Physics	Earth Science	Knowing	Applying	Reasoning
Chile	36 (0.5)	40 (0.6)	30 (0.5)	33 (0.5)	38 (0.6)	39 (0.5)	37 (0.5)	31 (0.6)
Chinese Taipei	59 (0.4)	62 (0.4)	60 (0.5)	54 (0.5)	60 (0.5)	67 (0.4)	57 (0.5)	52 (0.5)
England	47 (0.9)	49 (0.9)	43 (1.0)	45 (1.0)	48 (1.0)	50 (1.0)	47 (0.9)	42 (1.1)
Finland	52 (0.6)	53 (0.7)	50 (0.7)	51 (0.7)	56 (0.6)	55 (0.6)	51 (0.6)	50 (0.7)
France	40 (0.5)	43 (0.5)	32 (0.6)	40 (0.5)	45 (0.6)	42 (0.5)	40 (0.5)	39 (0.6)
Georgia	33 (0.6)	35 (0.7)	32 (0.7)	32 (0.6)	32 (0.6)	39 (0.6)	32 (0.6)	27 (0.7)
Hong Kong SAR	45 (1.0)	45 (1.1)	39 (1.0)	46 (1.0)	48 (0.9)	47 (1.1)	45 (0.9)	41 (1.0)
Hungary	49 (0.5)	52 (0.6)	46 (0.6)	48 (0.6)	51 (0.6)	54 (0.5)	49 (0.5)	44 (0.6)
Israel	46 (0.8)	48 (0.8)	45 (0.9)	47 (0.9)	44 (0.9)	50 (0.9)	46 (0.9)	43 (0.9)
Italy	43 (0.5)	47 (0.6)	37 (0.6)	39 (0.6)	47 (0.7)	47 (0.5)	43 (0.6)	37 (0.6)
Korea, Rep. of	55 (0.5)	57 (0.5)	49 (0.5)	56 (0.5)	56 (0.5)	57 (0.5)	55 (0.5)	53 (0.5)
Lithuania	50 (0.6)	52 (0.6)	45 (0.7)	48 (0.7)	51 (0.7)	52 (0.6)	49 (0.6)	48 (0.8)
Malaysia	37 (0.5)	39 (0.6)	30 (0.5)	38 (0.6)	38 (0.6)	38 (0.5)	39 (0.5)	32 (0.5)
Norway (9)	43 (0.5)	43 (0.5)	39 (0.6)	41 (0.6)	48 (0.6)	46 (0.5)	43 (0.6)	38 (0.6)
Portugal	47 (0.6)	51 (0.7)	42 (0.7)	41 (0.6)	51 (0.6)	50 (0.6)	46 (0.6)	42 (0.7)
Qatar	40 (0.8)	42 (0.9)	37 (0.8)	38 (0.8)	40 (0.9)	45 (0.8)	39 (0.8)	33 (0.9)
Russian Federation	52 (0.9)	54 (1.0)	49 (0.9)	50 (1.0)	51 (0.9)	55 (0.9)	52 (0.9)	47 (0.8)
Singapore	66 (0.8)	71 (0.8)	64 (1.0)	67 (0.9)	56 (0.7)	70 (0.8)	66 (0.8)	61 (0.9)
Sweden	48 (0.6)	50 (0.7)	43 (0.7)	47 (0.7)	50 (0.7)	51 (0.6)	48 (0.6)	44 (0.7)
Turkey	47 (0.7)	48 (0.7)	45 (0.9)	46 (0.8)	46 (0.7)	49 (0.8)	46 (0.7)	44 (0.8)
United Arab Emirates	41 (0.4)	43 (0.4)	39 (0.4)	39 (0.4)	41 (0.3)	46 (0.4)	40 (0.4)	35 (0.3)
United States	48 (0.9)	52 (0.9)	42 (0.8)	46 (0.9)	51 (0.9)	50 (0.9)	49 (0.9)	46 (0.9)
<b>International Average</b>	<b>47 (0.1)</b>	<b>49 (0.2)</b>	<b>43 (0.2)</b>	<b>45 (0.2)</b>	<b>48 (0.2)</b>	<b>50 (0.1)</b>	<b>46 (0.1)</b>	<b>42 (0.2)</b>
<b>Benchmarking Participants</b>								
Ontario, Canada	47 (0.6)	52 (0.6)	38 (0.7)	46 (0.7)	48 (0.6)	47 (0.5)	48 (0.6)	46 (0.7)
Quebec, Canada	50 (0.8)	51 (0.8)	48 (0.8)	46 (0.8)	55 (0.8)	51 (0.7)	51 (0.8)	48 (1.0)
Moscow City, Russian Fed.	57 (0.6)	59 (0.7)	51 (0.6)	57 (0.7)	57 (0.7)	60 (0.6)	56 (0.7)	53 (0.8)
Abu Dhabi, UAE	34 (0.5)	35 (0.6)	31 (0.5)	32 (0.5)	35 (0.5)	38 (0.5)	33 (0.5)	28 (0.5)
Dubai, UAE	54 (0.4)	57 (0.3)	52 (0.4)	51 (0.5)	53 (0.5)	59 (0.4)	53 (0.4)	49 (0.4)

paperTIMSS		Science Content Domains				Science Cognitive Domains		
Country	Overall Science	Biology	Chemistry	Physics	Earth Science	Knowing	Applying	Reasoning
Australia	50 (0.7)	52 (0.7)	44 (0.7)	49 (0.7)	52 (0.6)	50 (0.6)	51 (0.7)	48 (0.7)
Bahrain	43 (0.3)	46 (0.4)	39 (0.4)	41 (0.4)	42 (0.4)	48 (0.4)	41 (0.3)	38 (0.4)
Cyprus	41 (0.4)	44 (0.5)	37 (0.4)	40 (0.4)	40 (0.5)	44 (0.4)	40 (0.4)	38 (0.4)
Egypt	28 (0.7)	28 (0.7)	28 (0.7)	28 (0.6)	28 (0.6)	33 (0.8)	27 (0.7)	22 (0.6)
Iran, Islamic Rep. of	35 (0.6)	36 (0.6)	34 (0.8)	36 (0.6)	35 (0.6)	40 (0.6)	36 (0.6)	29 (0.6)
Ireland	49 (0.5)	51 (0.6)	44 (0.7)	47 (0.6)	52 (0.5)	50 (0.5)	49 (0.6)	48 (0.6)
Japan	59 (0.5)	62 (0.5)	52 (0.5)	58 (0.6)	59 (0.5)	59 (0.5)	60 (0.5)	56 (0.5)
Jordan	37 (0.7)	40 (0.9)	35 (0.8)	35 (0.7)	34 (0.7)	41 (0.8)	37 (0.8)	31 (0.7)
Kazakhstan	40 (0.6)	41 (0.6)	40 (0.8)	39 (0.7)	37 (0.6)	42 (0.6)	40 (0.6)	36 (0.6)
Kuwait	35 (0.9)	36 (1.0)	35 (1.0)	33 (0.9)	35 (1.0)	40 (1.1)	34 (1.0)	29 (0.9)
Lebanon	26 (0.5)	25 (0.5)	28 (0.6)	27 (0.6)	24 (0.5)	32 (0.5)	26 (0.6)	19 (0.5)
Morocco	26 (0.3)	26 (0.4)	26 (0.4)	28 (0.4)	26 (0.3)	29 (0.4)	27 (0.3)	23 (0.3)
New Zealand	44 (0.7)	46 (0.6)	38 (0.7)	44 (0.8)	47 (0.6)	44 (0.7)	46 (0.7)	42 (0.7)
Oman	38 (0.4)	41 (0.5)	33 (0.4)	35 (0.4)	38 (0.5)	42 (0.5)	37 (0.5)	32 (0.4)
Romania	39 (0.8)	43 (0.9)	36 (0.8)	37 (0.7)	38 (0.7)	43 (0.7)	39 (0.8)	34 (0.9)
Saudi Arabia	32 (0.4)	34 (0.5)	30 (0.4)	29 (0.4)	35 (0.4)	37 (0.5)	31 (0.4)	28 (0.4)
Ψ South Africa (9)	25 (0.3)	25 (0.3)	23 (0.4)	25 (0.3)	26 (0.4)	28 (0.4)	25 (0.3)	19 (0.3)
<b>International Average</b>	<b>38 (0.1)</b>	<b>40 (0.2)</b>	<b>35 (0.2)</b>	<b>37 (0.1)</b>	<b>38 (0.1)</b>	<b>41 (0.1)</b>	<b>38 (0.1)</b>	<b>34 (0.1)</b>
<b>Benchmarking Participants</b>								
Gauteng, RSA (9)	31 (0.6)	32 (0.7)	29 (0.6)	31 (0.6)	32 (0.7)	33 (0.7)	32 (0.6)	26 (0.6)
Western Cape, RSA (9)	34 (0.9)	35 (0.9)	32 (0.9)	34 (0.9)	36 (0.9)	36 (0.8)	35 (0.9)	30 (1.0)

Ψ Reservations about reliability because the percentage of students with achievement too low for estimation exceeds 15% but does not exceed 25%.  
( ) Standard errors appear in parentheses. Because of rounding some results may appear inconsistent.

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