



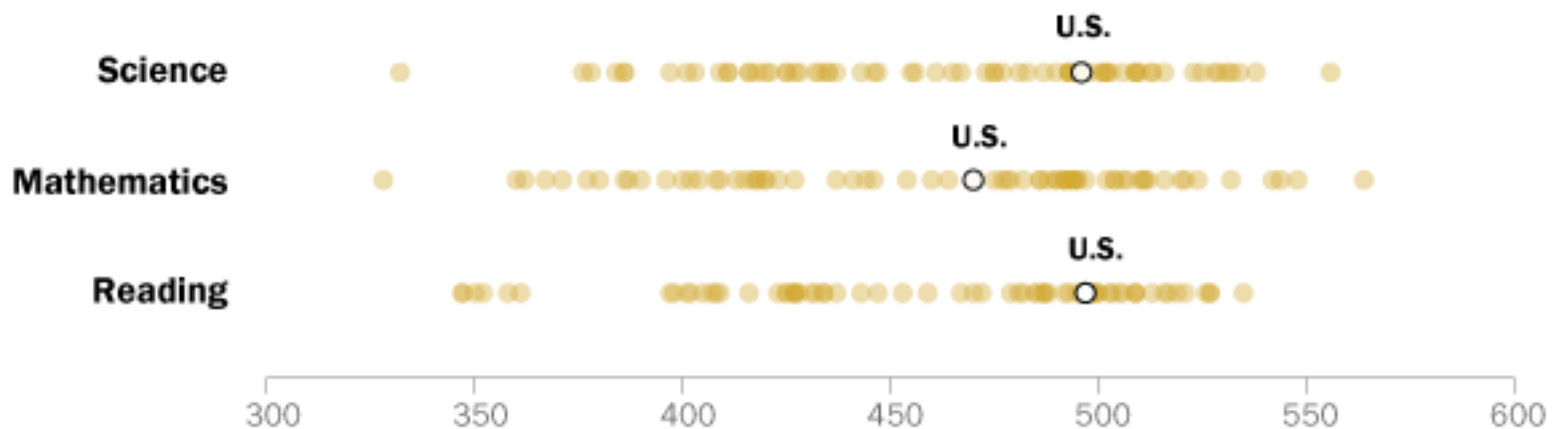
FEBRUARY 15, 2017

U.S. students' academic achievement still lags that of their peers in many other countries

BY DREW DESILVER ([HTTP://WWW.PEWRESEARCH.ORG/STAFF/DREW-DESILVER](http://www.pewresearch.org/staff/drew-desilver))

Internationally, U.S. stands in middle of pack on science, math, reading scores

Average scores of 15-year-olds taking the 2015 Program for International Student Assessment



Note: Scale ranges from 0-1,000. Results from China not included because only four provinces participated in PISA 2015.

Source: OECD, PISA 2015

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How do U.S. students compare with their peers around the world? Recently released data from international math and science assessments indicate that U.S. students continue to rank around the middle of the pack, and behind many other advanced industrial nations.

One of the biggest cross-national tests is the Programme for International Student Assessment (<http://www.oecd.org/pisa/aboutpisa/>) (PISA), which every three years measures reading ability, math and science literacy and other key skills among 15-year-olds in dozens of developed and developing countries. The most recent PISA results, from 2015, placed the U.S. an unimpressive 38th

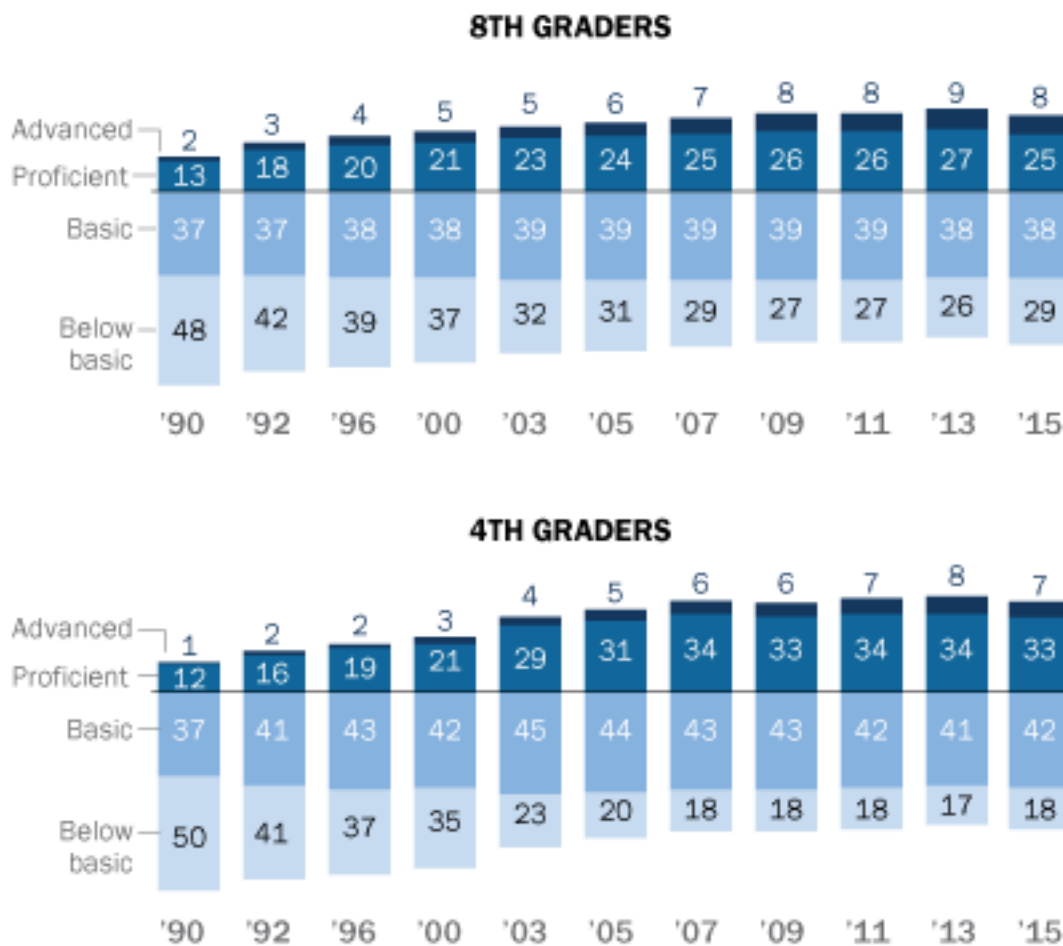
(<https://www.washingtonpost.com/local/education/on-the-world-stage-us-students-fall-behind/2016/12/05/610e1e10->

b740-11e6-a677-b608fbb3aaf6_story.html?utm_term=.e99466bb5b12) out of 71 countries in math and 24th in science. Among the 35 members of the Organization for Economic Cooperation and Development, which sponsors the PISA initiative, the U.S. ranked 30th in math and 19th in science.

Younger American students fare somewhat better on a similar cross-national assessment, the Trends in International Mathematics and Science Study (<https://nces.ed.gov/TIMSS/>). That study, known as TIMSS, has tested students in grades four and eight every four years since 1995. In the most recent tests, from 2015, 10 countries (out of 48 total) had statistically higher average fourth-grade math scores than the U.S., while seven countries had higher average science scores. In the eighth-grade tests, seven out of 37 countries had statistically higher average math scores than the U.S., and seven had higher science scores.

After years of growth, math proficiency of U.S. students dips

% at each achievement level of the National Assessment of Educational Progress (NAEP)



Source: NAEP Data Explorer, National Center for Education Statistics

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Another long-running testing effort is the National Assessment of Educational Progress (<http://www.nationsreportcard.gov/>), a project of the federal Education Department. In the most recent NAEP results, from 2015, average math scores for fourth- and eighth-graders fell for the first time since 1990. A team from Rutgers University is analyzing the NAEP data (https://nsf.gov/awardsearch/showAward?AWD_ID=1641257&HistoricalAwards=false) to try to identify the reasons for the drop in math scores.

The average fourth-grade NAEP math score in 2015 was 240 (on a scale of 0 to 500), the same level as in 2009 and down from 242 in 2013. The average eighth-grade score was 282 in 2015, compared with 285 in 2013; that score was the lowest since 2007. (The NAEP has only tested 12th-graders in math four times since 2005; their 2015 average score of 152 on a 0-to-300 scale was one point lower than in 2013 and 2009.)

Looked at another way, the 2015 NAEP rated 40% of fourth-graders, 33% of eighth-graders and 25% of 12th-graders as “proficient” or “advanced” in math. While far fewer fourth- and eighth-graders now rate at “below basic,” the lowest performance level (18% and 29%, respectively, versus 50% and 48% in 1990), improvement in the top levels appears to have stalled out. (Among 12th-graders, 38% scored at the lowest performance level in math, a point lower than in 2005.)

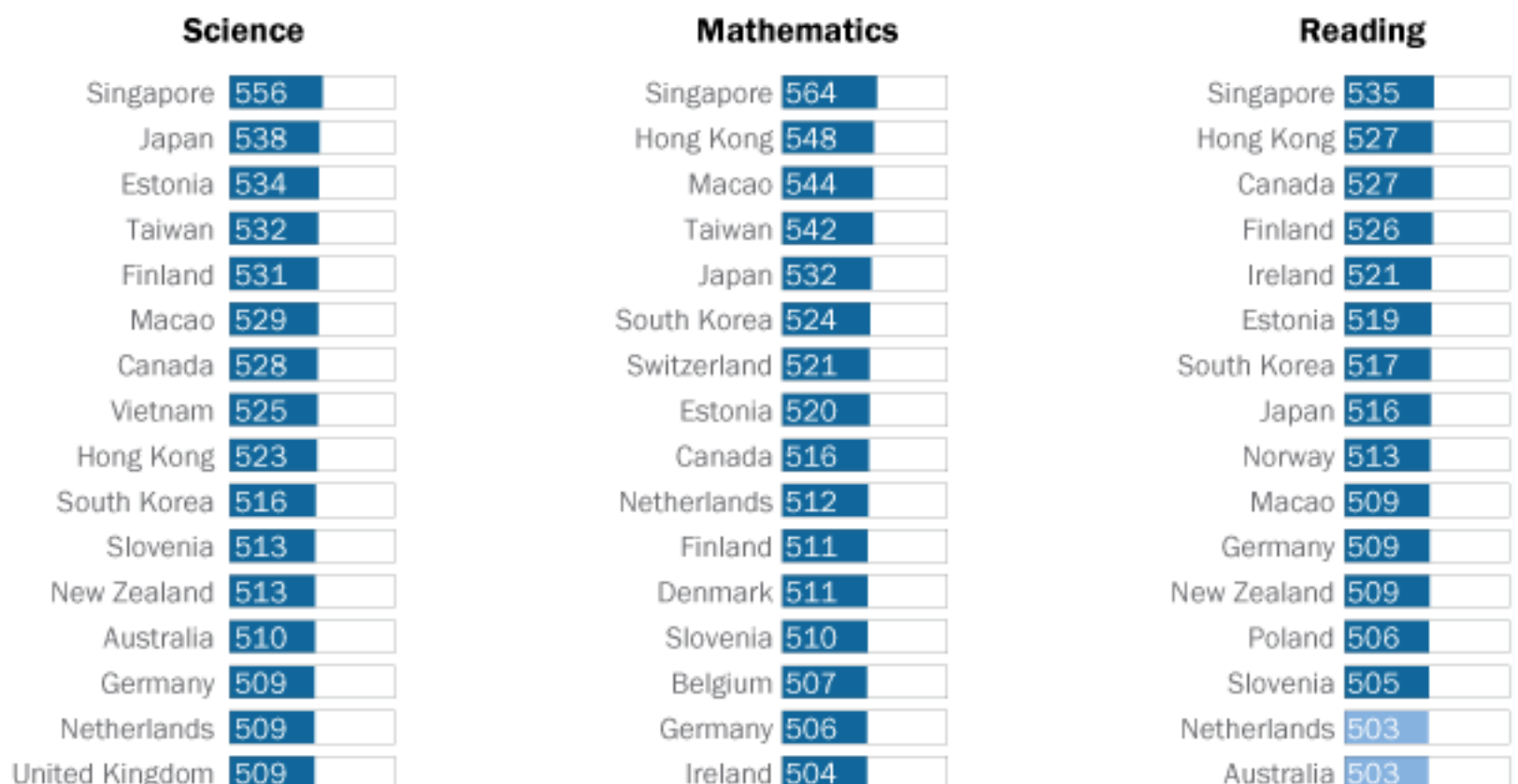
NAEP also tests U.S. students on science, though not as regularly, and the limited results available indicate some improvement. Between 2009 and 2015, the average scores of both fourth- and eight-graders improved from 150 to 154 (on a 0-to-300 scale), although for 12th-graders the average score remained at 150. In 2015, 38% of fourth-graders, 34% of eighth-graders and 22% of 12th-graders were rated proficient or better in science; 24% of fourth-graders, 32% of eighth-graders and 40% of 12th-graders were rated “below basic.”

These results likely won’t surprise too many people. In a 2015 Pew Research Center report (<http://www.pewinternet.org/2015/01/29/public-and-scientists-views-on-science-and-society/>) , only 29% of Americans rated their country’s K-12 education in science, technology, engineering and mathematics (known as STEM) as above average or the best in the world. Scientists were even more critical: A companion survey of members of the American Association for the Advancement of Science found that just 16% called U.S. K-12 STEM education the best or above average; 46%, in contrast, said K-12 STEM in the U.S. was below average.

How the U.S. compares on science, math and reading scores

Average scores of 15-year-olds taking the 2015 Program for International Student Assessment

● Score is significantly higher than U.S. ● Score is **not** significantly different from U.S. ● Score is significantly lower than U.S.



Switzerland	506	Poland	504	Denmark	500
Ireland	503	Norway	502	Sweden	500
Denmark	502	Austria	497	Belgium	499
Belgium	502	New Zealand	495	France	499
Poland	501	Vietnam	495	United Kingdom	498
Portugal	501	Australia	494	Portugal	498
Norway	498	Sweden	494	Taiwan	497
United States	496	Russian Fed.	494	United States	497
France	495	France	493	Spain	496
Austria	495	United Kingdom	492	Russian Federation	495
Sweden	493	Portugal	492	OECD average	493
Spain	493	Czech Rep.	492	Switzerland	492
Czech Rep.	493	Italy	490	Latvia	488
OECD average	493	OECD average	490	Vietnam	487
Latvia	490	Iceland	488	Czech Rep.	487
Russian Fed.	487	Spain	486	Croatia	487
Luxembourg	483	Luxembourg	486	Austria	485
Italy	481	Latvia	482	Italy	485
Hungary	477	Malta	479	Iceland	482
Croatia	475	Lithuania	478	Luxembourg	481
Lithuania	475	Hungary	477	Israel	479
Iceland	473	Slovakia	475	Lithuania	472
Israel	467	United States	470	Hungary	470
Malta	465	Israel	470	Greece	467
Slovakia	461	Croatia	464	Chile	459
Kazakhstan	456	Kazakhstan	460	Slovakia	453
Greece	455	Greece	454	Malta	447
Chile	447	Malaysia	446	Cyprus	443
Bulgaria	446	Romania	444	Uruguay	437
Malaysia	443	Bulgaria	441	Romania	434
United Arab Emirates	437	Cyprus	437	United Arab Emirates	434
Romania	435	United Arab Emirates	427	Bulgaria	432
Uruguay	435	Chile	423	Malaysia	431
Cyprus	433	Turkey	420	Turkey	428
Argentina	432	Moldova	420	Kazakhstan	427
Moldova	428	Uruguay	418	Trinidad and Tobago	427
Albania	427	Montenegro	418	Montenegro	427
Turkey	425	Trinidad and Tobago	417	Costa Rica	427
Trinidad and Tobago	425	Thailand	415	Argentina	425
Thailand	421	Albania	413	Colombia	425
Costa Rica	420	Argentina	409	Mexico	423
Qatar	418	Mexico	408	Moldova	416
Mexico	416	Georgia	404	Thailand	409
Colombia	416	Qatar	402	Jordan	408
Montenegro	411	Costa Rica	400	Brazil	407
Georgia	411	Lebanon	396	Albania	405
Jordan	409	Colombia	390	Qatar	402
Indonesia	403	Peru	387	Georgia	401
Brazil	401	Indonesia	386	Peru	398
Peru	397	Jordan	380	Indonesia	397
Lebanon	386	Brazil	377	Tunisia	364

Lebanon	386
Tunisia	386
Macedonia	384
Kosovo	378
Algeria	376
Dominican Rep.	332

Brazil	377
Macedonia	371
Tunisia	367
Kosovo	362
Algeria	360
Dominican Rep.	328

Tunisia	361
Dominican Republic	358
Macedonia	352
Algeria	350
Lebanon	347
Kosovo	347

Note: Scale ranges from 0-1,000. Results from China not included because only four provinces participated in PISA 2015.
Source: OECD, PISA 2015

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Note: This is an update of a post originally published Feb. 2, 2015. It has been updated to include more recent data.

Related posts:

4 charts on how people around the world see education (<http://www.pewresearch.org/fact-tank/2017/08/28/4-charts-on-how-people-around-the-world-see-education/>)

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