

**Exhibit 9.3: Percentages of Students Taught the TIMSS Science Topics\***

Reported by Teachers

Country	All Science (23 topics)	Life Science (7 topics)	Physical Science (9 topics)	Earth Science (7 topics)
Australia	61 (1.4)	72 (1.6)	52 (2.0)	62 (2.3)
Bahrain	72 (0.6)	67 (0.5)	75 (0.4)	75 (1.3)
Belgium (Flemish)	47 (1.4)	61 (1.9)	30 (1.7)	57 (1.9)
Bulgaria	81 (0.9)	91 (0.8)	72 (1.7)	82 (1.1)
Canada	54 (0.9)	66 (1.4)	46 (1.2)	53 (1.2)
Chile	76 (1.3)	89 (1.8)	62 (2.0)	80 (1.8)
Chinese Taipei	55 (1.6)	67 (1.8)	57 (1.8)	41 (2.3)
Croatia	57 (1.3)	69 (1.6)	38 (1.7)	71 (1.6)
Cyprus	62 (1.6)	75 (2.1)	53 (2.3)	59 (2.6)
Czech Republic	60 (1.3)	75 (1.5)	34 (1.8)	76 (2.0)
Denmark	r 57 (1.6)	r 62 (1.9)	r 47 (2.1)	r 66 (2.4)
England	r 73 (2.0)	r 67 (2.5)	r 78 (2.2)	r 72 (2.7)
Finland	60 (1.4)	72 (1.4)	48 (2.2)	64 (1.7)
France	59 (1.1)	68 (1.8)	42 (1.4)	72 (1.7)
Georgia	71 (1.3)	78 (1.7)	59 (2.0)	79 (1.6)
Germany	62 (1.3)	68 (1.4)	56 (1.9)	63 (1.9)
Hong Kong SAR	52 (1.6)	67 (2.1)	45 (2.2)	47 (2.4)
Hungary	68 (1.0)	84 (1.1)	50 (1.6)	75 (1.7)
Indonesia	74 (1.3)	85 (1.4)	72 (1.5)	65 (1.9)
Iran, Islamic Rep. of	75 (1.3)	69 (2.0)	80 (1.1)	73 (1.6)
Ireland	75 (1.3)	78 (1.6)	74 (1.4)	74 (2.3)
Italy	52 (1.3)	62 (1.9)	38 (1.7)	59 (1.7)
Japan	39 (1.2)	34 (1.5)	51 (1.5)	29 (1.6)
Kazakhstan	78 (1.8)	88 (1.7)	62 (3.0)	90 (1.2)
Korea, Rep. of	49 (1.6)	53 (2.0)	51 (1.5)	44 (2.0)
Kuwait	81 (1.2)	85 (1.0)	79 (1.8)	80 (1.9)
Lithuania	76 (1.6)	95 (1.0)	61 (2.5)	78 (2.0)
Morocco	48 (1.1)	69 (1.4)	51 (1.5)	25 (1.4)
Netherlands	r 51 (1.7)	r 58 (2.2)	r 38 (2.3)	r 59 (2.3)
New Zealand	62 (1.2)	72 (1.7)	55 (1.4)	64 (1.7)
Northern Ireland	r 61 (1.9)	r 73 (2.6)	r 50 (2.9)	r 64 (2.5)
Norway (5)	r 57 (1.6)	r 62 (2.4)	r 46 (2.3)	r 67 (2.4)
Oman	76 (1.1)	86 (1.1)	82 (1.1)	59 (2.1)
Poland	33 (0.9)	53 (1.7)	16 (1.2)	37 (1.4)
Portugal	78 (1.1)	94 (0.8)	59 (2.1)	86 (1.0)
Qatar	67 (1.3)	74 (1.3)	61 (1.8)	67 (1.7)
Russian Federation	--	--	--	--
Saudi Arabia	87 (0.9)	82 (1.3)	91 (1.1)	87 (1.2)
Serbia	80 (1.2)	75 (1.8)	93 (0.9)	68 (2.0)
Singapore	40 (0.6)	52 (0.9)	58 (0.8)	6 (0.8)
Slovak Republic	89 (0.7)	87 (0.9)	91 (0.8)	88 (1.3)
Slovenia	68 (1.3)	65 (2.0)	76 (1.8)	63 (1.6)
Spain	74 (1.0)	88 (1.1)	54 (1.9)	85 (0.9)
Sweden	55 (1.5)	56 (2.4)	45 (2.2)	68 (2.1)
Turkey	70 (1.3)	52 (2.5)	81 (1.1)	74 (1.6)
United Arab Emirates	75 (0.9)	76 (1.0)	69 (1.3)	81 (1.2)
United States	r 74 (1.0)	r 74 (1.4)	r 70 (1.5)	r 80 (1.3)
International Avg.	65 (0.2)	72 (0.2)	59 (0.3)	66 (0.3)

SOURCE: IEA's Trends in International Mathematics and Science Study – TIMSS 2015

\* Percentage mostly taught before or in the assessment year averaged across topics.

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

A dash (-) indicates comparable data not available.

An "r" indicates data are available for at least 70% but less than 85% of the students. An "x" indicates data are available for less than 50% of students.

**Exhibit 9.3: Percentages of Students Taught the TIMSS Science Topics\* (Continued)**

Country	All Science (23 topics)	Life Science (7 topics)	Physical Science (9 topics)	Earth Science (7 topics)
<b>Benchmarking Participants</b>				
Buenos Aires, Argentina	x x	x x	x x	x x
Ontario, Canada	55 (1.3)	71 (2.0)	45 (1.7)	51 (1.8)
Quebec, Canada	58 (2.0)	61 (2.9)	46 (2.4)	70 (2.8)
Norway (4)	r 57 (1.8)	r 67 (2.5)	r 29 (1.8)	r 82 (2.5)
Abu Dhabi, UAE	76 (1.6)	79 (1.8)	70 (2.4)	81 (2.1)
Dubai, UAE	75 (0.7)	78 (1.0)	68 (0.9)	80 (1.0)
Florida, US	r 79 (2.5)	r 75 (3.5)	r 80 (2.9)	r 82 (3.8)

SOURCE: IEA's Trends in International Mathematics and Science Study – TIMSS 2015

**TIMSS 2015 Science Topics**

**A. Life Science**

- 1) Characteristics of living things and the major groups of living things
- 2) Major body structures and their functions in humans, other animals, and plants
- 3) Life cycles of common plants and animals
- 4) Understanding that some characteristics are inherited and some are the result of the environment
- 5) How physical features and behaviors help living things survive in their environments
- 6) Relationships in communities and ecosystems
- 7) Human health

**B. Physical Science**

- 1) States of matter and properties of the states of matter; how the state of matter changes by heating or cooling
- 2) Classifying materials based on physical properties
- 3) Mixtures and how to separate a mixture into its components
- 4) Chemical changes in everyday life
- 5) Common sources of energy
- 6) Light and sound in everyday life
- 7) Electricity and simple circuits
- 8) Properties of magnets
- 9) Forces that cause objects to move

**C. Earth Science**

- 1) Common features of the Earth's landscape and their relationship to human use
- 2) Where water is found on the Earth and how it moves in and out of the air
- 3) Understanding that weather can change from day to day, from season to season, and by geographic location
- 4) Understanding what fossils are and what they can tell us about past conditions on Earth
- 5) Objects in the solar system and their movements
- 6) Understanding how day and night result from the Earth's rotation on its axis and how the Earth's rotation results in changing shadows throughout the day
- 7) Understanding how seasons are related to the Earth's annual movement around the Sun