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For Immediate Release
October 24, 2013

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Trends in International Mathematics and Science Study (TIMSS) Linking Study Released today

PHOENIX – Results from the 2011 National Assessment of Educational Progress (NAEP) - Trends in International Mathematics and Science Study (TIMSS) Linking Study were released today. Scores for Arizona eighth-graders were not significantly different from the international average in both mathematics and science. In addition to reporting average scores, TIMSS reports on the performance of students at four international benchmarks for each subject and grade: Advanced (625), High (550), Intermediate (475), and Low (400). Arizona's average scores – 502 in mathematics and 507 in science – were in the Intermediate benchmark level on the 2011 TIMSS in both Mathematics and Science.

While these scores were slightly higher than the TIMSS average of 500 for each subject, Arizona still lags behind when compared to many states across the U.S. and countries around the world.

"Arizona scores at the average scale score on TIMSS for both math and science. This demonstrates the need for more rigorous Arizona College and Career Ready Standards along with a rigorous state assessment that measures problem solving, critical thinking, and reasoning skills that our students need to compete not only nationally but internationally," said Superintendent John Huppenthal.

Countries and states scoring at the TIMSS mathematics average scale score and not statistically different from Arizona's predicted score of 502 include Great Britain (507), Alberta Canada (505), Kentucky (predicted score 505), Hungary (505), Australia (505), Hawaii (predicted score 504), South Carolina (predicted score 504). In Science countries and states scoring at the TIMSS average scale score and not statistically

different from Arizona's predicted 507 scale score include Italy (501), Ukraine (501), and California (predicted score 499).

Overview:

The National Center for Education Statistics (NCES) initiated this special study in an effort to link the NAEP scale to the TIMSS scale so that states could compare the performance of their students with that of students in other countries. The study was conducted in 2011 with eighth-grade students in all 52 states/jurisdictions that participated in the NAEP mathematics and science assessments.

The 2011 NAEP-TIMSS linking study allowed NCES to evaluate multiple linking methodologies which included a statistical moderation, statistical projection, and statistical calibration.

All three linking methods yielded comparable predicted state TIMSS results and national TIMSS results by student groups.

Predicted scores are based on the statistical moderation approach for the 43 states that did not participate in the TIMSS at the state level.

It should be noted that numerous differences between the NAEP and TIMSS administrations, assessment contents, and program policies could contribute to the sources of error around predicted TIMSS scores. Therefore, predicted TIMSS scores should not be interpreted as actual TIMSS scores.

The following are highlights from the linking study:

Mathematics

Average scores for public school students in 36 states were higher than the TIMSS average of 500.

Scores ranged from 466 for Alabama to 561 for Massachusetts.

Science

Average scores for public school students in 47 states were higher than the TIMSS average of 500.

Scores ranged from 453 for the District of Columbia to 567 for Massachusetts.

A full report of the 2011 NAEP TIMSS Linking Study is available at www.nces.ed.gov/nationsreportcard.

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