## Physics

2015

## Exhibit P1.5: Relative Achievement of 2015 Physics Cohort at the **Eighth and Fourth Grades\***

Instructions: To compare relative achievement across grades as the cohort of students assessed at the fourth grade in 2007 moved to eighth grade four years later in 2011 and then to TIMSS Advanced in 2015, start in the upper-left hand panel and follow the darker green arrows pointing diagonally downwards.

2007 - TIMSS Fourth Grade Physical Science	
Country  Country  Country  TIMSS Scale  Centerpoint (500)	
Russian Federation	52 (5.6)
United States	35 (3.1)
Slovenia	28 (2.3)
Italy	20 (3.6)
Sweden	9 (3.2)
Norway (4)	-39 (3.5) 💿
France	<b>◊ ◊</b>
Lebanon	◊ ◊

2011 - TIMSS Fourth Grade Physical Science	
Country	Achievement Difference from TIMSS Scale Centerpoint (500)
Russian Federation	48 (4.0)
United States	44 (2.0)
Sweden	28 (2.5)
Slovenia	24 (3.1)
Italy	9 (3.1)
Norway (4)	-18 (3.4)
France	<b>◊ ◊</b>
Lebanon	◊ ◊

	2015 - TIMSS Fourth Grade		
	Physical Science		
		Achievement	
ı	Country	Difference from	
		TIMSS Scale	
		Centerpoint (5	00)
ĺ	Russian Federation	67 (3.6)	٥
	Slovenia	46 (2.4)	٥
Þ	United States	37 (2.6)	٥
	Sweden	34 (3.6)	٥
	Italy	13 (2.9)	٥
	France	-18 (2.7)	$\odot$
	Norway (4)	-25 (2.8)	♥
	Lebanon	<b>◊ ◊</b>	

2007 - TIMSS Eighth Grade Physics		
Country	Achievement	
	Difference from	
	TIMSS Scale	
	Centerpoint (500)	
Slovenia	28 (2.4)	
Russian Federation	21 (4.3)	
Sweden	7 (3.0)	
United States	3 (3.0)	
Italy	-11 (3.5) 🐨	
Norway (8)	-26 (3.4) 🐨	
Lebanon	-76 (5.7)	
France	<b>◊ ◊</b>	

2011 - TIMSS Eighth Grade		
Physics		
Country	Achievement Difference from TIMSS Scale Centerpoint (500)	
Russian Federation	47 (3.6)	٥
Slovenia	32 (2.8)	٥
United States	13 (2.5)	٥
Sweden	-2 (3.2)	
Italy	-10 (2.8)	♥
Norway (8)	-19 (3.4)	♥
Lebanon	-95 (5.4)	♥
France	<b>◊ ◊</b>	

the darker green arrows pointing		
2015 - TIMSS Fourth Grade	SS A	
Physical Science	SOURCE: IEA's Trends in International Mathematics and Science Study – TIMSS Advanced 2	
Achievement	- Apn	
Difference from	e St	
Country TIMSS Scale	ienc	
Centerpoint (500)	nd S	
Russian Federation 67 (3.6)	ics a	
Slovenia 46 (2.4) •	mat	
United States 37 (2.6)	athe	
Sweden 34 (3.6) •	a M	
Italy 13 (2.9) •	tion	
France -18 (2.7) •	erna	
Norway (4) -25 (2.8) •	i i	
Lebanon ◊◊	ds in	
	Tren	
2015 - TIMSS Eighth Grade	EA's	
Physics		
Achievement	SOU	
_ Difference from		
Country TIMSS Scale		
Centerpoint (500)		
Russian Federation 48 (4.2)		
Slovenia 45 (2.9) •		
Sweden 24 (3.7) •		
United States 16 (2.9)		
Italy -4 (2.5)		
Norway (8) -17 (2.6) •		
Lebanon -88 (6.6) <b>•</b>		
France $\Diamond \Diamond$		

2008 - TIMSS Advanced Physics		
Country	Achievement	
	Difference from	
	TIMSS Scale	
	Centerpoint (500)	
Slovenia	35 (2.2)	
Norway	34 (4.1)	
Russian Federation	21 (10.1)	
Sweden	-3 (5.3)	
Lebanon	-56 (3.0) 🗨	
Italy	-78 (7.4) 🐨	
France	<b>◊ ◊</b>	
United States	◊ ◊	

2015 - TIMSS Advanced		
Physics		
Country	Achievement Difference from TIMSS Scale Centerpoint (500)	
Slovenia	31 (2.5)	)
Russian Federation	8 (7.1)	
Norway	7 (4.6)	
Sweden	-45 (5.9) <b>▼</b>	)
United States	-63 (9.7)	)
Lebanon	-90 (4.5) <b>▼</b>	)
Italy	-126 (6.9) <b>©</b>	)
France	-127 (4.0) <b>▼</b>	)

- Country average significantly higher than the centerpoint of the TIMSS scale
- © Country average significantly lower than the centerpoint of the TIMSS scale

The United States adjusted the 1995 sample to correspond with the course-taking definitions used in 2015, and the 1995 results were recomputed. A diamond (0) indicates the country did not participate in this year's assessment.

- () Standard errors appear in parentheses. Because of rounding some results may appear inconsistent.
- \* TIMSS 2007 data from: TIMSS 2007 International Science Report

TIMSS 2011 data from: TIMSS 2011 International Results in Science

TIMSS 2015 data from: TIMSS 2015 International Results in Science

TIMSS Advanced 2008 data from: TIMSS Advanced 2008 International Report