



$$(a - b)^2 = a^2 - 2ab + b^2$$

Arkansas Advanced Initiative for Math and Science 2008-2010 Results



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Background

- In 2007 a Blue Ribbon Panel created by the National Academies of Science released a report entitled, ***Rising Above the Gathering Storm: Energizing and Employing America for a Brighter Economic Future.***
- The report stated that the U.S. is currently lagging in mathematics and sciences which results in an erosion of American competitiveness in the global economy, and it made specific recommendations.





Recommendations

- Improve K-12 science and mathematics education
- Prepare more teachers to teach AP and/or Pre- AP science and mathematics courses
- Increase the number of students taking AP math and science courses
- Increase the number of students who make qualifying scores on AP math and science tests
- Award both students and teachers incentives for qualifying AP test scores



Recommendation

Implement and replicate the **Advanced Placement Training and Incentive Program** which has a proven track record of success.





Arkansas AIMS

- Initially funded by a grant of up to \$13.2 million from the National Math and Science Initiative with major support from Exxon Mobil, the Gates Foundation, and the Dell Foundation.
- Arkansas was one of six states selected for this grant which is intended to replicate the Advanced Placement Training and Incentive Program.





The NMSI Replication Model: Elements of Success



Administrative support

- Cultivate, support, and maintain a culture of high expectations for teachers and students that is inclusive

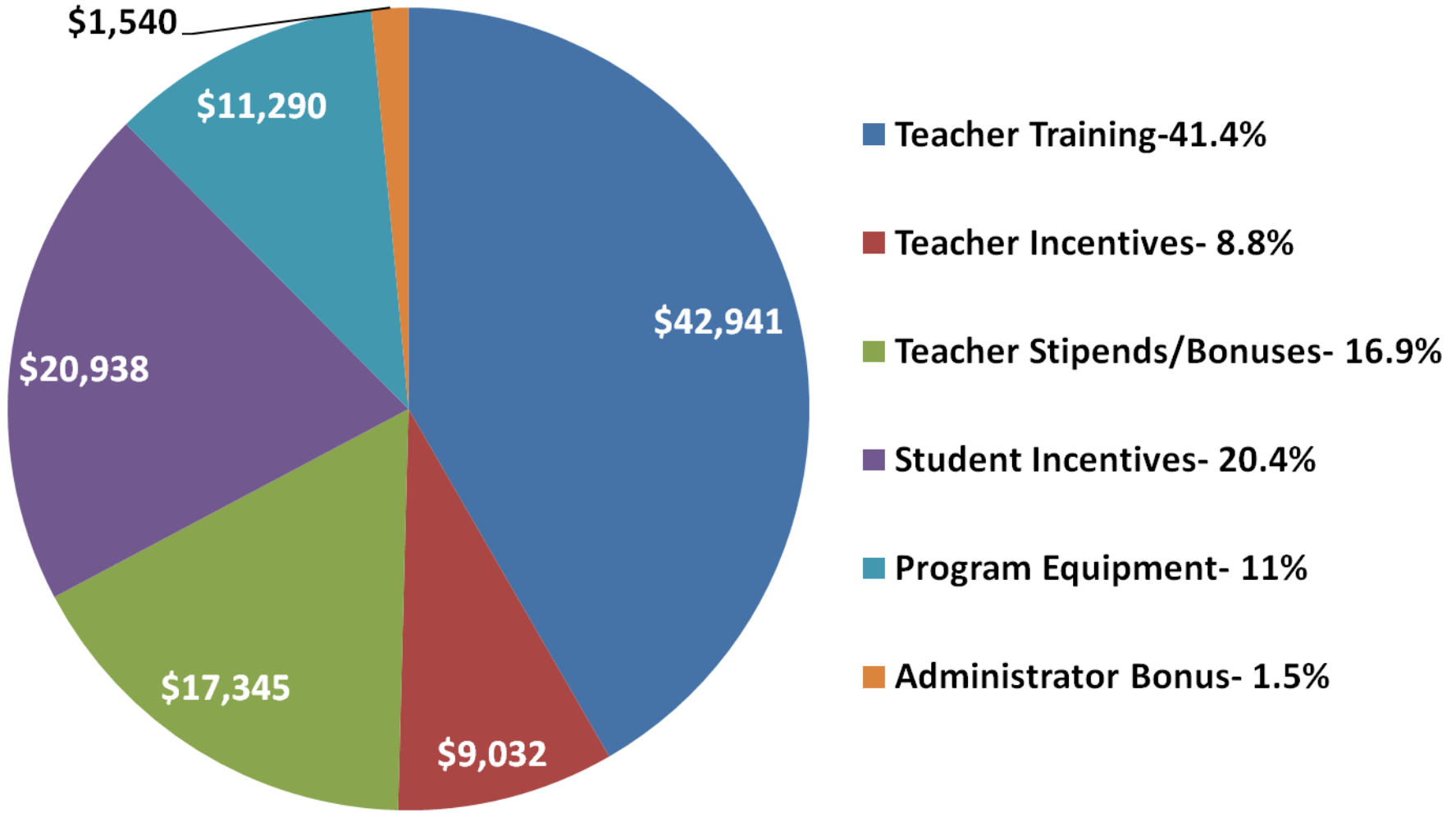
- Actively recruit and prepare teachers to participate in Pre-AP and AP professional development and training

- Actively recruit all students to be a part of the APTIP

- Provide *AAIMS* with data, documentation, and program information in a timely and meaningful fashion



AAIMS APTIP \$\$\$ Investment for Success



Average Cost Per AAIMS School is \$102,636





AAIMS Goals

- Increase participation in AP and Pre-AP math, science, and English classes
- Increase the number of scores of 3-5 on AP math, science, and English exams
- Increase the number of students attending and graduating from college
- Strengthen the skills of AP and Pre-AP teachers





AAIMS Partner and Donors

Supporting Partner- University of Arkansas at
Little Rock

Partner- Arkansas Department of Education

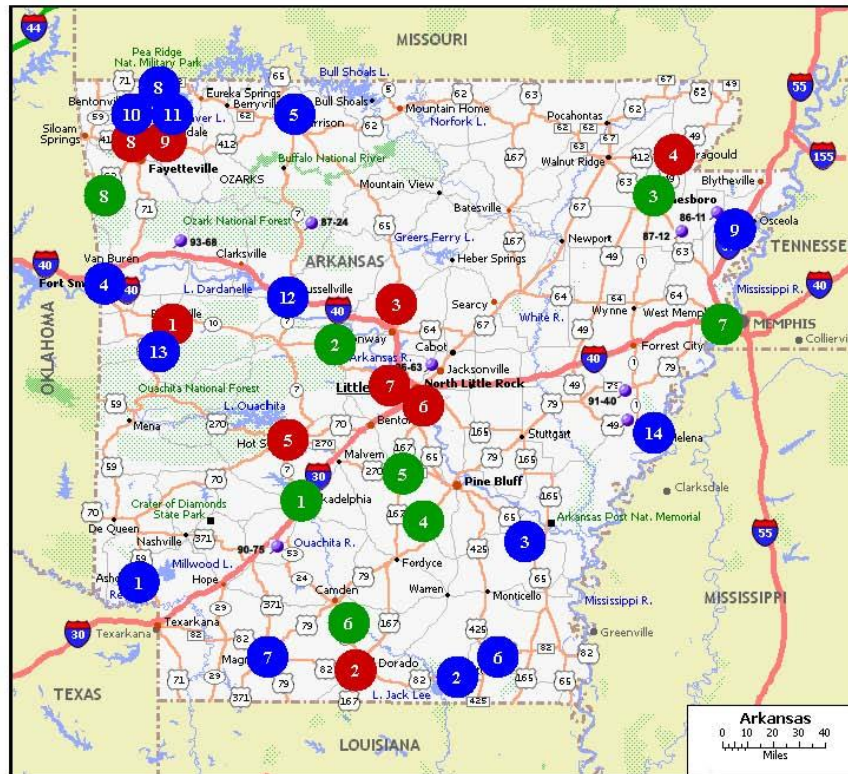
Donors-

- Walton Family Foundation
- Winthrop Rockefeller Foundation





$$C_1 + C_2 + C_3 + C_4 + C_5 + C_6 + C_7 + C_8 + C_9 + C_{10} + C_{11} + C_{12} + C_{13} + C_{14} = 15 = 2ab + b^2$$



Cohort I

1. Booneville
2. El Dorado
3. Greenbrier
4. Green Co. Tech
5. Lake Hamilton
6. Mills
7. Parkview
8. Springdale
9. Springdale Har-Bar

Cohort II

1. Ashdown
2. Crossett
3. Dumas
4. Ft. Smith (Northside)
5. Green Forest
6. Hamburg
7. Magnolia
8. Pea Ridge
9. Rivercrest
10. Rogers
11. Rogers Heritage
12. Russellville
13. Waldron
14. KIPP Delta

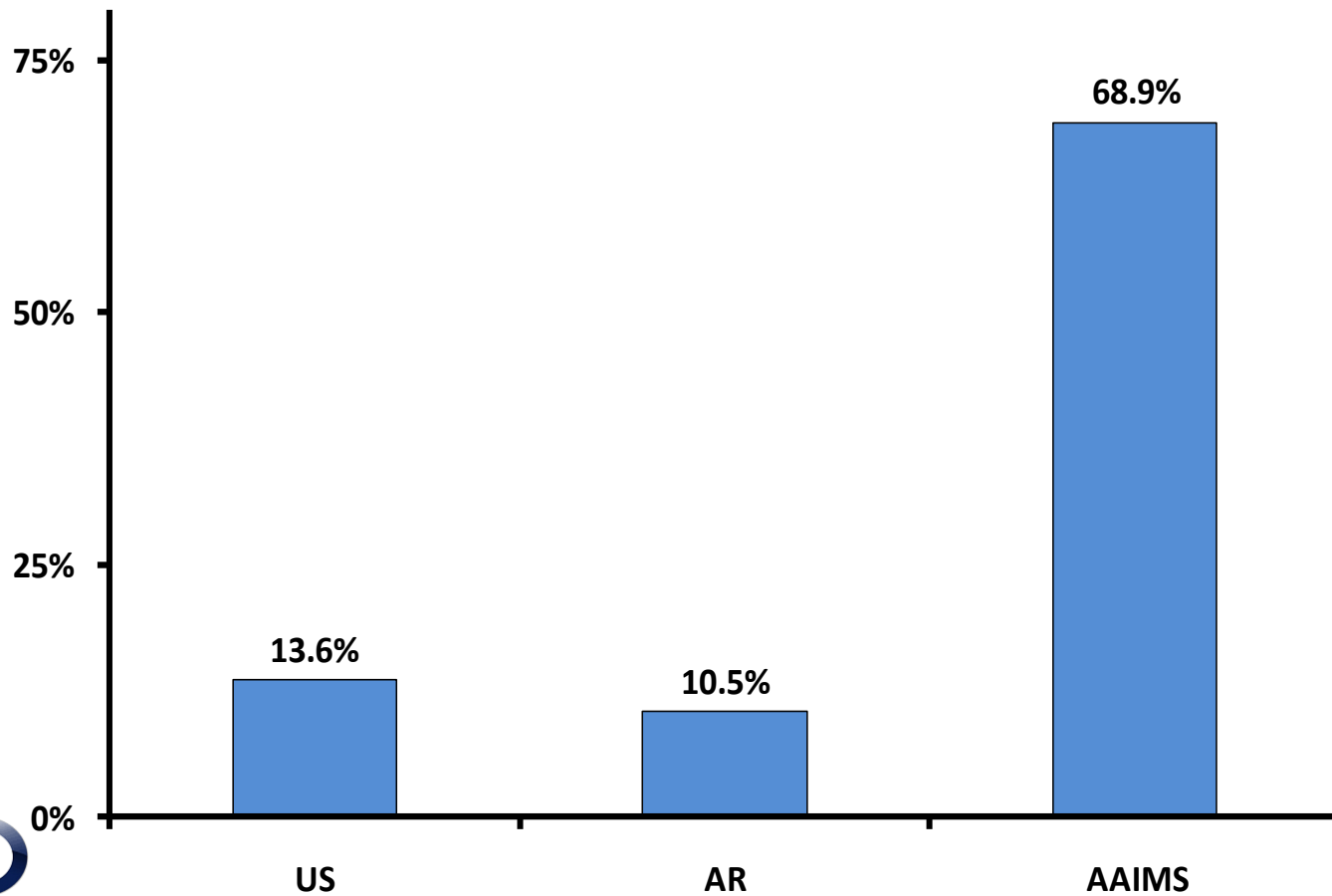
Cohort III

1. Arkadelphia
2. Conway
3. Jonesboro
4. Rison
5. Sheridan
6. Smackover
7. West Memphis
8. Prairie Grove



2-YR INCREASES FOR AAIMS ' FIRST 10 SCHOOLS FAR EXCEED NATIONAL AND STATE AVGS

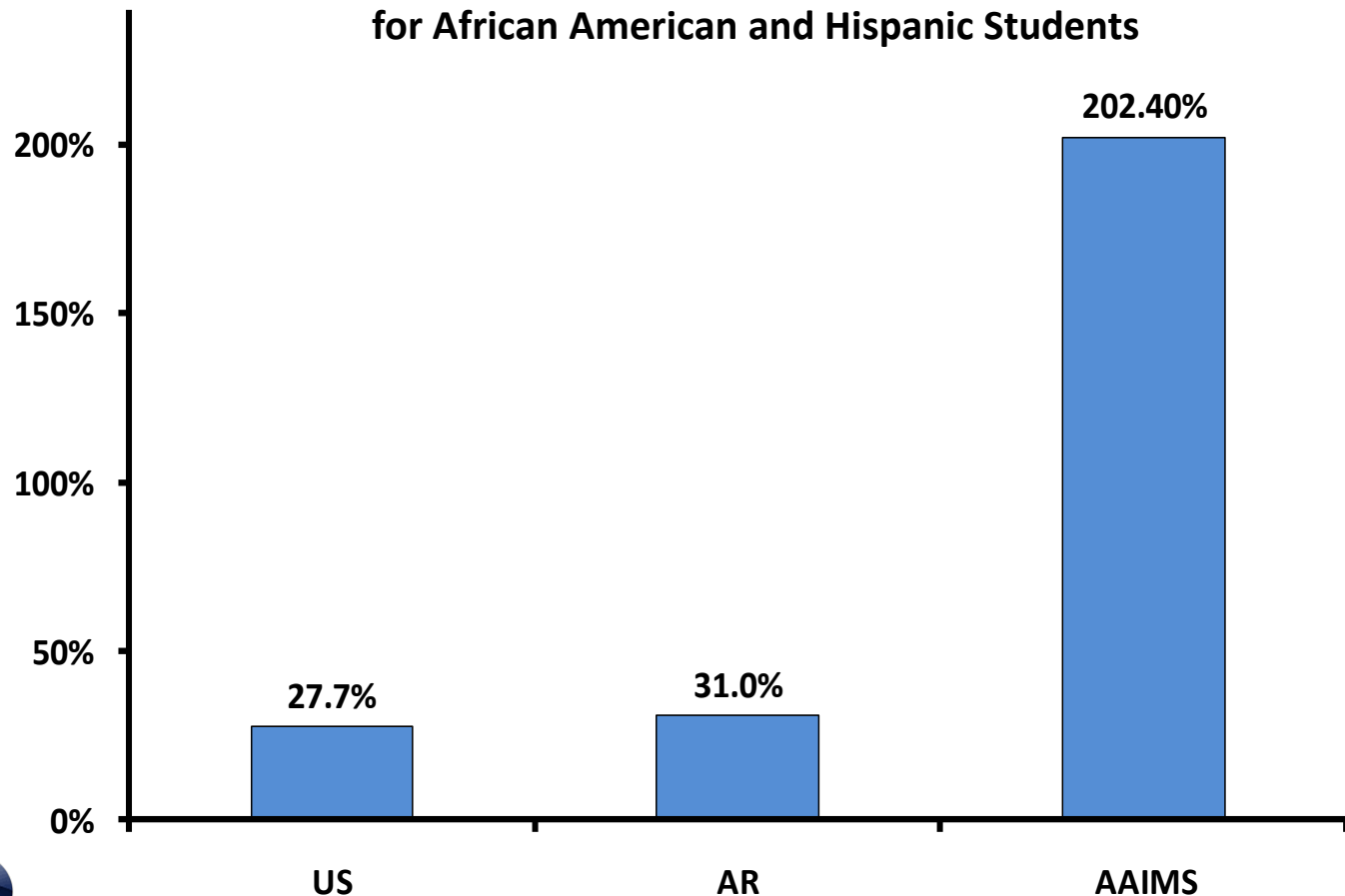
Percentage Increase in scores of 3 or greater in math, science, and English
for first 10 AAIMS schools from 2008-2010





2-YR INCREASES FOR MINORITIES FOR AAIMS FIRST 10 SCHOOLS FAR EXCEED NATIONAL AND STATE AVGS

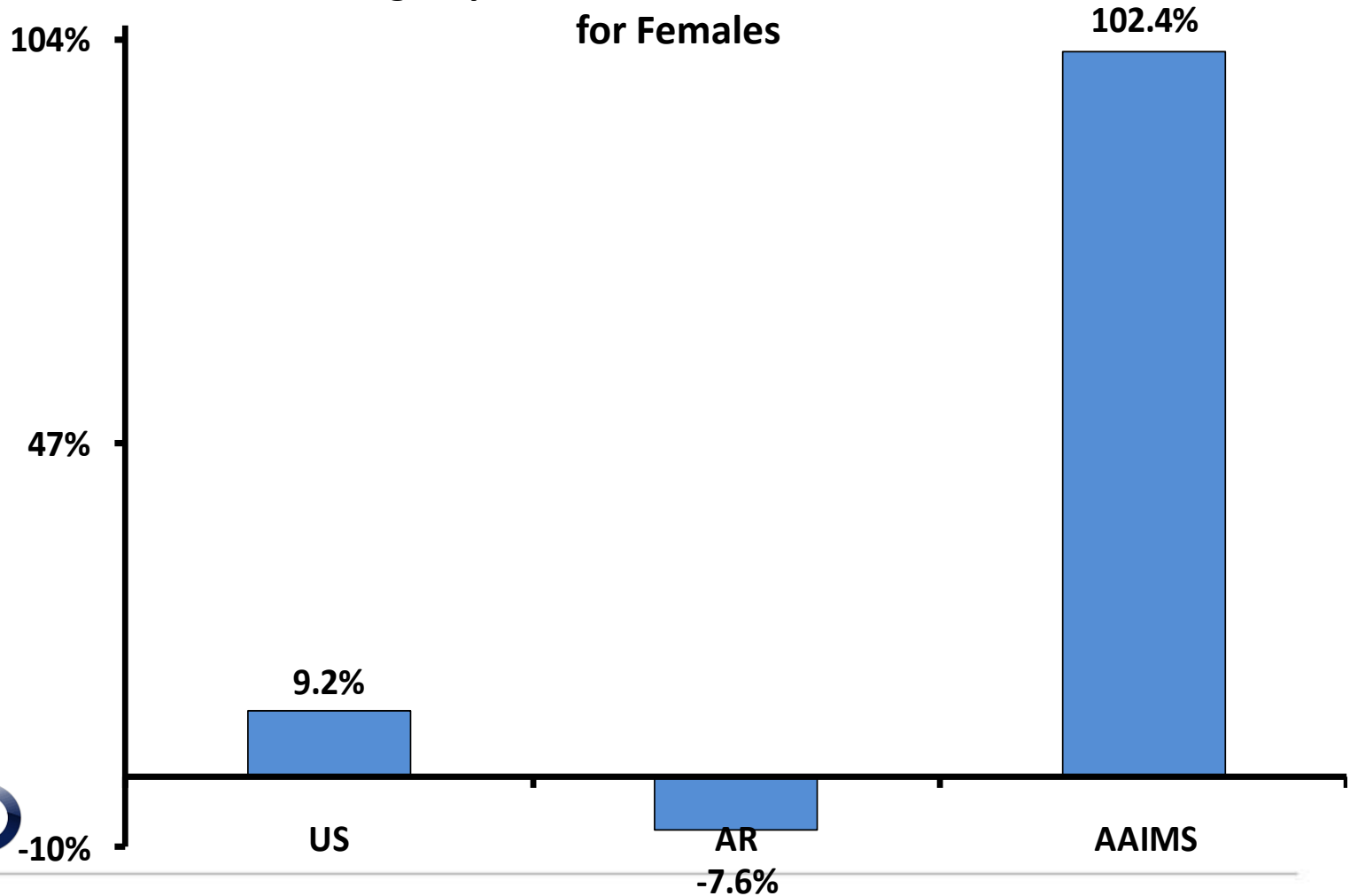
Percentage Increase in scores of 3 or greater in math, science, and English for 10 cohort 1 AAIMS schools from 2008-2010 for African American and Hispanic Students





2-YR INCREASES FOR FEMALES IN MATH AND SCIENCE FOR AAIMS FIRST 10 SCHOOLS FAR EXCEED NATIONAL AND STATE AVGS

Percentage Increase in scores of 3 or greater in math and science
for 10 group 1 AAIMS schools from 2008-2010
for Females



-10%

US

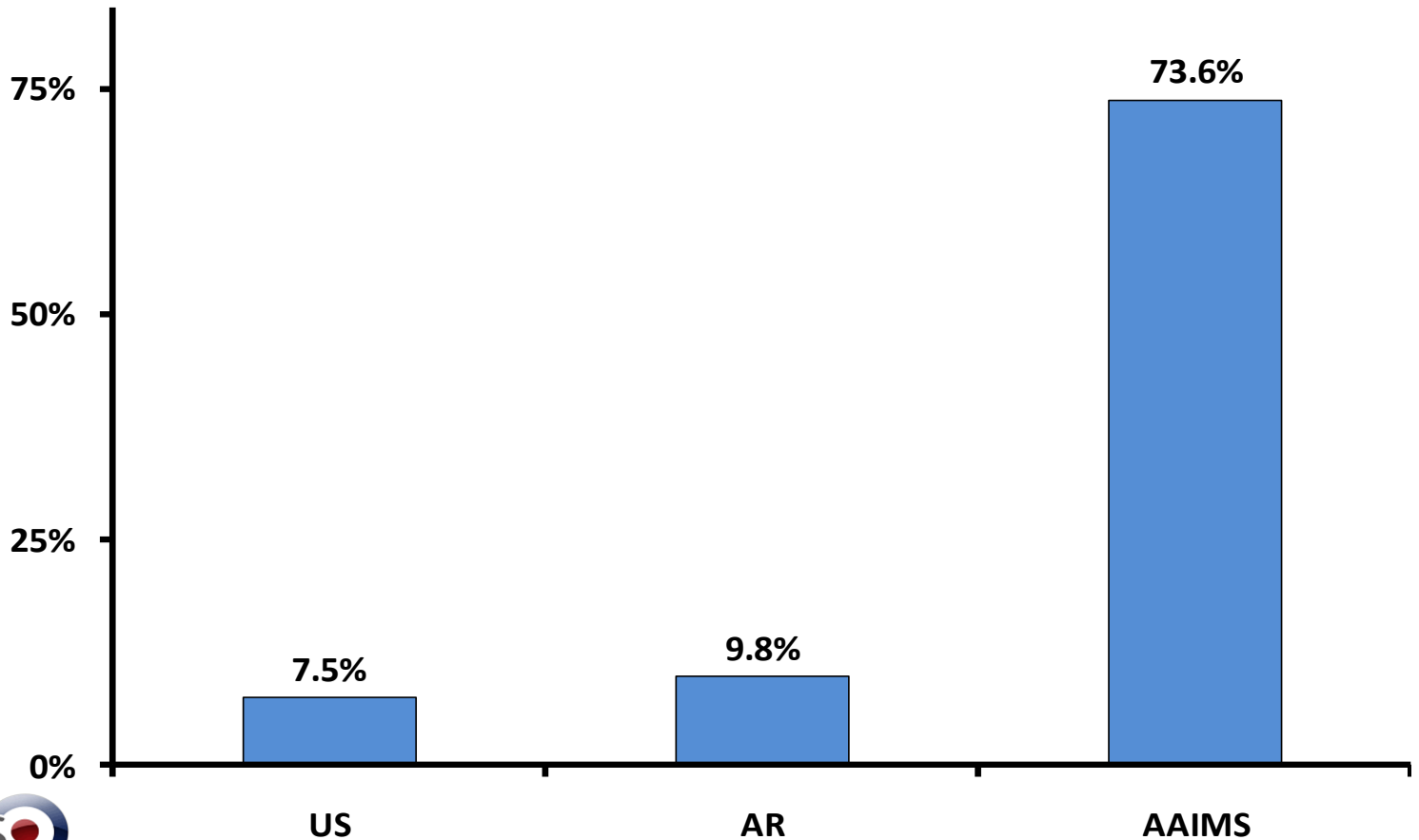
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AAIMS



1-YR INCREASES FOR AAIMS GROUP 2 SCHOOLS FAR EXCEED NATIONAL AND STATE AVGS

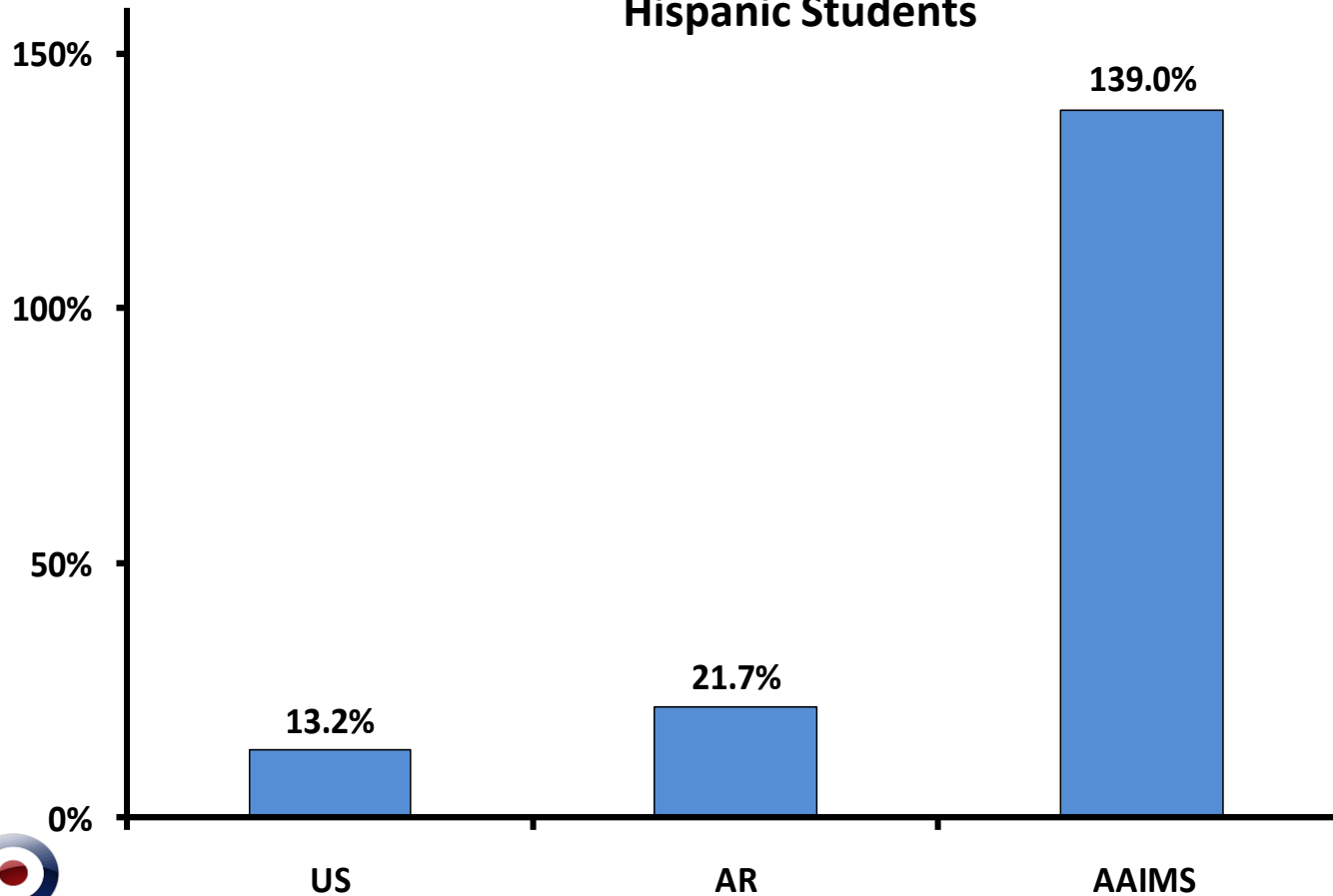
Percentage Increase in scores of 3 or greater in math, science, and English for Group 2 AAIMS schools from 2009-2010





1-YR INCREASES FOR MINORITIES FOR AAIMS GROUP 2 SCHOOLS FAR EXCEED NATIONAL AND STATE AVGS

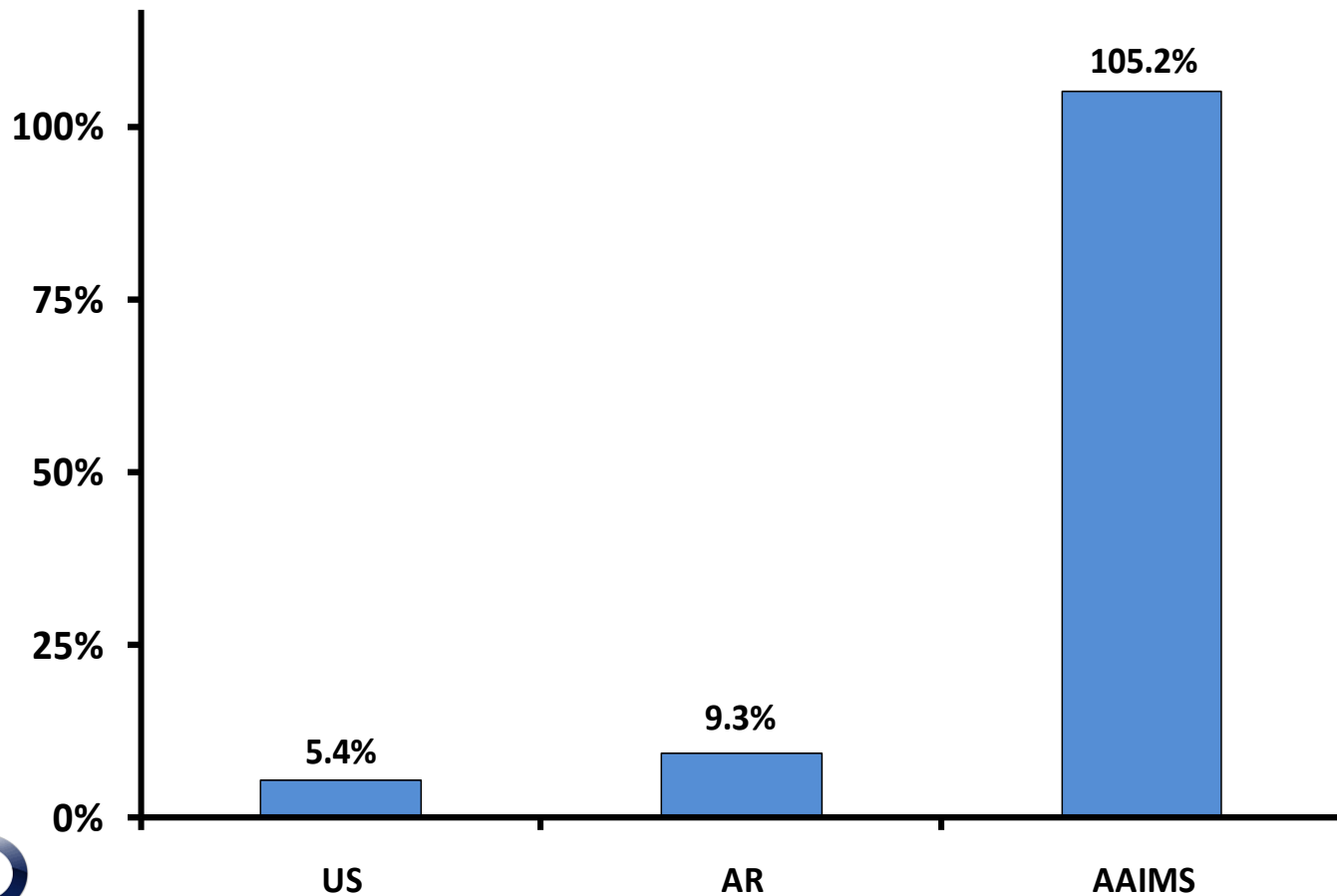
Percentage Increase in scores of 3 or greater in math, science, and English for 14 cohort 2 AAIMS schools from 2009-2010 for African American and Hispanic Students





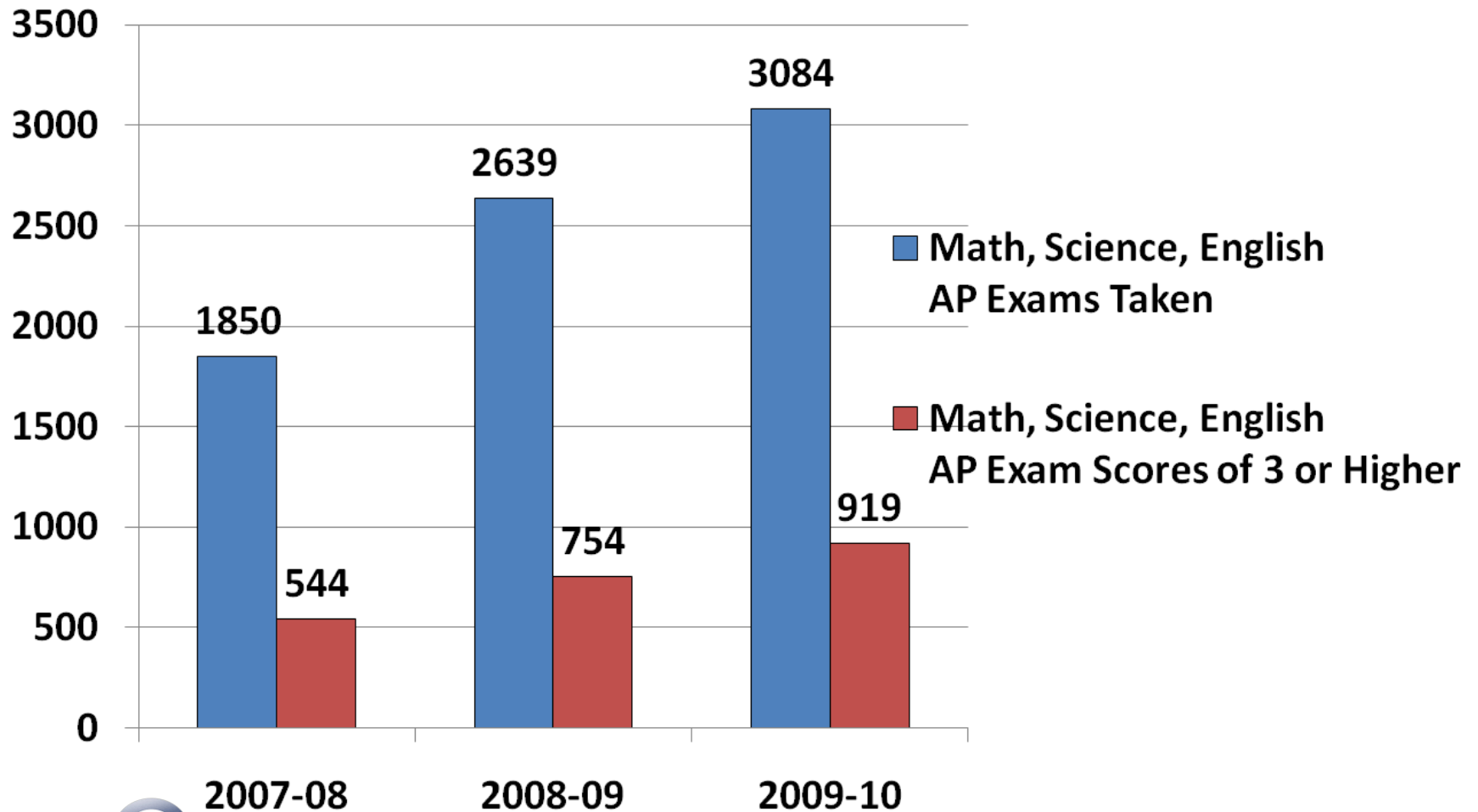
1-YR INCREASES FOR FEMALES IN MATH AND SCIENCE FOR AAIMS Group 2 SCHOOLS FAR EXCEED NATIONAL AND STATE AVGS

Percentage Increase in scores of 3 or greater in math and science
for 14 cohort 2 AAIMS schools from 2009-2010 for Females



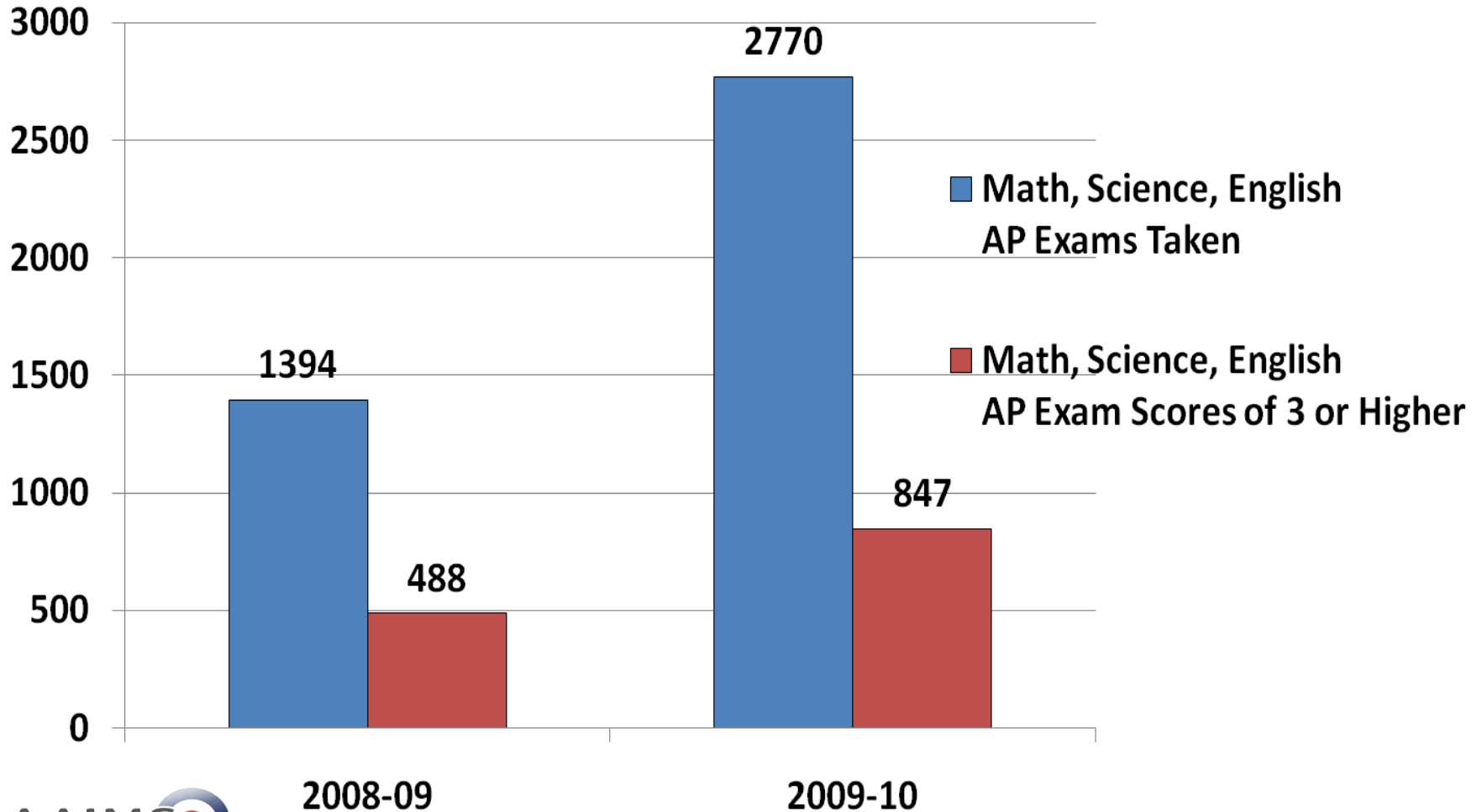


Group 1 Results – All Students





Group 2 Results – All Students





Highlights

The 24 AAIMS schools comprised only eight percent of Arkansas's public high schools reporting qualifying AP math, science, and English scores in 2009-10. Yet they accounted for:

- **71%** of the state's increase for students taking AP math, science, and English exams
- **64%** of the state's increase in scores of 3 or higher for 2009-10





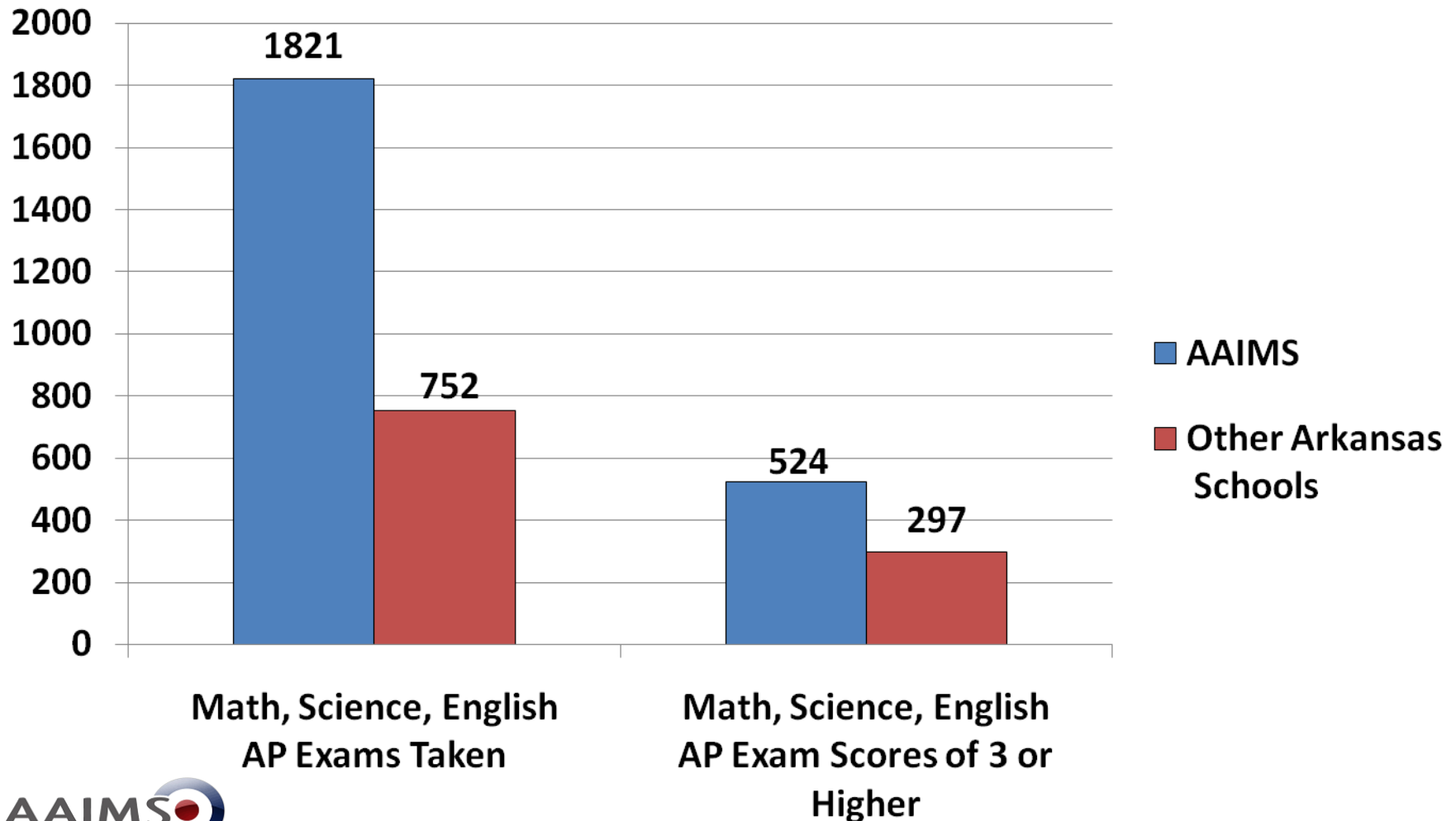
Highlights

- **61%** of the state's increase for minority students taking AP math, science, and English exams
- **75%** of the state's increase in scores of 3 or higher by minority students for 2009-2010



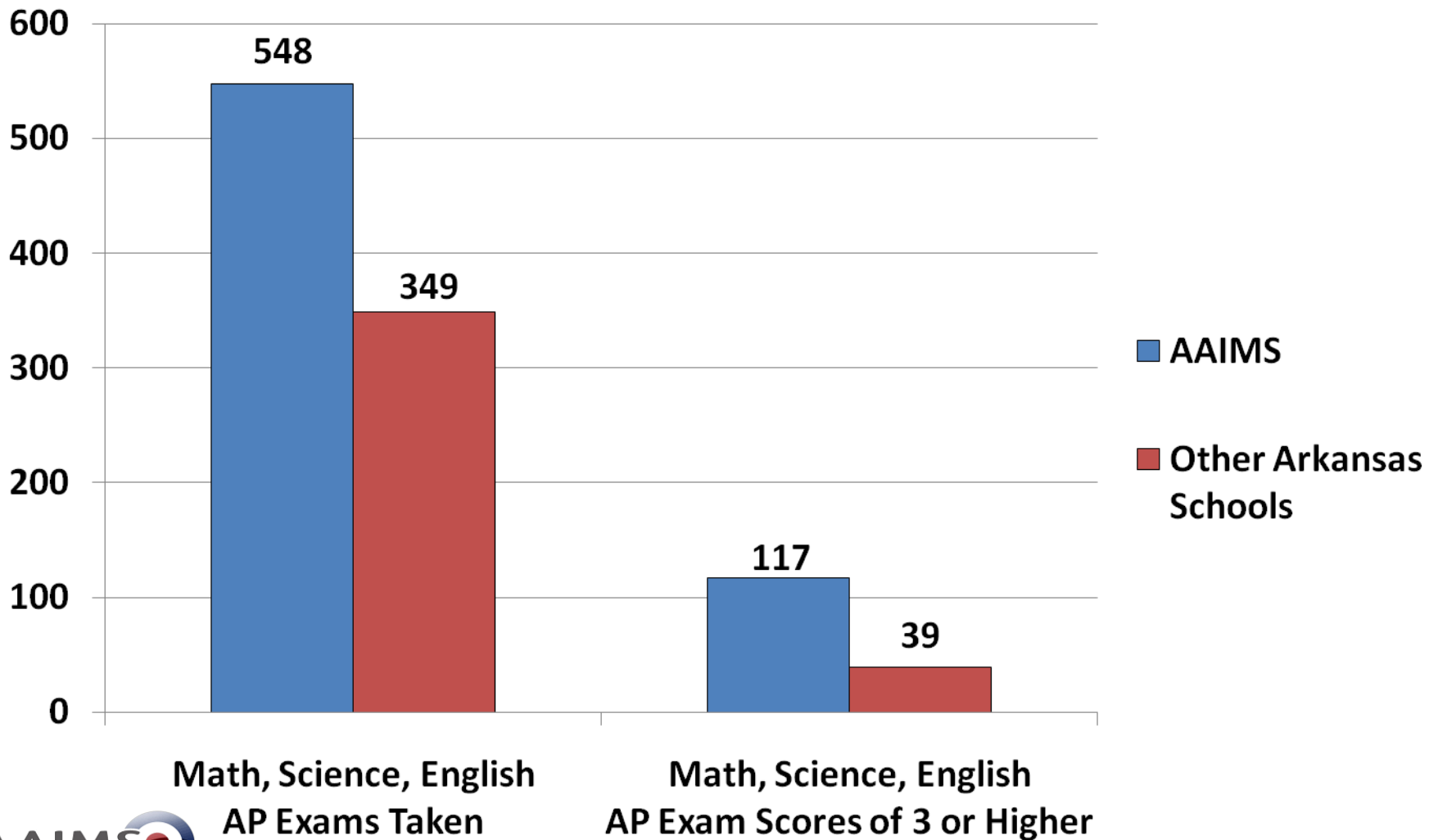


2009 – 2010 All Students' Results





2009 – 2010 Minority Students' Results





Results

- Because of the AAIMS schools, the state of Arkansas ranks **#1** in the United States in 1 year % increases for qualifying scores on AP math and science exams from 2009 to 2010 for all students!





Results

- Because of the AAIMS schools, Arkansas ranks **#1** in the United States in 1 year % increases for qualifying scores on AP math, science, and English exams from 2009-2010 for minority students!





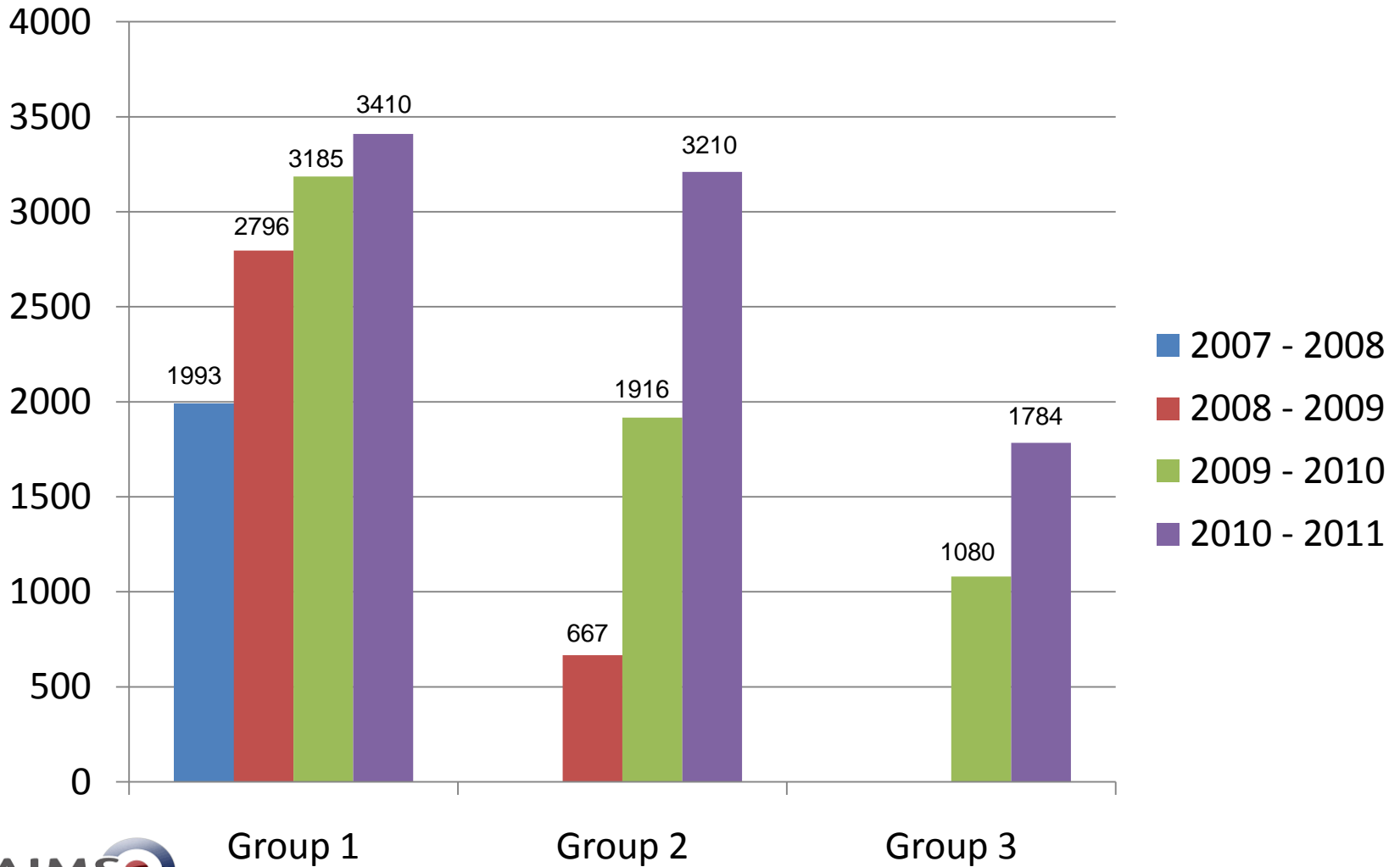
Other Results

- Group 1 schools grew from **50** courses in 2007-08 to **70** courses in 2010-11.
- Group 2 schools grew from **35** courses in 2008-09 to **97** courses in 2010-11.
- Group 3 schools grew from **39** courses in 2009-10 to **51** courses in 2010-11.





AP Enrollment Growth





Other Results

- AAIMS provided 60 hours of professional development to **312** teachers in 2008-09.
- AAIMS provided 60 hours of professional development to **423** teachers in 2009-10.
- AAIMS trained **452** teachers in ***Laying the Foundation*** in 2008, **643** on 2009 and **720** in 2010.





2010-11 AAIMS Profile

- 29 School Districts
- 31 Schools
- 8,404 MSE Student Enrollments
- 234 AP MSE teachers in Program
- 218 AP math, science, and English courses
- \$102,636 Average funding per school
- 3217 Total MSE Qualifying Score Goal for AR in 2011





$$(a - b)^2 = a^2 - 2ab + b^2$$

Arkansas Advanced Initiative for Math & Science, Inc.
Grant Funding & Expenses - Inception through 2011

<u>Funding Sources:</u>	<u>Actual</u> <u>Fiscal Year</u> <u>2007 - 2008</u> <u>Start-Up</u>	<u>Actual</u> <u>Fiscal Year</u> <u>2008 - 2009</u> <u>10 Schools</u>	<u>Actual</u> <u>Fiscal Year</u> <u>2009 - 2010</u> <u>24 Schools</u>	<u>Budget</u> <u>Fiscal Year</u> <u>2010 - 2011</u> <u>31 Schools</u>
National Initiative for Math & Science	\$540,000	\$1,288,814	\$2,430,073	\$2,839,225
Private Sector Funds:				
Walton Family Foundation		265,660	269,682	413,335
Winthrop Rockefeller Foundation			35,000	65,000
<u>Total Private Sector Funds:</u>	0	265,660	304,682	478,335
<u>Total AAIMS Grant Funding:</u>	\$540,000	\$1,554,474	\$2,734,755	\$3,317,560

<u>Fund Expenses:</u>				
Administration & Operations:	\$468,187	\$855,829	\$919,167	\$1,107,003
Direct School Programs:	10,000	795,419	1,912,221	3,181,725
<u>Total AAIMS Grant Expenses:</u>	\$478,187	\$1,651,248	\$2,831,388	\$4,288,728



Additional Required Matching Funds

- 2010 – 2011 \$288,415
- 2011 – 2012 \$899,685
- 2012 – 2013 \$1,857,992

- **TOTAL FUNDS NEEDED \$3,046,092**



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AAIMS is carrying out the
recommendations of
Rising Above the Gathering Storm.

We are making a difference!

