



# Arkansas Department of Education

Johnny Key, Commissioner

*Transforming Arkansas to lead the nation in student-focused education*

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## **Arkansas' 4th-Grade NAEP Science Scores Show Improvement; Numerous Efforts Implemented to Strengthen Science, Computer Science Education in Arkansas**

**LITTLE ROCK** —The National Center for Education Statistics today released the 2015 National Assessment of Educational Progress results for 4th-grade and 8th-grade science. Arkansas' 4th-grade results showed improvement, with the state's 8th-grade results holding steady. (See tables below for results.)

“These scores provide another tool to help gauge student learning, especially in critical subject areas such as science,” Arkansas Department of Education Commissioner Johnny Key said. “While they clearly show that improvements are needed, they do not reflect the numerous efforts in the last year to strengthen the K-12 science standards and increase professional development for science teachers. We continue to partner with education stakeholders to increase the awareness and importance of STEM (science, technology, engineering and math) education and are committed to ensuring that all students have access to high-quality teachers and student-centered learning opportunities.”

NCES is part of the U.S. Department of Education's Institute of Education Sciences and is responsible for collecting and analyzing education data. The center administered the 4th-grade science test in 2009 and 2015 and administered the 8th-grade science test in 2009, 2011 and 2015.

In 2015, a total of 110,800 4th-grade students were randomly tested on NAEP science nationwide, with 2,200 tested in Arkansas, and a total of 107,200 8th-grade students were tested nationwide, with 2,300 randomly tested in Arkansas.

### **Arkansas Science and Computer Science Efforts**

In June 2015, the Arkansas State Board of Education adopted the Arkansas K-12 Science Standards for grades K-4 and 5-8. K-4 implementation is occurring this school year, with 5-8 implementation set for 2017-2018. ADE plans to present grades 9-12 standards to the State Board for approval in

December, with high school implementation in August 2018.

For the first time, Arkansas' science standards include engineering design principles, which help students build problem-solving skills. Because the new standards focus more on student engagement and three-dimensional learning, as compared to memorization and primarily fact-based skills, teachers are able to better meet personalized learning goals for their students.

In addition to the development of more rigorous standards, ADE partnered with education service cooperatives, STEM Centers and Education Renewal Zones around the state this past summer to provide professional development for teachers. The trainings focused on grade-specific lessons and instructional strategies. A total of 1,385 educators in grades K-12 received 29,448 hours of professional development.

Arkansas also is one of 13 states recently selected to participate in a three-year National Science Foundation grant program that will help states overcome challenges in providing equitable science education for all students. The Advancing Coherent and Equitable Systems of Science Education project will result in the development of strategies and tools for educators to use to help in this effort.

In addition to assessing a student's knowledge in math and English language arts, the ACT Aspire assessment, which was administered for the first time in the 2015-2016 school year, includes a science test for students in grades 3 through 10. The ACT that is administered in the 11th grade also includes a science section. Previously, science was assessed in grades 5, 7 and 10 only. The results from these assessments provide students, parents and educators with additional feedback on students' knowledge in this critical subject area.

Arkansas' commitment to STEM education also is reflected in the state's efforts to support and encourage computer science education. Arkansas is widely recognized as a national leader in computer science education. Arkansas was one of the first states in the country to adopt comprehensive K-12 computer science standards and courses. The State Board of Education adopted the K-8 Computer Science Standards in January 2016 and 9-12 Computer Science Standards and courses in August 2016. These new standards and high-school courses will be implemented in the 2017-2018 school year.

On a national scale, Arkansas is providing direct guidance to numerous other states that are implementing CSforALL, an effort to expand access to computer science education for all students. ADE also has assisted in the development of the K-12 Computer Science Framework, a standards development guidance document that other states may use when developing their computer science standards and courses.

In addition, ADE allocated more than \$1 million in grants to education service cooperatives, STEM Centers and universities for teacher professional development during the summer of 2016 and the 2016-2017 school year. ADE also is providing grant funding for four full-time computer science specialists to provide statewide support directly to schools and educators implementing a computer science program. Applications are currently being taken and reviewed for these four specialist positions, which will be based at the following education service cooperatives: Northwest, Arch Ford, Southwest and Southeast.

By placing a concentrated effort on supporting science education in Arkansas classrooms, ADE

hopes to see all scores on science assessments rise in the coming years and students have a more authentic and meaningful science experience.

## NAEP Results

<b>4th-Grade Public School Results</b>		
<b>Year</b>	<b>Jurisdiction</b>	<b>Average Scale Score</b>
2009	Arkansas	146*
2009	Nation	149*
2015	Arkansas	150
2015	Nation	153

\*Value is significantly different ( $p < .05$ ) from the value for the same jurisdiction in 2015.

<b>8th-Grade Public School Results</b>		
<b>Year</b>	<b>Jurisdiction</b>	<b>Average Scale Score</b>
2009	Arkansas	144*
2009	Nation	149*
2011	Arkansas	148
2011	Nation	151*
2015	Arkansas	148
2015	Nation	153

\*Value is significantly different ( $p < .05$ ) from the value for the same jurisdiction in 2015.

## More Information

To see the complete NAEP results, go to <https://nces.ed.gov/nationsreportcard/science/>. To learn more about the Arkansas K-12 Science Standards, go to <http://www.arkansased.gov/divisions/learning-services/curriculum-and-instruction/arkansas-k-12-science-standards>. To learn more about Arkansas' computer science initiative, go to <http://www.arkansased.gov/divisions/learning-services/curriculum-and-instruction/curriculum-framework-documents/computer-science>.

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