



# Improving Achievement and Closing Gaps: What Parent Leaders Can Do

**Tonya Miles, National Assessment Governing Board**

National PTA Convention | June 21, 2012

# In Addition to Asking, *Are Our Students Doing Well?*...

We need to ask the bigger question:

★ *Is it good enough to get them where we want them to go?*

# Questions We Will Explore Together:

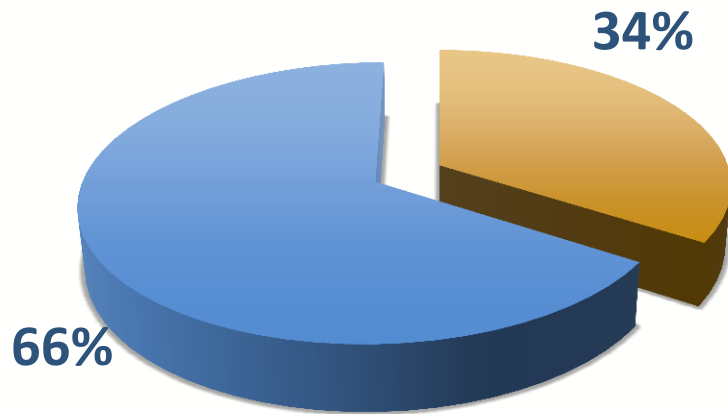
- ★ **Do We Have an Achievement Crisis in the U.S.?**
- ★ **What Is The Nation's Report Card/NAEP?**
- ★ **What Does NAEP Say About Student Achievement and Achievement Gaps?**
- ★ **Is NAEP Relevant to Parent Leaders?**
- ★ **What Can Parent Leaders Do About Improving Achievement and Closing Gaps?**

# **Do We Have an Achievement Crisis in the United States?**

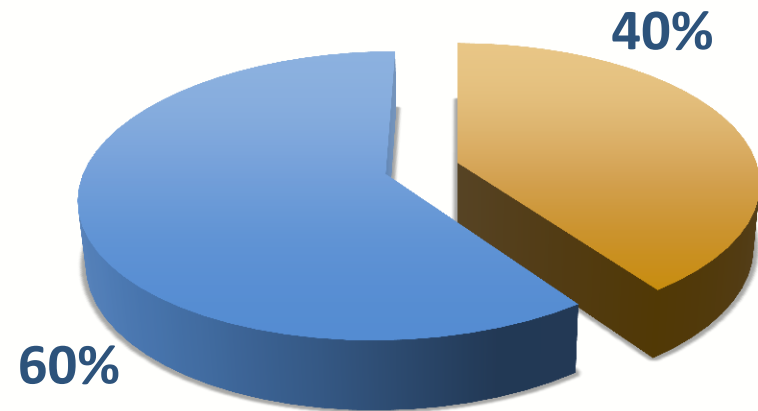




# Is Grade 4 Achievement Nationally Good Enough?

## Reading, Grade 4



## Mathematics, Grade 4



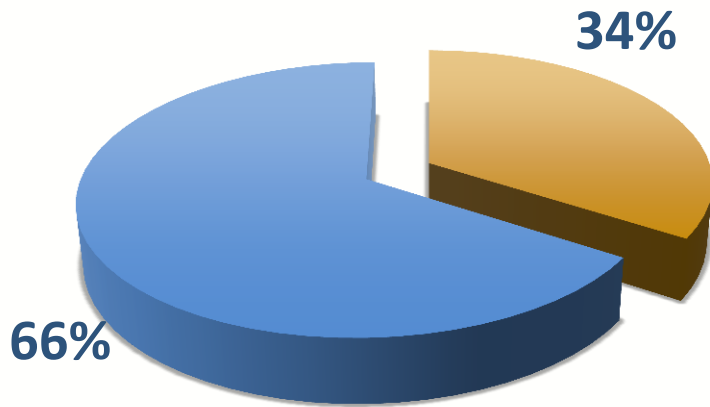
-  At or above *Proficient*
-  Below *Proficient*

Source: NAEP Data Explorer, 2011

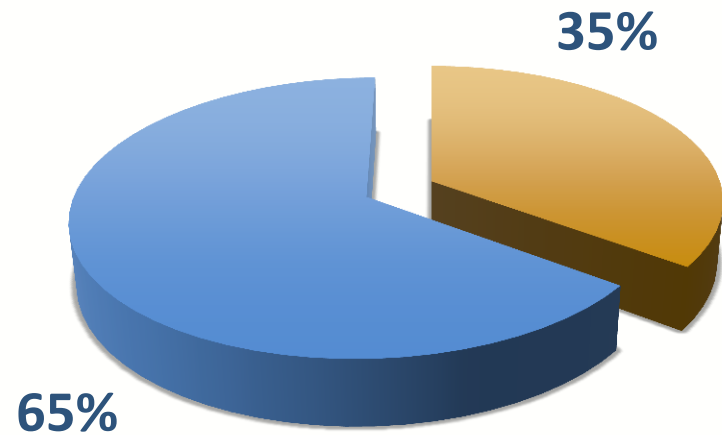


# Is Grade 8 Achievement Nationally Good Enough?

## Reading, Grade 8



## Mathematics, Grade 8



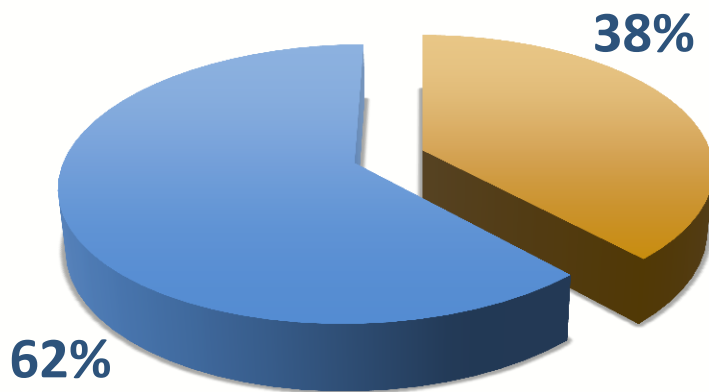
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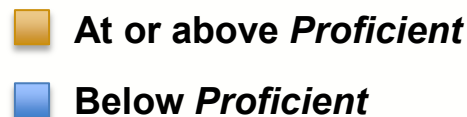
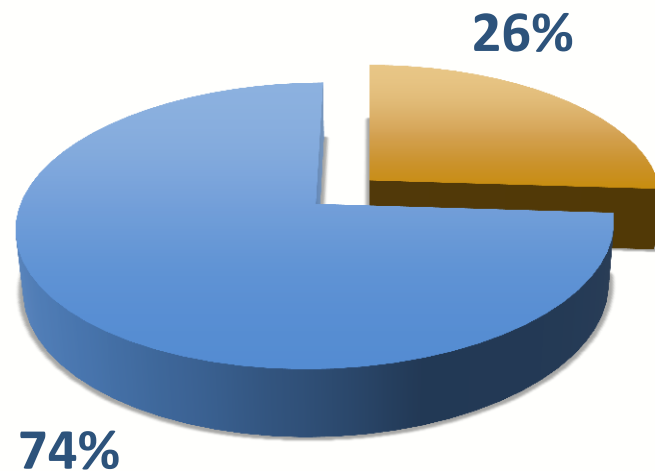


# Is Grade 12 Achievement Nationally Good Enough?

## Reading, Grade 12



## Mathematics, Grade 12

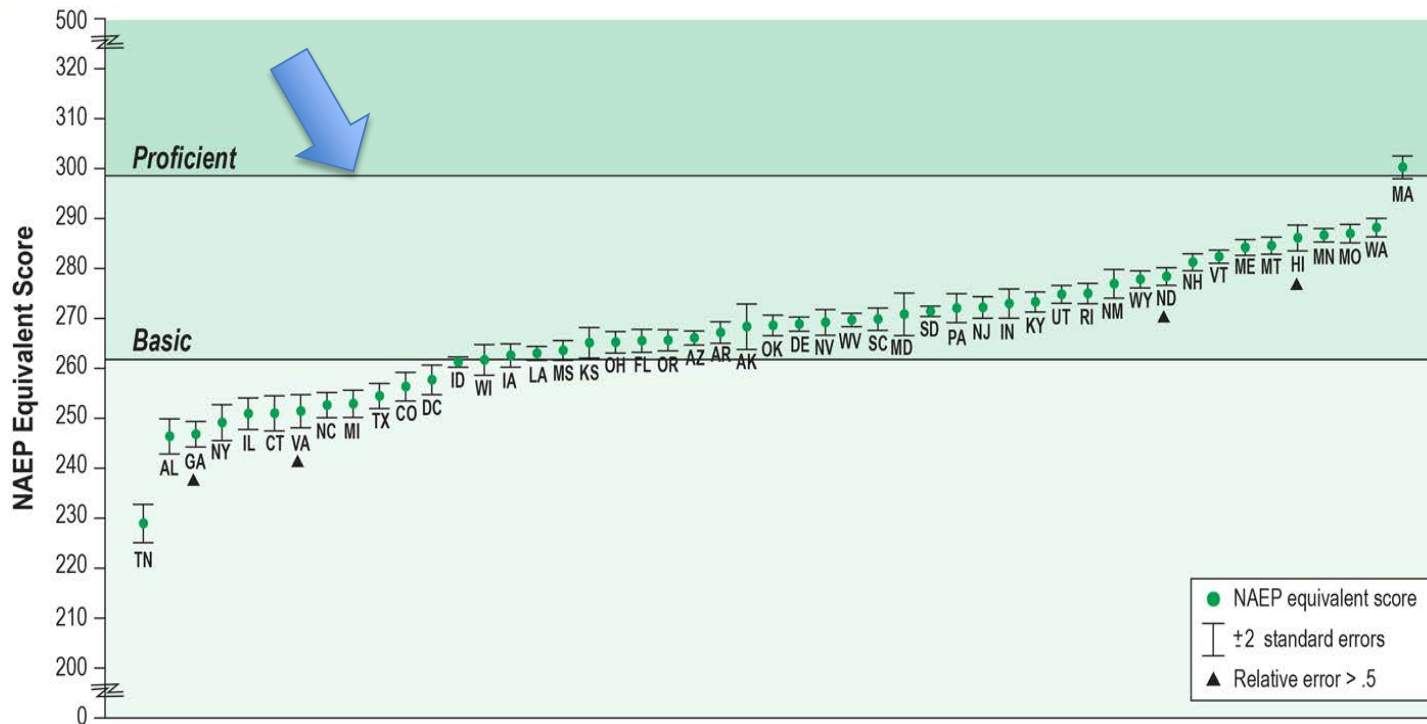


Source: NAEP Data Explorer, 2009



# Standards for “Good Enough” Vary Across States

## State Standards for Proficient Arrayed on NAEP Scale Mathematics, Grade 4



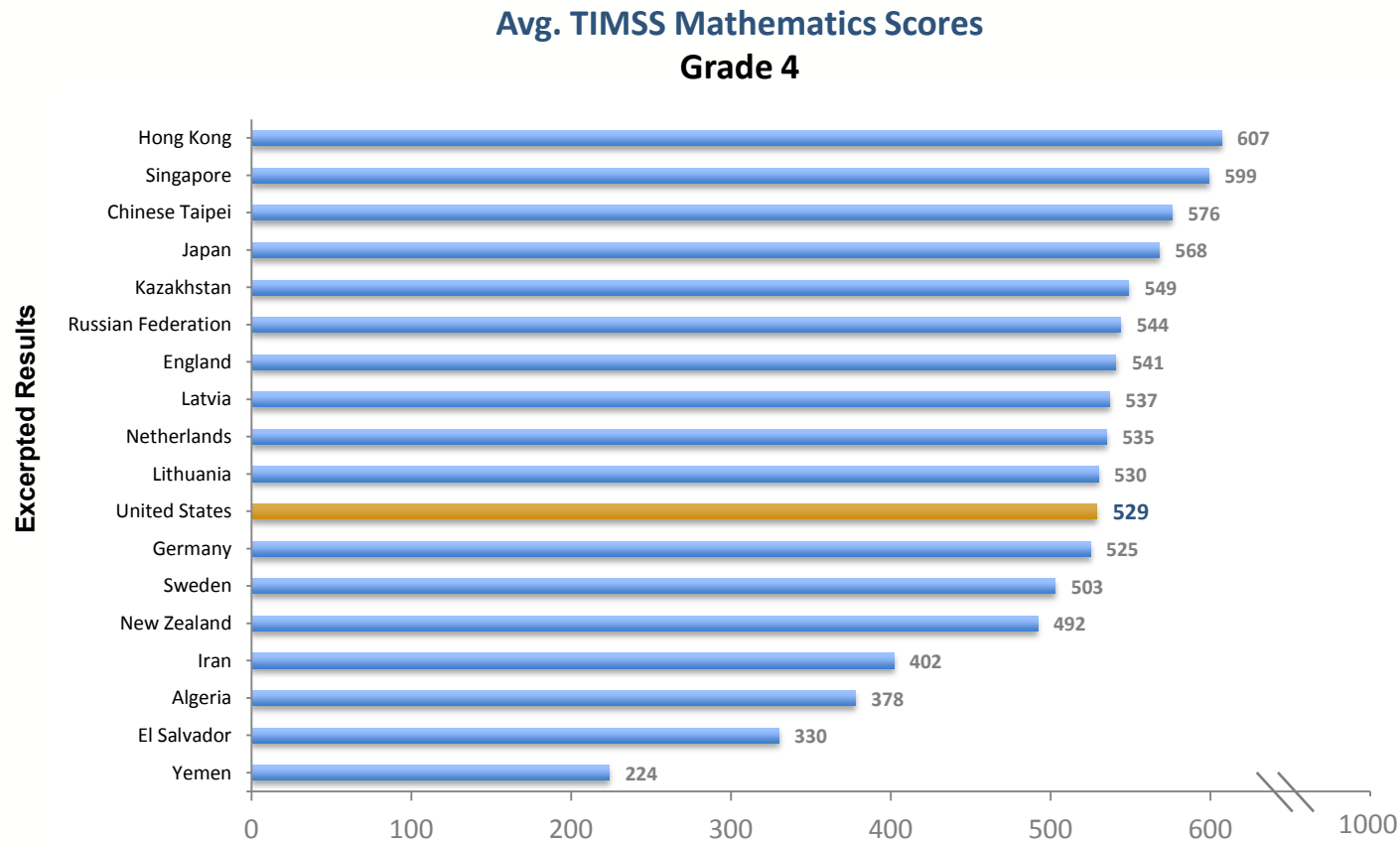
Source: 2009 NAEP State Mapping Study





# U.S. Student Achievement Falls Behind That of Students in Other Countries

★ At **grade 4**, U.S. students scored **70–78 points lower** in math on TIMSS than students in the top-scoring countries.



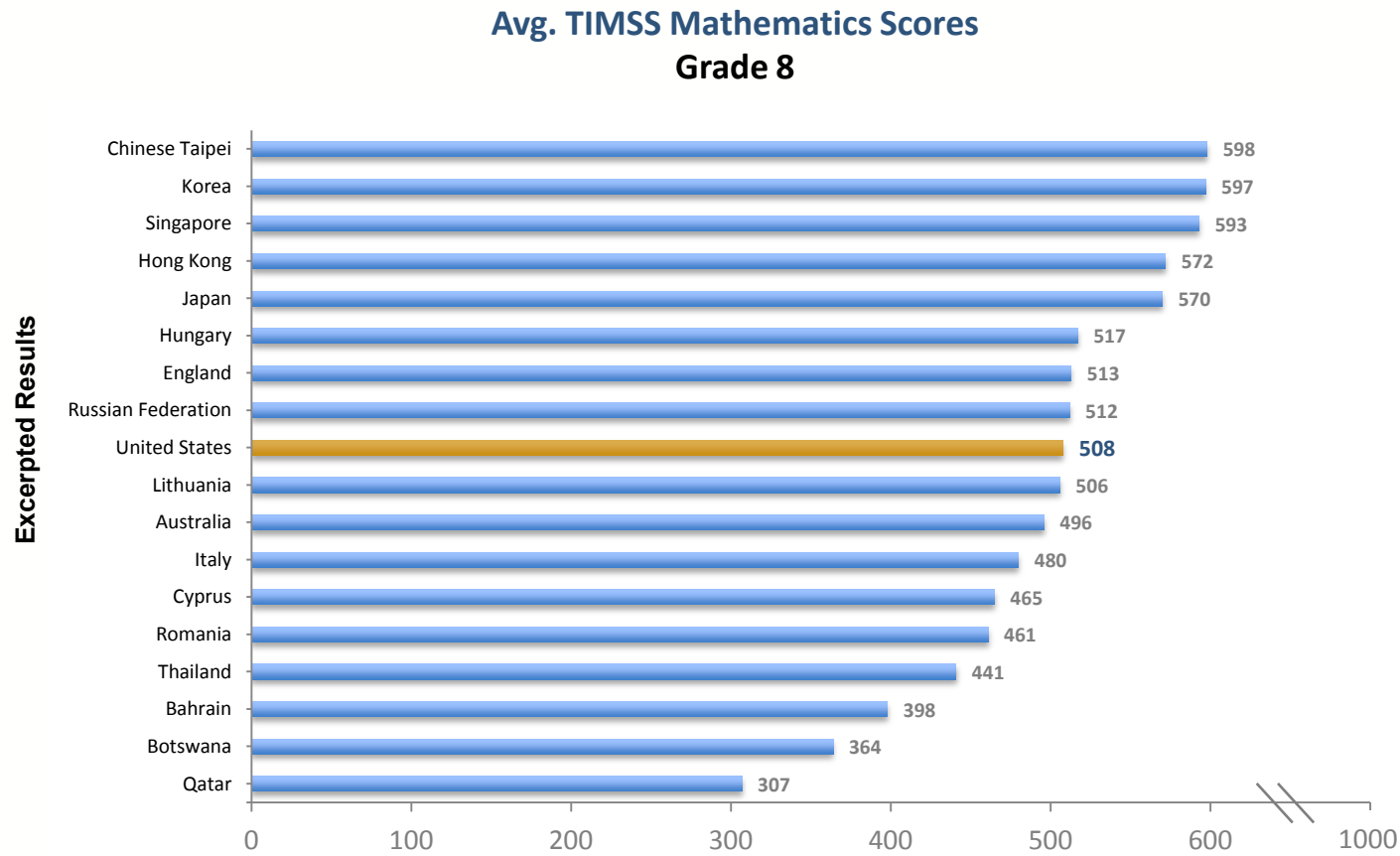
Source: TIMSS, 2007

TIMSS Avg. Score: 2007



# U.S. Student Achievement Falls Behind That of Students in Other Countries

★ At **grade 8**, U.S. students scored about **90 points lower** in math on TIMSS than students in the top-scoring countries.



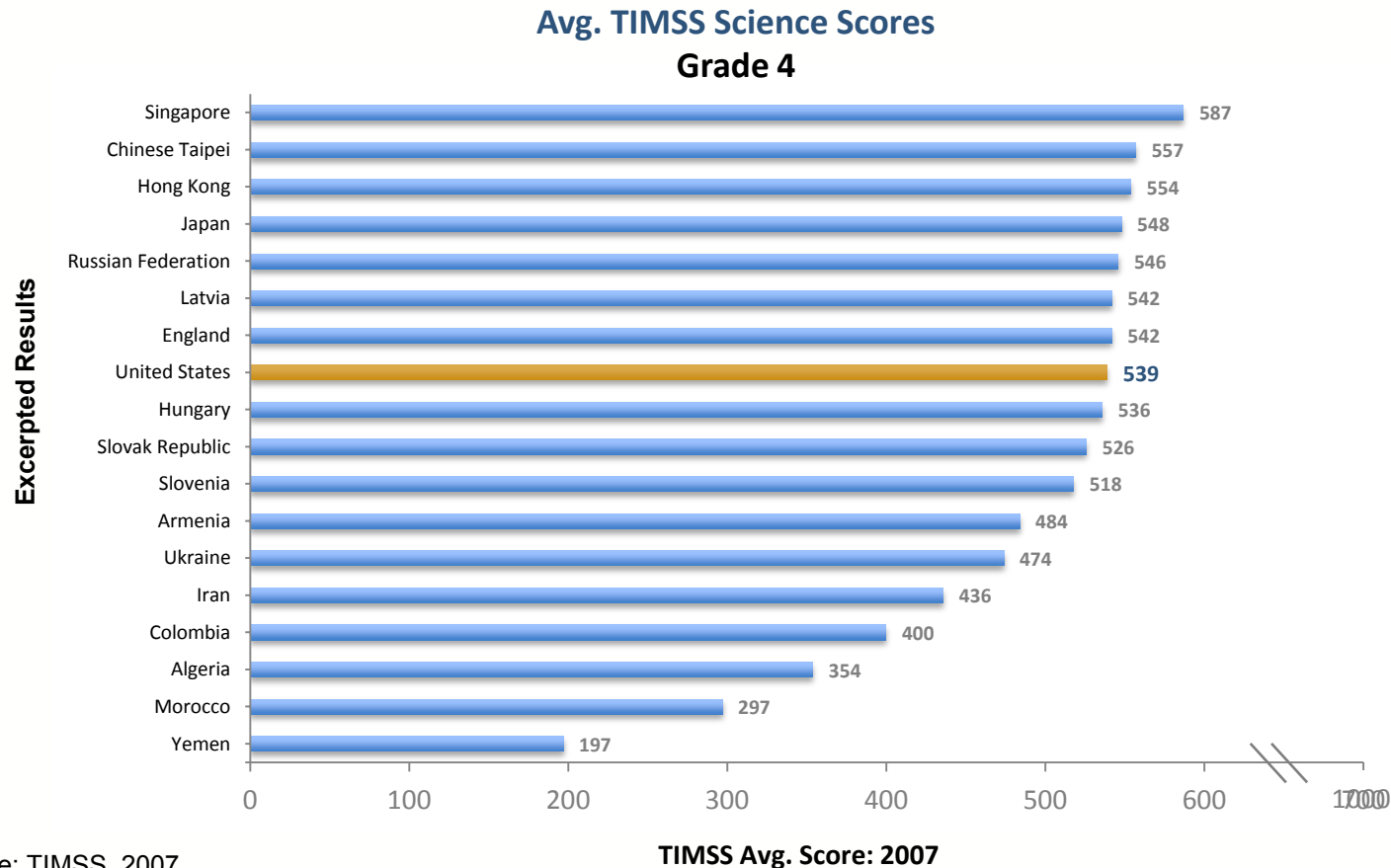
Source: TIMSS, 2007

TIMSS Avg. Score: 2007



# U.S. Student Achievement Falls Behind That of Students in Other Countries

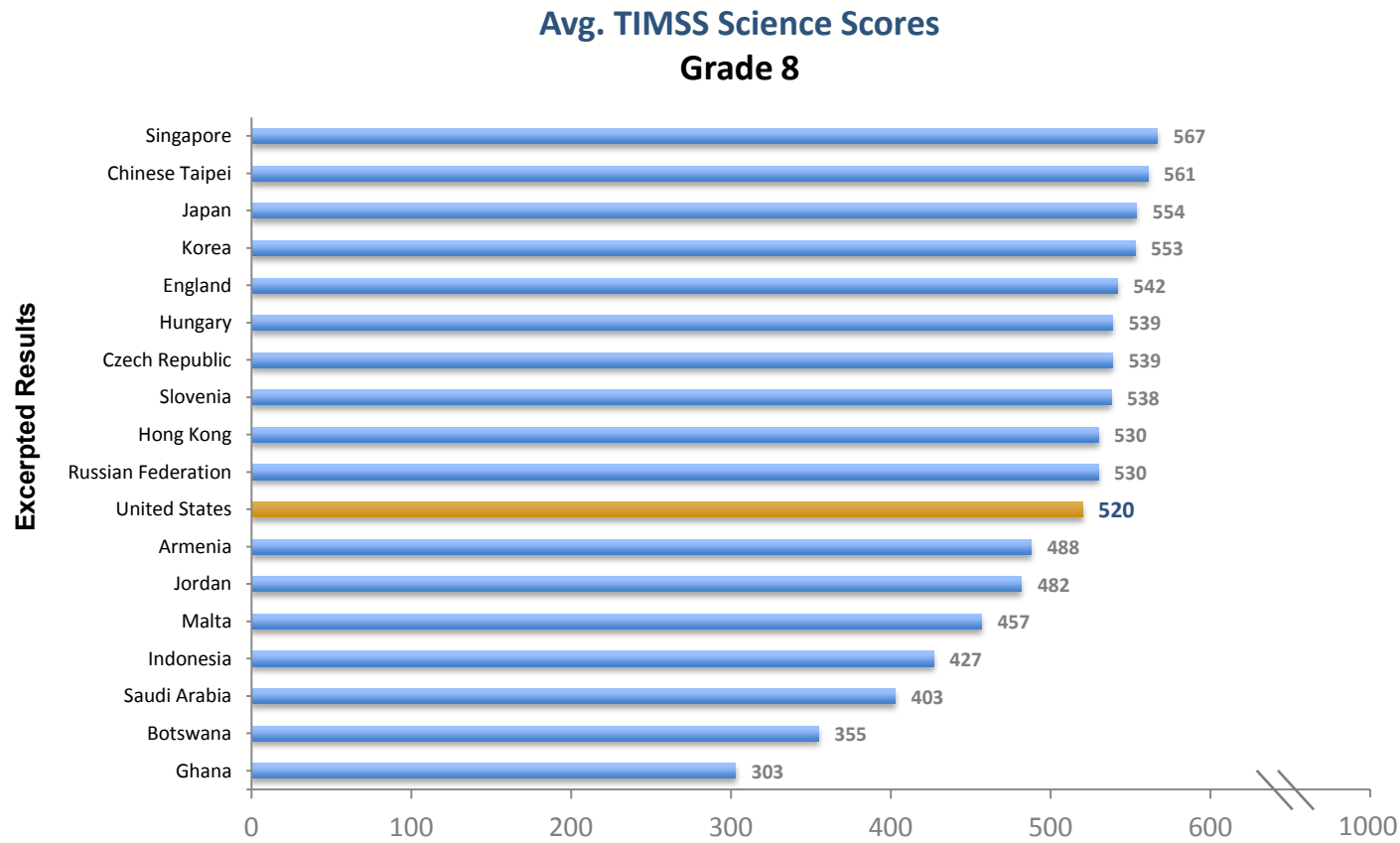
- ★ At **grade 4**, U.S. students **scored significantly lower** in science on TIMSS than students in other tested countries.



Source: TIMSS, 2007

# U.S. Student Achievement Falls Behind That of Students in Other Countries

- ★ At **grade 8**, U.S. students **scored significantly lower** in science on TIMSS than students in other tested countries.



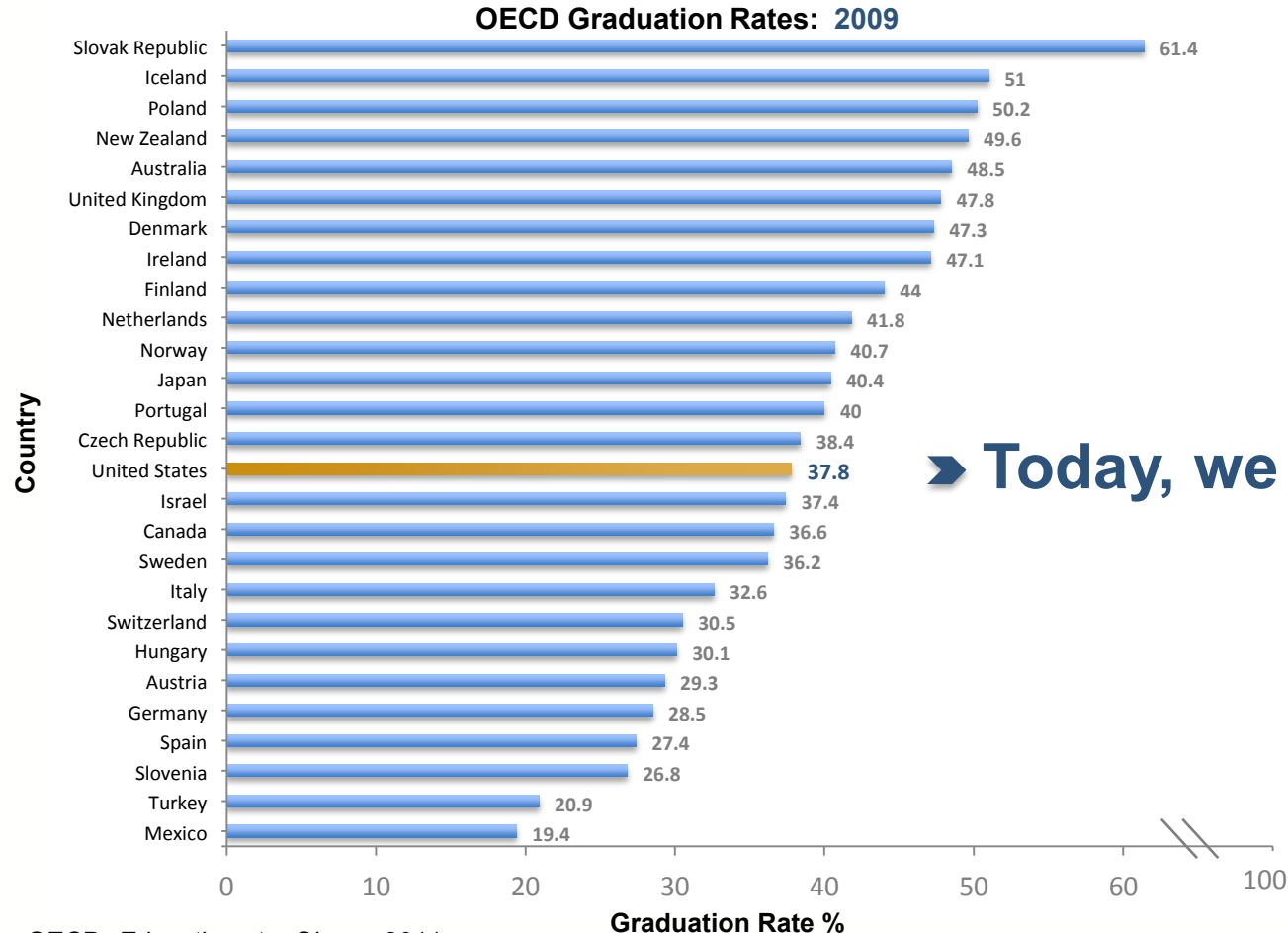
Source: TIMSS, 2007

TIMSS Avg. Score: 2007



# The U.S. Has Fallen Behind Other Countries in College Graduation Rates

★ In 1995, the United States ranked 1<sup>st</sup> internationally in college graduation rates.



Source: OECD, *Education at a Glance 2011*

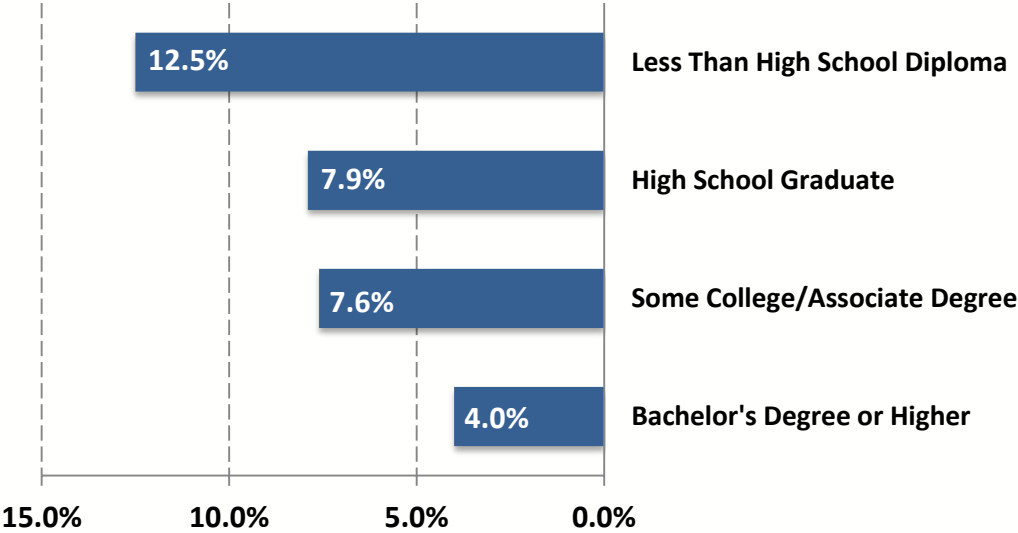
# Are Our Students Being Prepared to Help the Nation Compete in the Global Economy?

## Low Achievement Has Far-Reaching Implications:

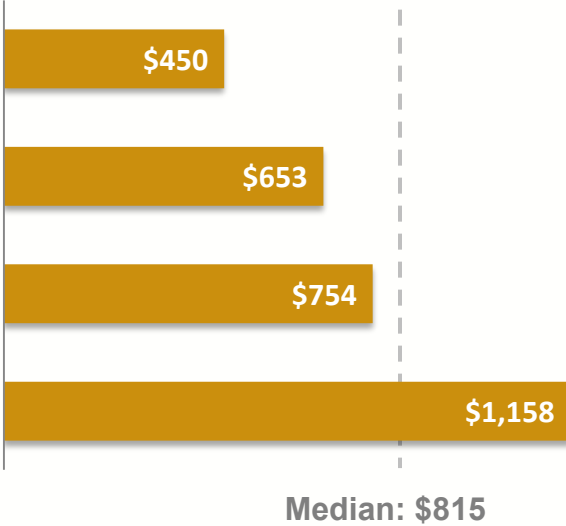
- ★ For the nation's prosperity and national security
- ★ For each individual's opportunity
- ★ For an engaged and informed society

# Education Level Is Related to Employment and Earnings

### Unemployment Rate



### Median Weekly Earnings



Source: U.S. Department of Labor, Bureau of Labor Statistics, April 2012



# Higher Levels of Education and Training Are Essential for Individual Prosperity

- ★ **17** of the **30** fastest-growing occupations require some form of postsecondary education.
- ★ Occupations with some of the most job openings—including booming healthcare occupations—usually require an associate degree or postsecondary vocational award.
- ★ Individuals without a high school diploma are about **three times** more likely to be unemployed than college graduates.
- ★ College graduates' median earnings are more than **2.5 times** greater than those of their peers without high school diplomas.

Source: U.S. Department of Labor, Bureau of Labor Statistics, 2011





# The Nation's Demographics Are Changing

- ★ Since 1990, the nation's fourth-grade minority population in public schools has increased from approximately **25%** to **46%**; demographers predict this trend will continue.

	1990	2003	2011
White	75%	60%	54%
Black	18%	17%	15%
Hispanic	6%	18%	22%
Asian/Pacific Islander	1%	4%	5%
American Indian/Alaska Native	1%	1%	1%
Two or More Races	#*	1%	2%

\*Rounds to zero.

Source: The Nation's Report Card: Mathematics, 2011

Note: Detail may not sum to totals because of rounding.



# Racial/Ethnic Disparities Have Far-Reaching Consequences

- ★ Hispanic and African-American students are at elevated risk of **dropping out** and requiring academic **remediation** in postsecondary institutions.
- ★ Hispanic and African-American workers are disproportionately **unemployed**.
- ★ Their average wages are lower than those of white workers.
  - Hispanic workers earn an average of **\$226** less per week than white workers.
  - African-American workers earn an average of **\$158** less per week than white workers.

Source: U.S. Department of Labor, Bureau of Labor Statistics, April 2012



# A Solid Education Is Essential for Citizens to Weigh Important Public Issues in a Democracy

★ *“I believe that we are at a critical point in our nation’s history.... We cannot afford to continue to neglect the preparation of future generations for active and informed citizenship.”*

– The Honorable Sandra Day O’Connor

★ *“...Success in educational attainment....must be gauged by how well the next generation of Americans is prepared to solve collective problems creatively and collaboratively.”*

– U.S. Department of Education

Sources: Sandra Day O’Connor on NAEP 2010 Civics results; U.S. Dept. of Education, “Advancing Civic Learning and Engagement in Democracy,” 2012



***“ We must simultaneously raise the achievement of all students, while closing gaps in achievement between different groups of students.... We cannot allow this to continue or our nation will pay the price socially and economically.”***

**– U.S. Secretary of Education Arne Duncan**

# What Is The Nation's Report Card/NAEP?



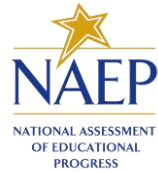
# NAEP: National Assessment of Educational Progress The Gold Standard ★ The Truth-Teller



The   
Nation's  
Report Card



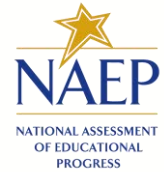
# The Assessment Landscape



NAEP  
Grade 4



NAEP  
Grade 8



NAEP  
Grade 12

**K-12 Education**

State Assessment  
Grades 3 – 8

SAT/ACT  
Grade 11

State  
Assessment  
Grade 11



SAT<sup>®</sup>  
ACT<sup>®</sup>

# What Does NAEP Measure?

Assesses what students know and can do:

## SUBJECTS

Reading, Mathematics, Writing,  
Science, U.S. History, Civics,  
Geography, Economics, the Arts,  
Technology and Engineering Literacy,  
Foreign Language

## GRADES

4, 8, and 12

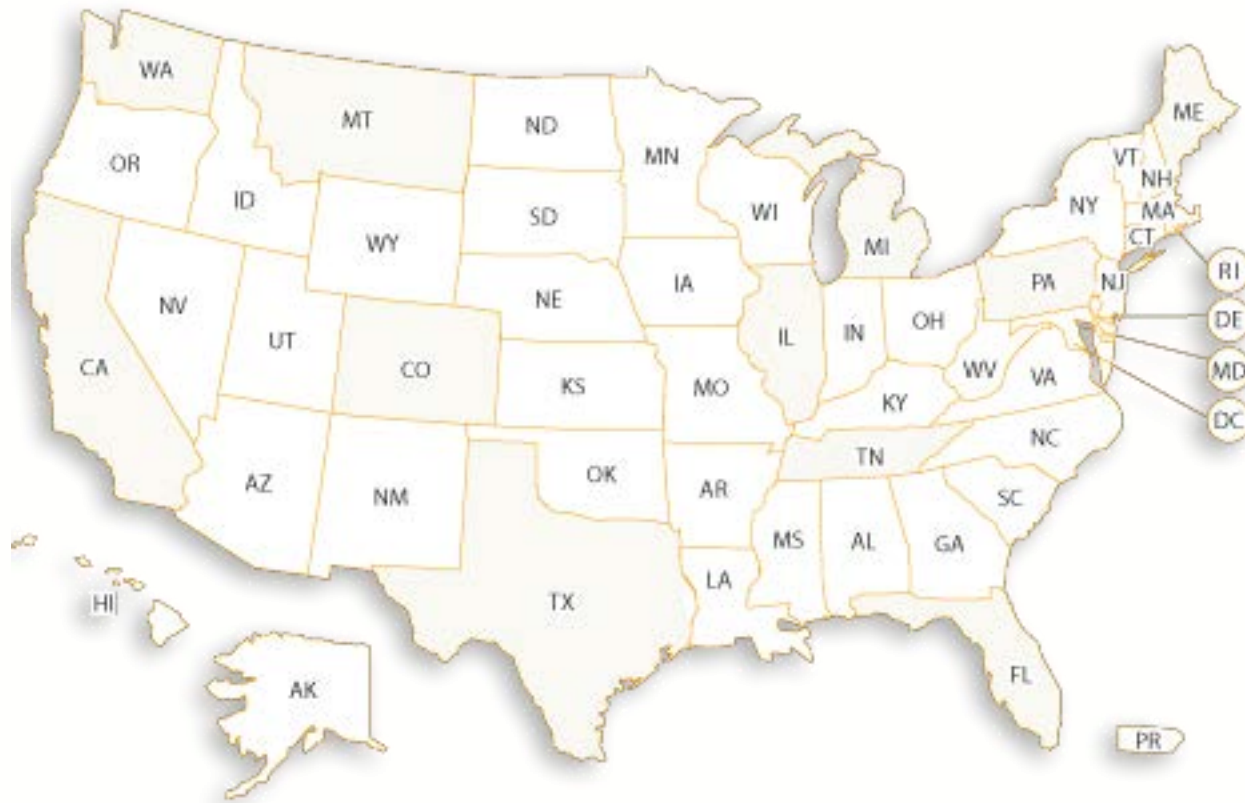
## RESULTS

Student Achievement Data for the  
– Nation  
– States  
– 21 Urban Districts



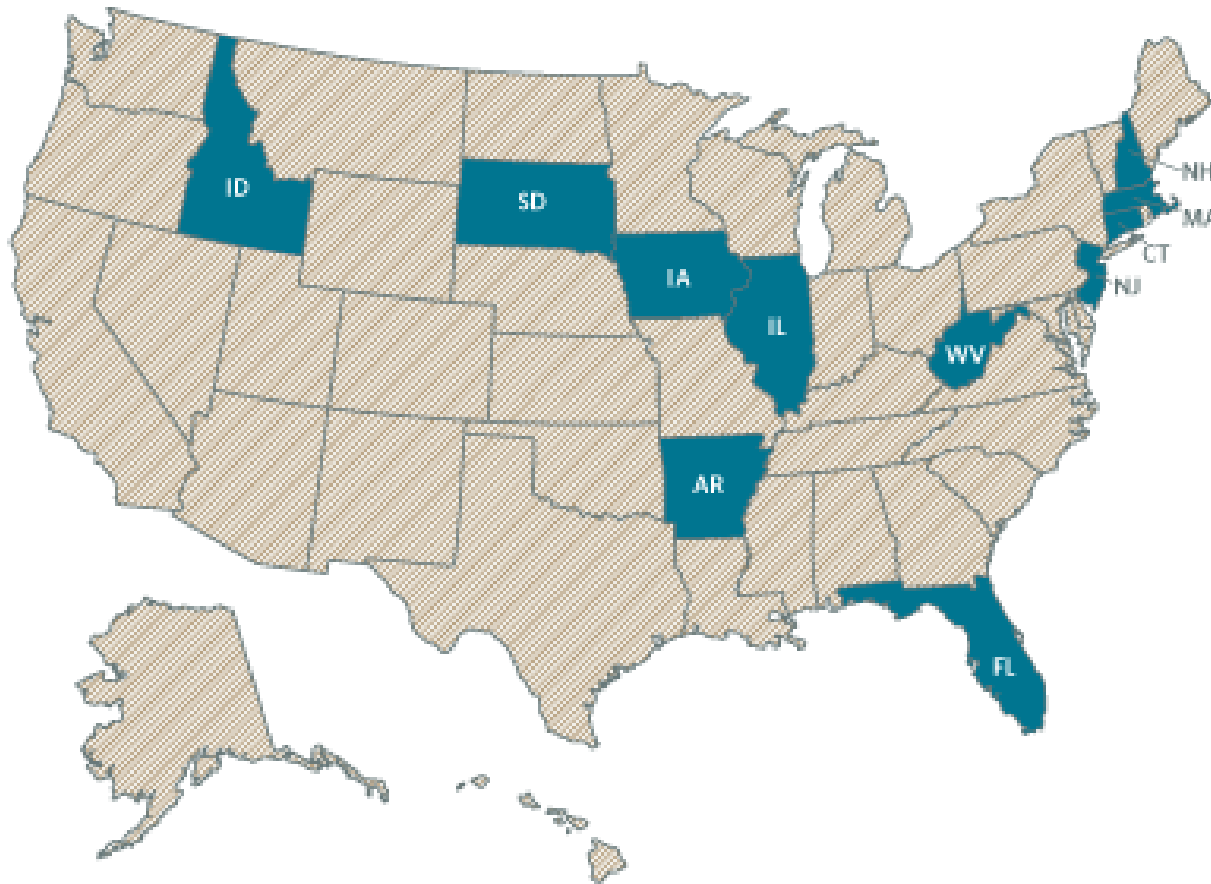
# Who Does NAEP Test?

- ★ NAEP tests representative samples of students from **all 50 states**, the District of Columbia, Puerto Rico, and Department of Defense schools.



# 12<sup>th</sup> Grade NAEP: Participating States

★ In 2009, NAEP tested 12<sup>th</sup> graders in 11 pilot states.



## Participating States: 2009

- ★ Arkansas
- ★ Connecticut
- ★ Florida
- ★ Idaho
- ★ Illinois
- ★ Iowa
- ★ Massachusetts
- ★ **Michigan** (*New in 2013*)
- ★ New Hampshire
- ★ New Jersey
- ★ South Dakota
- ★ **Tennessee** (*New in 2013*)
- ★ West Virginia

# NAEP Trial Urban District Assessment (TUDA): Participating Districts

★ NAEP tests students in **21 urban districts** across the country.

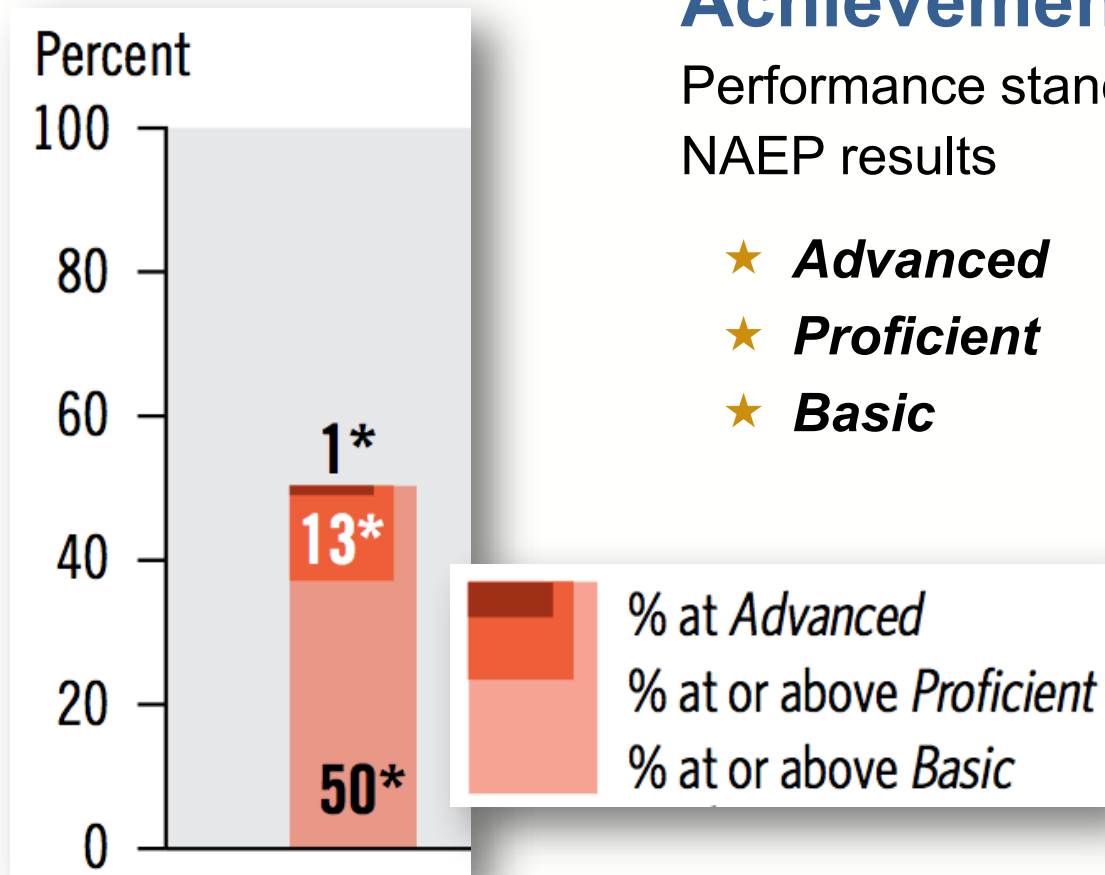


# How Does NAEP Report?

## Achievement Levels:

Performance standards for reporting NAEP results

- ★ *Advanced*
- ★ *Proficient*
- ★ *Basic*



# What is *Proficient* on NAEP?

***Proficient*** on NAEP denotes solid academic performance, competency over challenging subject matter, and the ability to apply knowledge to real-world situations.

★ NAEP's standard for ***Proficient*** is very rigorous.

# What Can a Student Performing at or Above Proficient Do?

## Reading, Grade 4

**Locate and provide information in support of the text idea:**

The article describes male emperor penguins as “tough.” Give two pieces of information from the article that show that male emperor penguins are tough.



### **Daddy Day Care**

*Antarctica's ultimate stay-at-home dads*

*by Ruth Musgrave*

When you think “tough,” you may think of sharks, grizzly bears, or professional wrestlers, but you probably don’t think of male penguins. Emperor penguins may not look it, but the males are tough enough to take on the deadly Antarctic winter and survive.

And they do it—without eating—while taking care of the eggs! When other animals head north in March to avoid the Antarctic winter, emperor penguins head south.

Antarctica is surrounded by a huge mass of sea ice in the winter. This ice floats on the ocean in the southernmost part of the Earth. Harsh and frigid, it is here where emperor penguins choose to mate and lay their eggs.

All the other animals, even other penguins, leave months before the Antarctic winter sets in. The only living things left above the ice are the emperors and the humans watching them.

(Excerpt of reading passage)



Sample student response:

They stay with an egg for a whole month without food. During the winter, the nearest open water could be 50 mi from the rookery.

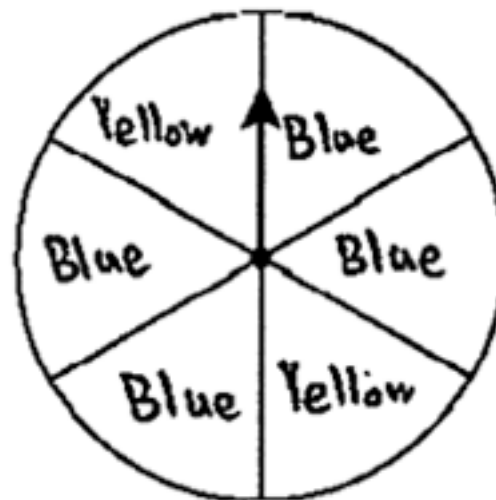
# What Can a Student Performing at or Above Proficient Do?

## Mathematics, Grade 8

### *Label a spinner for a given probability:*

The circular spinner shown is divided into 6 congruent sectors. The sectors are yellow or blue.

Label each of the sectors either yellow (Y) or blue (B) so that the probability of spinning the arrow once and landing on yellow is  $\frac{1}{3}$ .



$$\frac{1}{3} = \frac{2}{6}$$

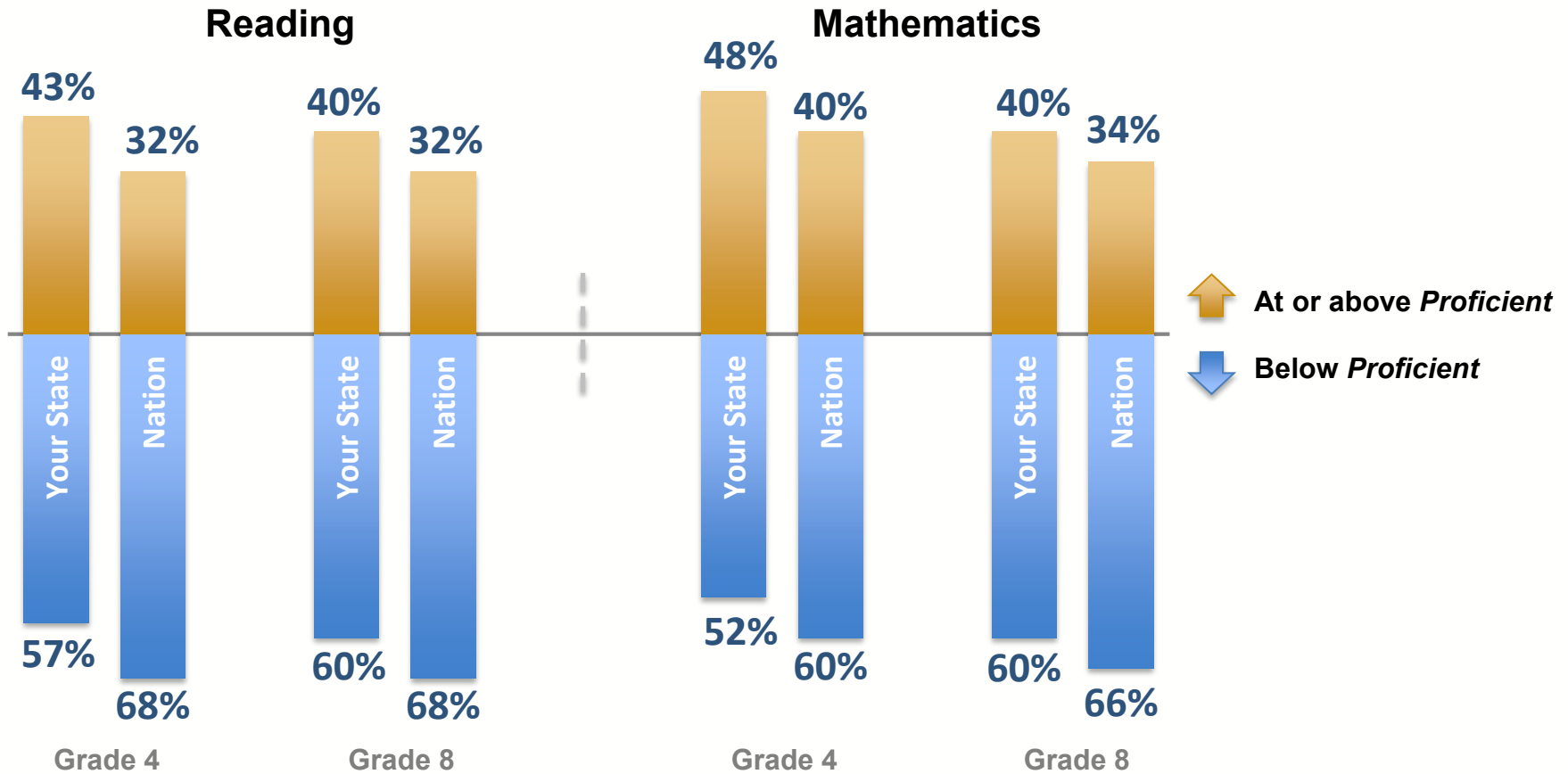
Sample correct student response

# What Does NAEP Say About Student Achievement and Achievement Gaps?



# What Percent of Students in Your State Are Performing at or Above *Proficient* on NAEP? Is This *Good Enough*?

**Percent at or Above *Proficient***  
Your State and Nation (Public), 2011



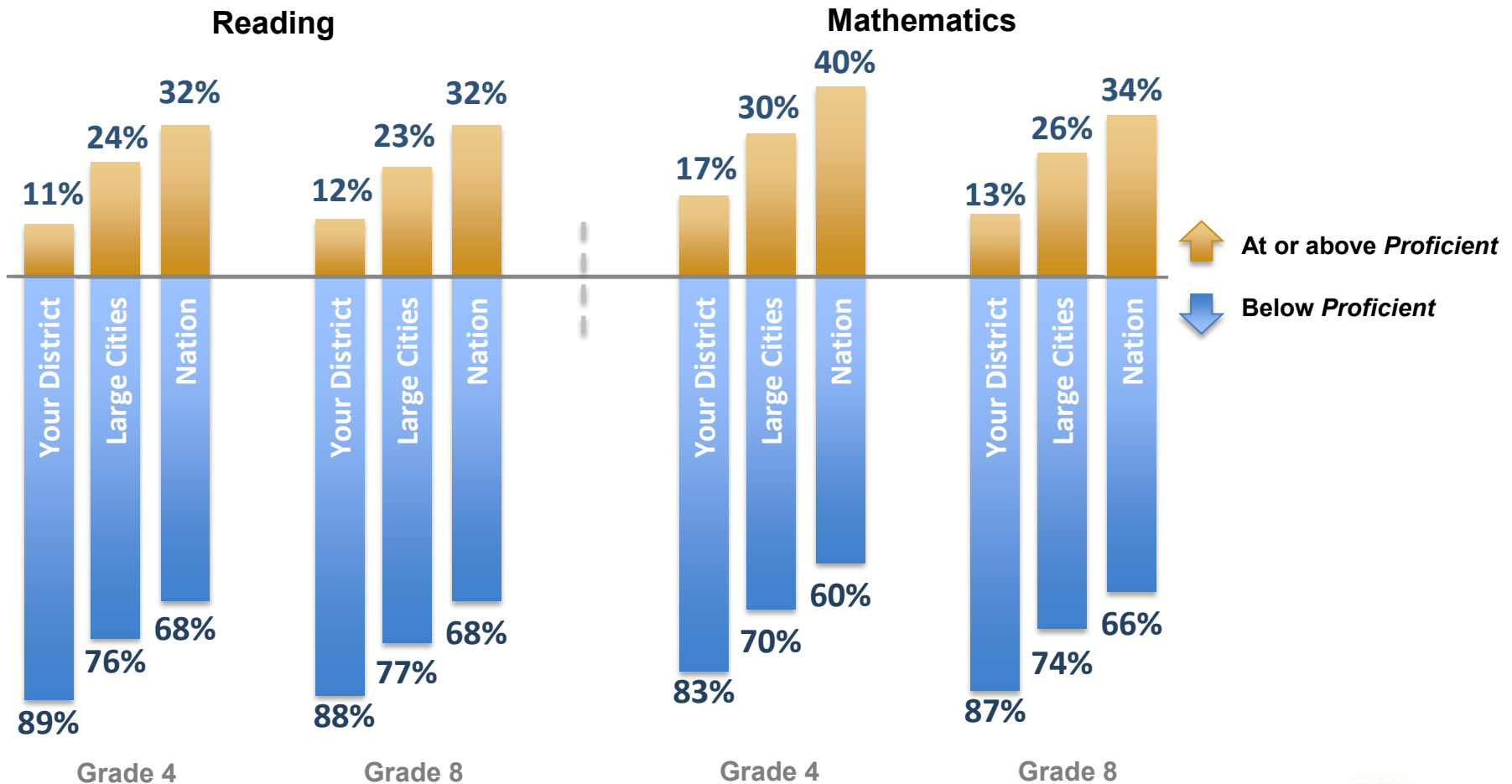
Source: NAEP Data Explorer, 2011

Note: Detail may not sum to totals because of rounding.



# What Percent of Students in Your District Are Performing at or Above *Proficient* on NAEP? Is This *Good Enough*?

**Percent at or Above *Proficient***  
Your District, Large Cities, and Nation (Public), 2011



Source: NAEP Data Explorer, 2011

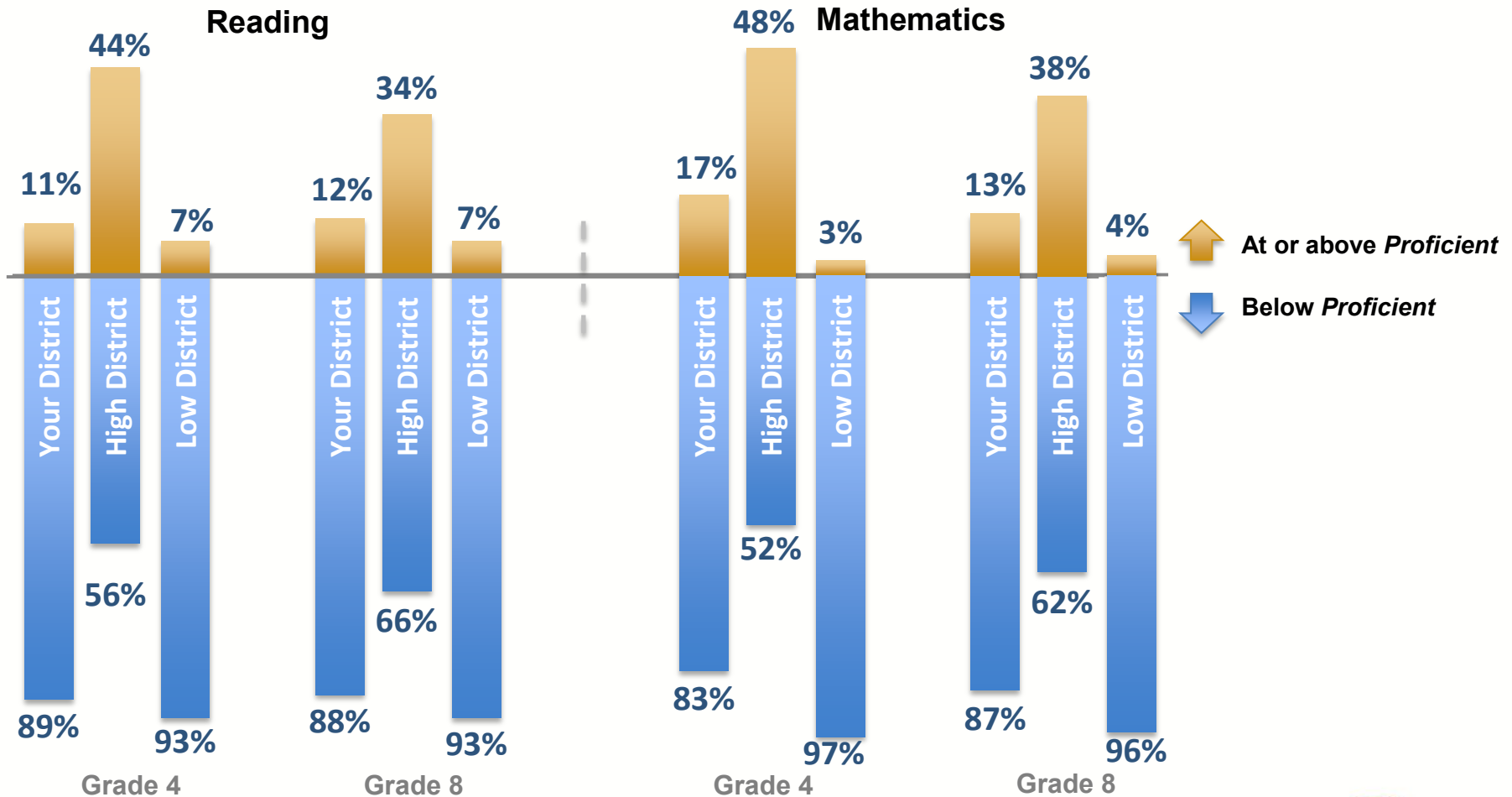
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# How Does Your District Compare With the Highest and Lowest Performing Districts?

## Percent at or Above *Proficient*

Your District, Highest Performing District, and Lowest Performing District, 2011



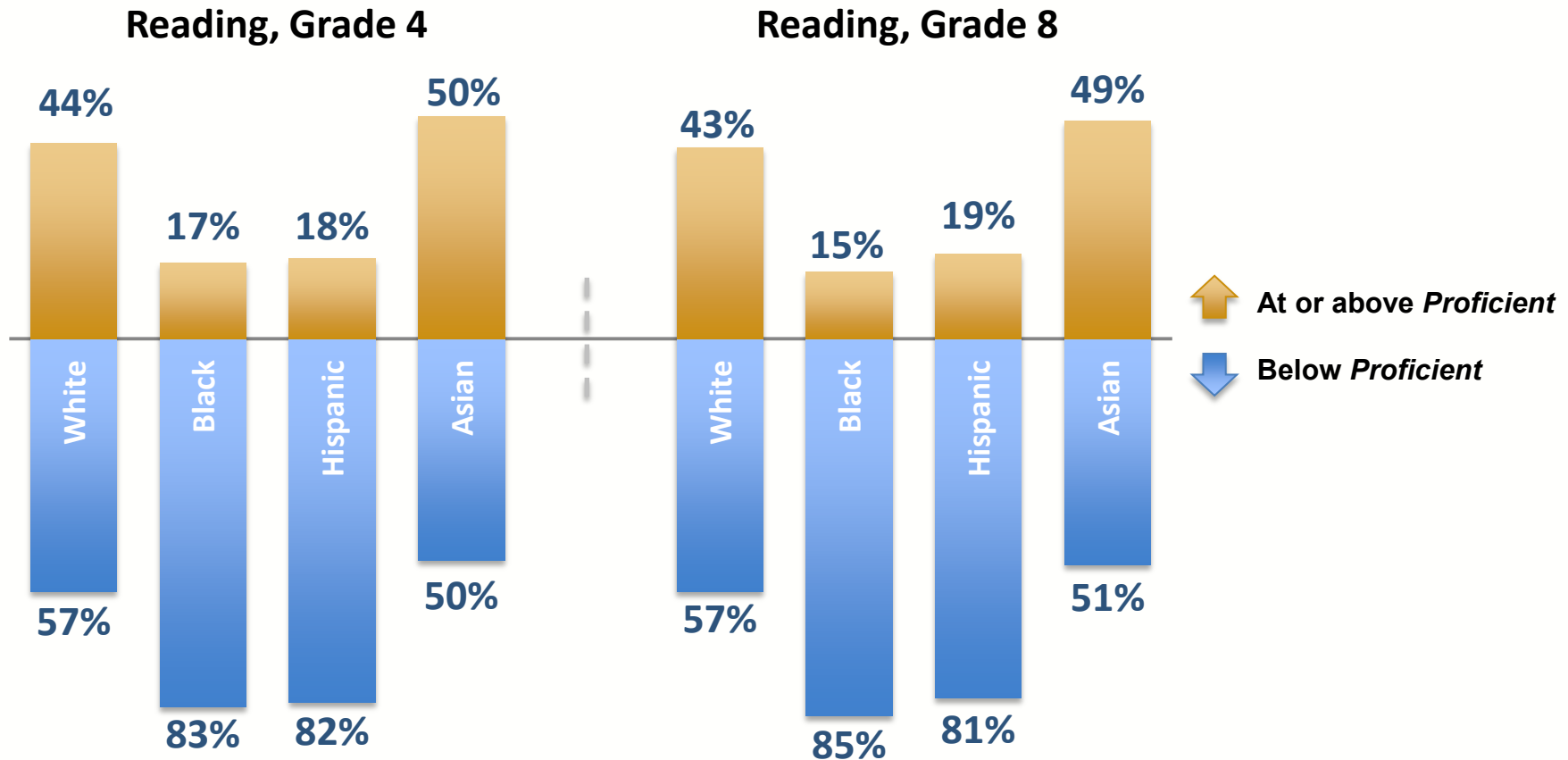
Source: NAEP Data Explorer, 2011

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# Unacceptable Achievement Gaps Exist Nationwide

Percent at or Above *Proficient*  
By Racial/Ethnic Group, 2011

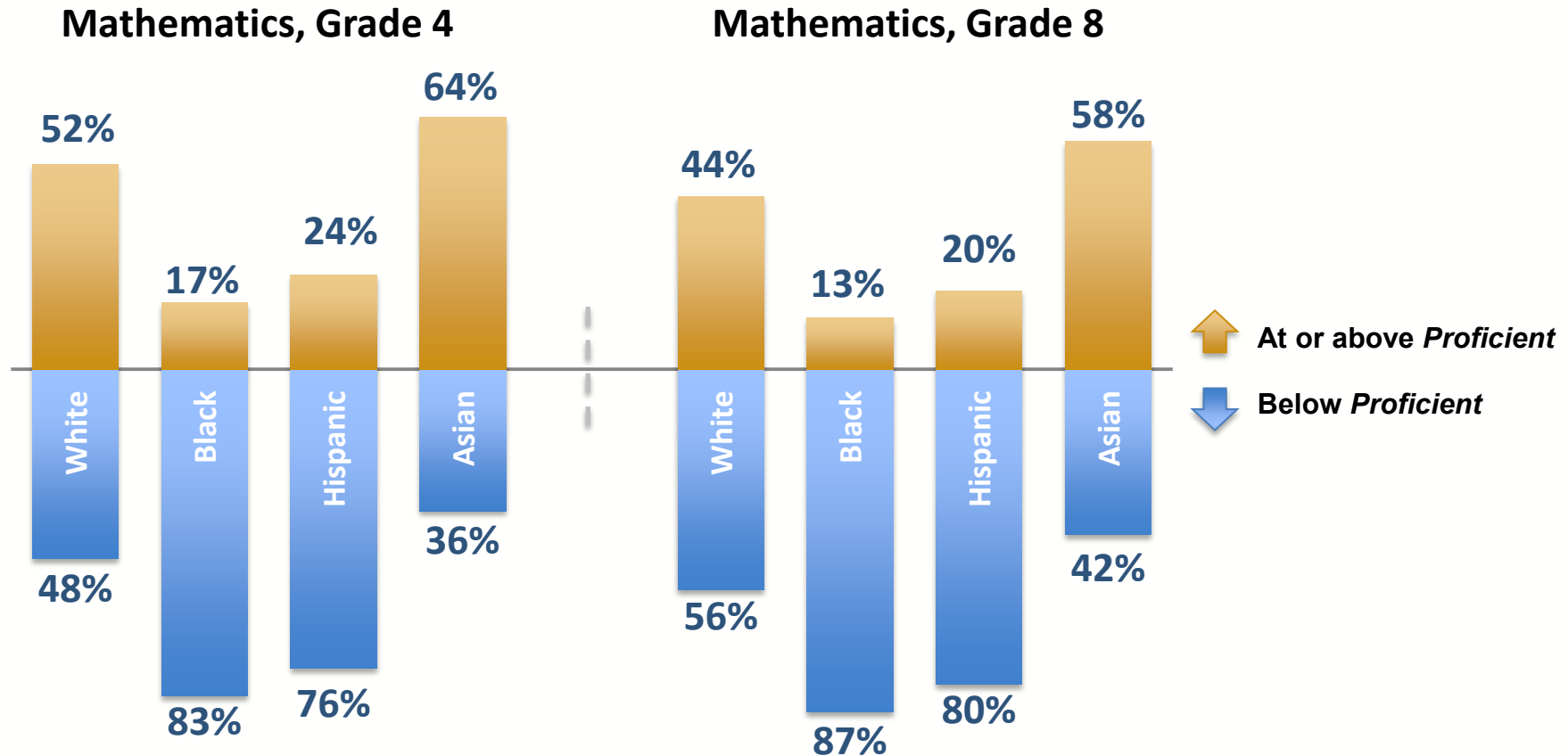


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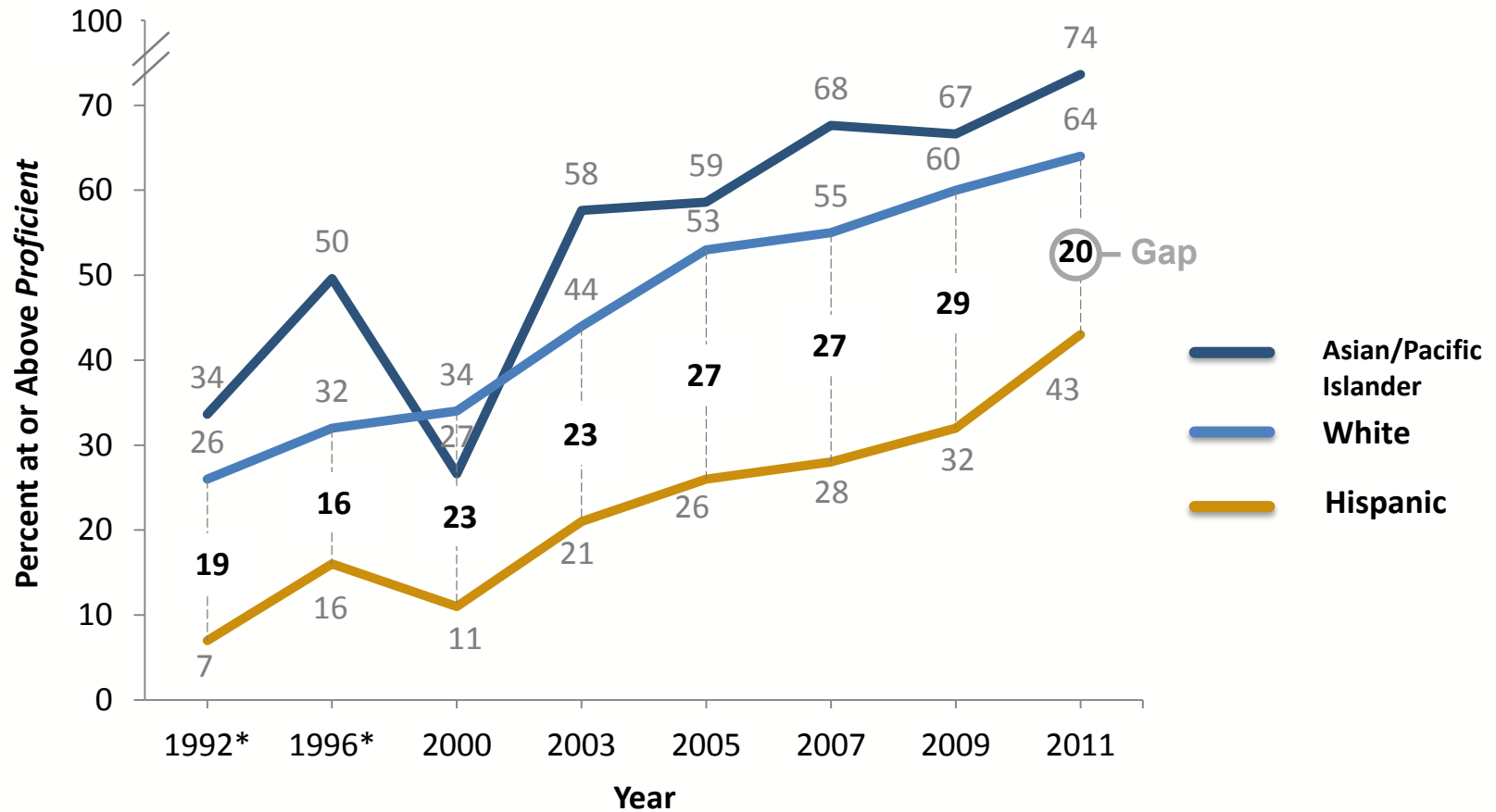


Source: NAEP Data Explorer, 2011

Note: Detail may not sum to totals because of rounding.

# What Are the Achievement Gaps in Your State?

## White-Hispanic Achievement Gap Mathematics, Grade 4



Source: NAEP Data Explorer, 2011

\*Accommodations were not permitted

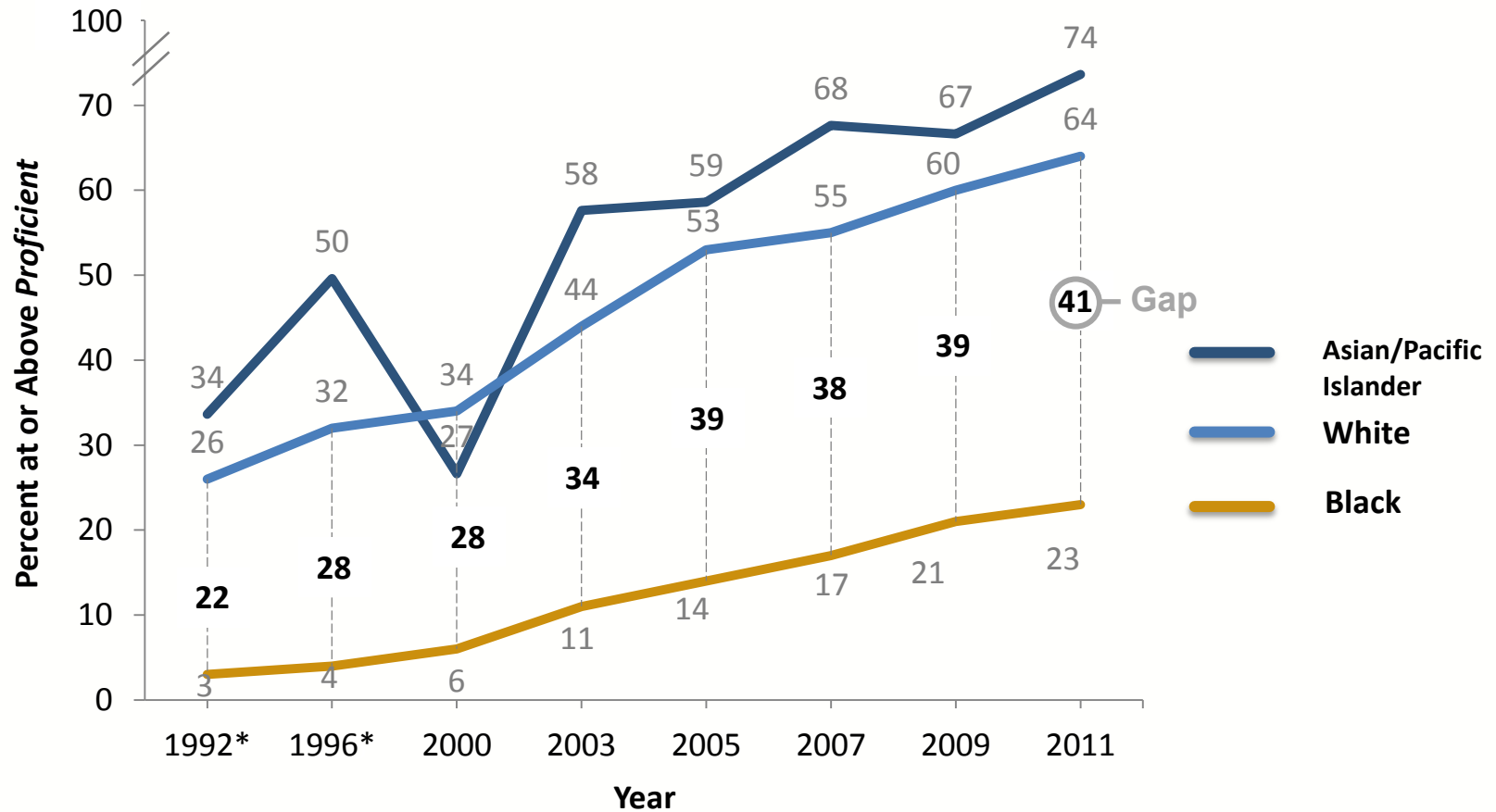
Note: Detail may not sum to totals because of rounding.



# What Are the Achievement Gaps in Your State?

## White-Black Achievement Gap

Mathematics, Grade 4



Source: NAEP Data Explorer, 2011

\*Accommodations were not permitted

Note: Detail may not sum to totals because of rounding.

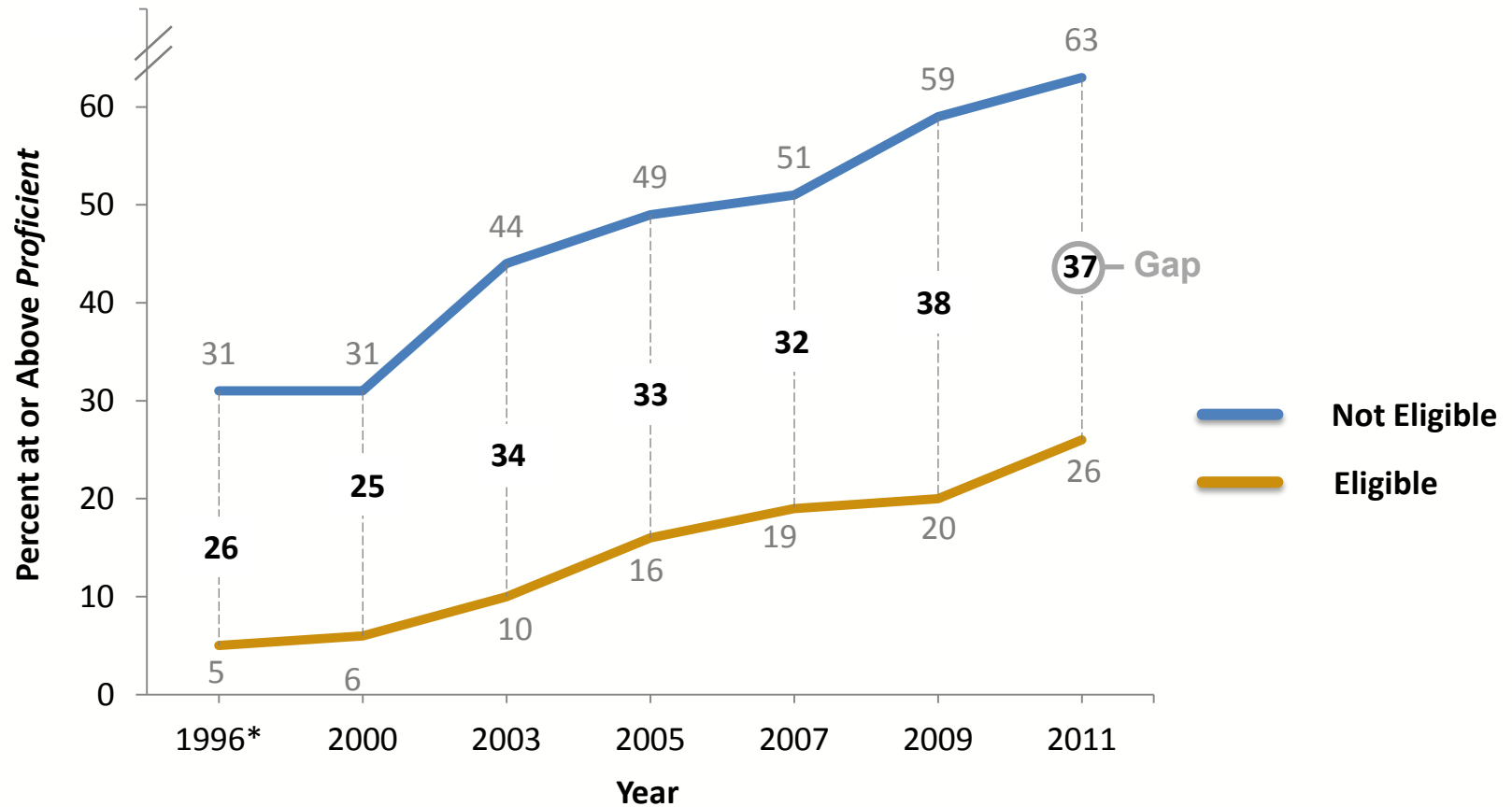


# What Are the Achievement Gaps in Your State?

## Income Level Achievement Gap

By National School Lunch Program Eligibility

Mathematics, Grade 4



Source: NAEP Data Explorer, 2011

\*Accommodations were not permitted

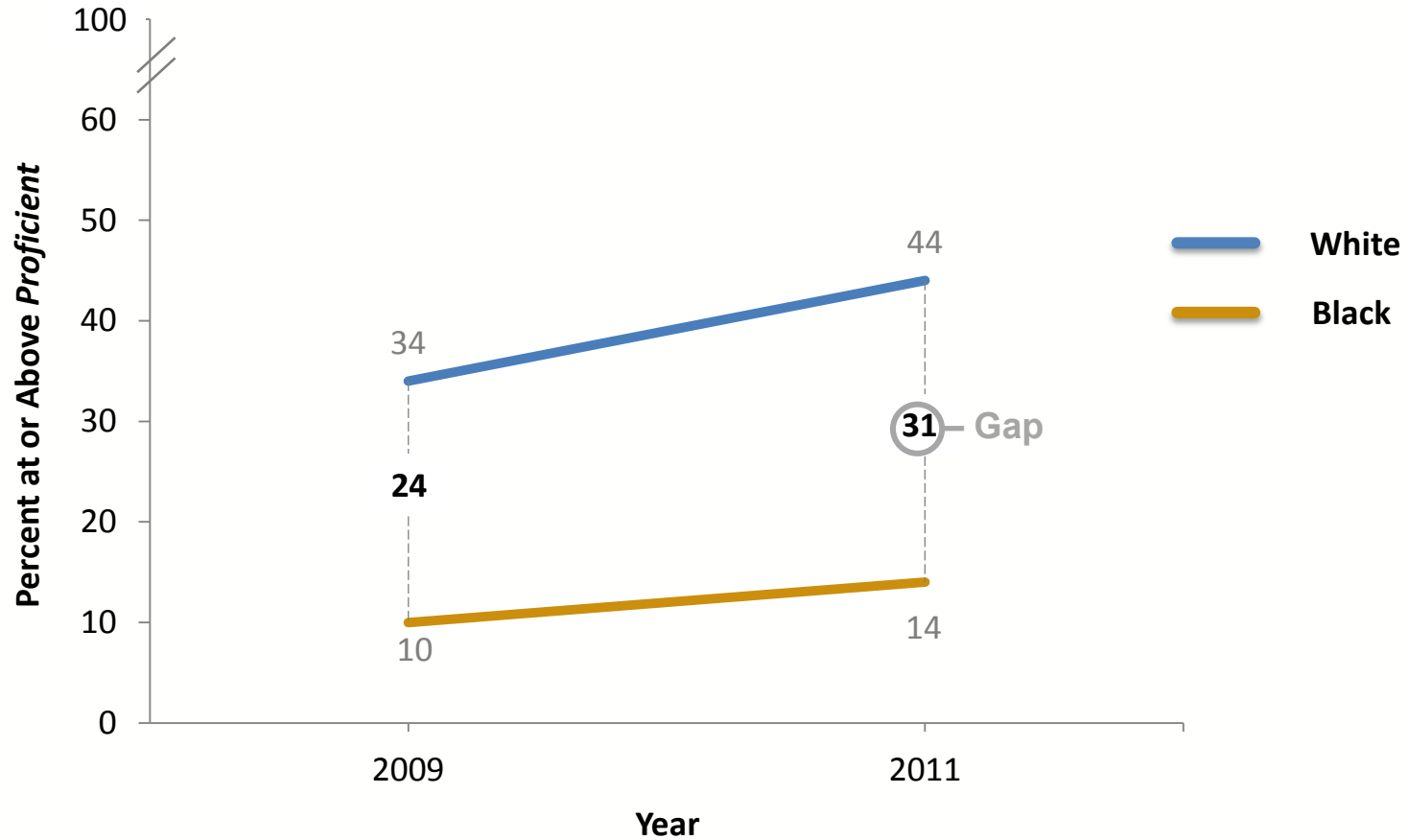
Note: Detail may not sum to totals because of rounding.





# What Are the Achievement Gaps in Your District?

## White-Black Achievement Gap Mathematics, Grade 4



Source: NAEP Data Explorer, 2011

Note: Detail may not sum to totals because of rounding.

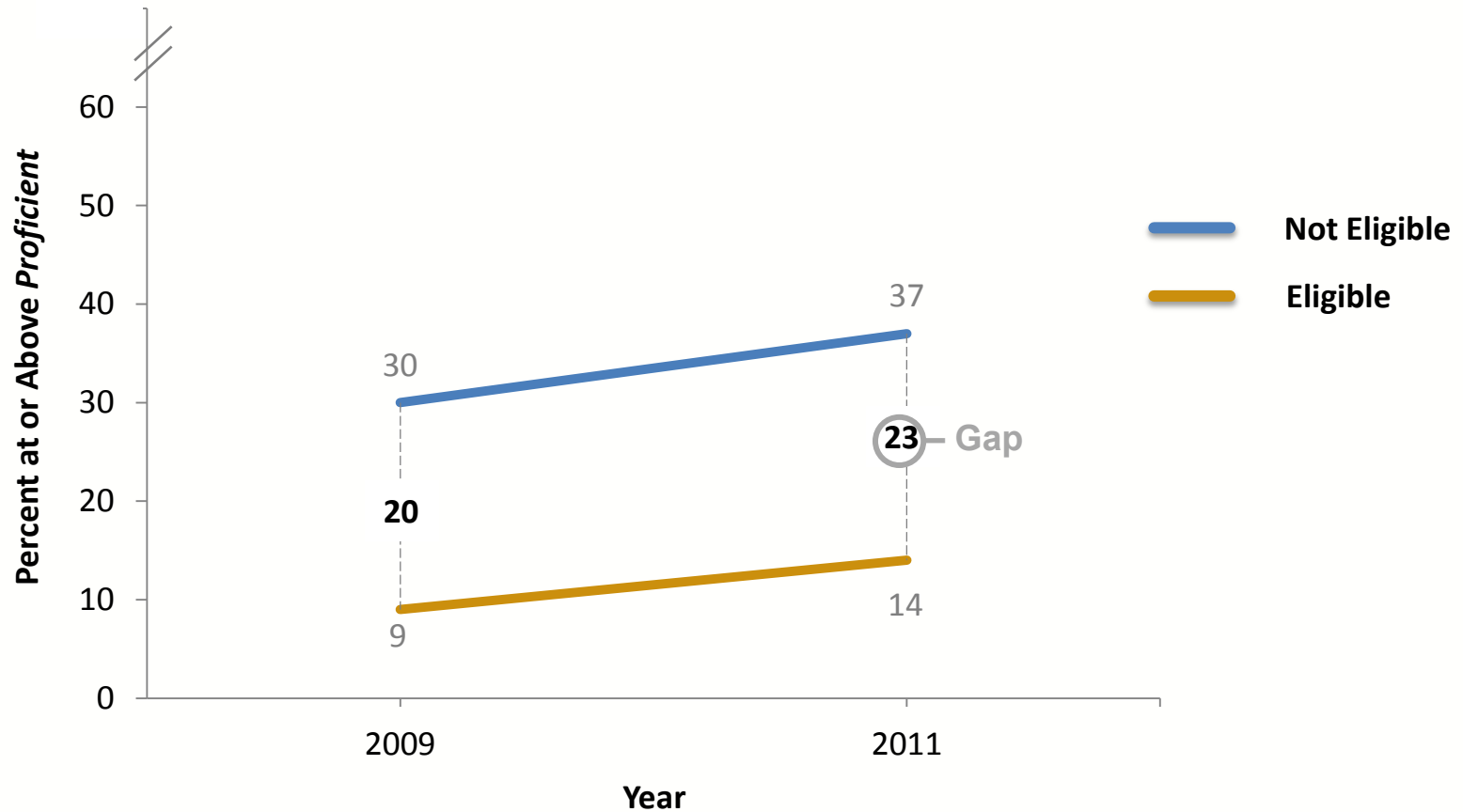


# What Are the Achievement Gaps in Your District?

## Income Level Achievement Gap

By National School Lunch Program Eligibility

Mathematics, Grade 4



Source: NAEP Data Explorer, 2011

Note: Detail may not sum to totals because of rounding.



# Is NAEP Relevant to Parent Leaders?



# NAEP: Common Yardstick Across States and Districts

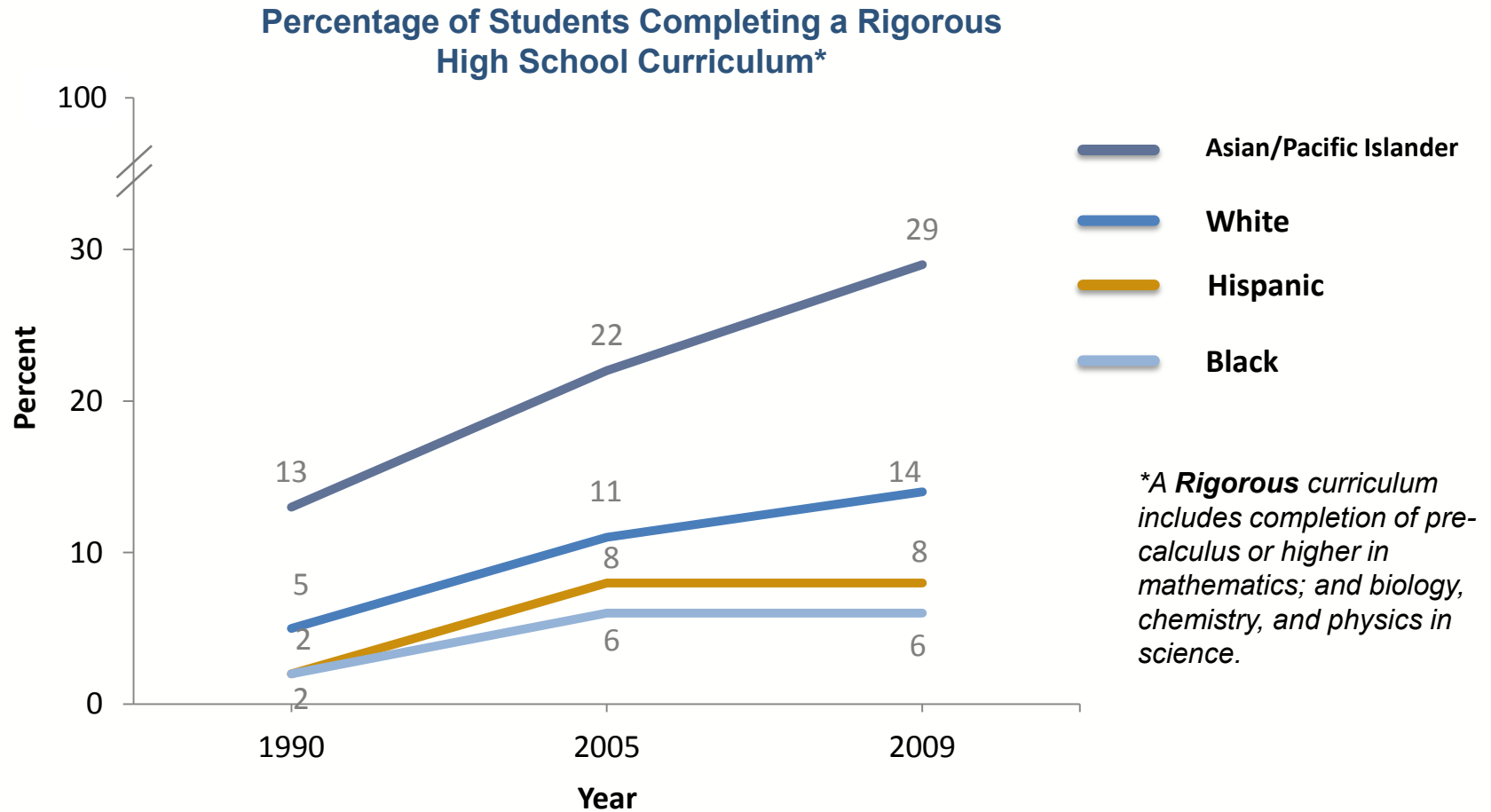
- ★ NAEP is the **ONLY** “apples to apples” comparison of achievement in Your State/District to other states/districts.
  - Your State’s standards and assessments differ from other states’.
  - The meaning of “**Proficient**” in Your State differs from “**Proficient**” in other states.
- ★ NAEP allows parents to compare overall achievement, achievement gaps, and the rigor of Your State’s standards to other states’.
- ★ NAEP is the **ONLY** source of almost 20 years of trend data for state academic achievement in reading and math at grades 4 and 8.

# NAEP Looks at Course Rigor

- ★ NAEP provides information on the types of courses students take.
- ★ NAEP compares coursetaking by race/ethnicity.
- ★ NAEP looks at the relationship between coursetaking and performance on NAEP.

*A more rigorous curriculum, with higher-level math and science courses, is related to greater achievement.*

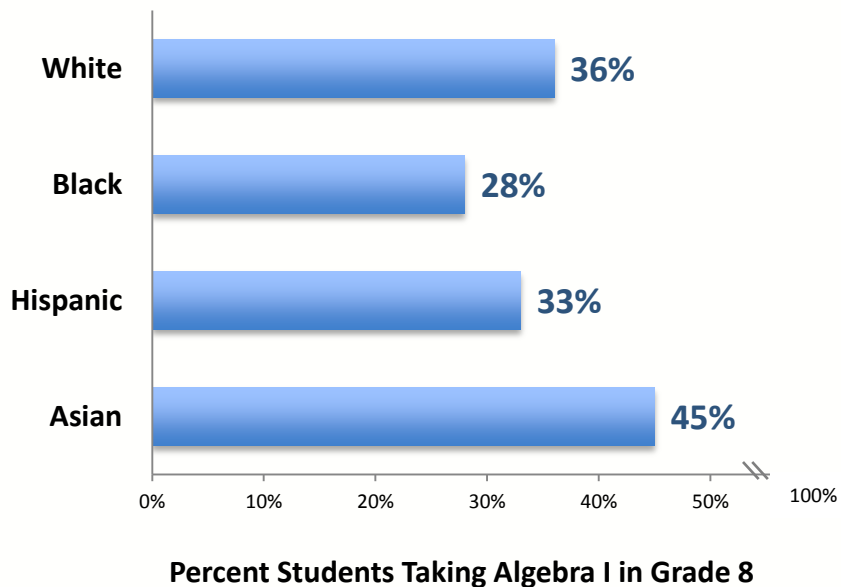
# NAEP Reveals Racial/Ethnic Gaps in Advanced Coursetaking in High School



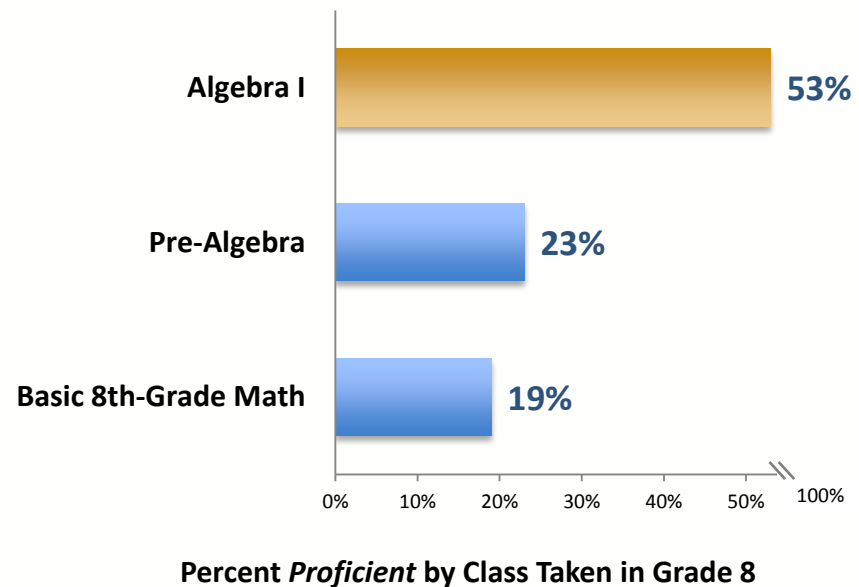
Source: 2009 NAEP High School Transcript Study

# NAEP Reveals Racial/Ethnic Gaps in Advanced Coursetaking in Middle School

Algebra I Coursetaking by Race/Ethnicity, 2011  
Mathematics, Grade 8



Performance on NAEP by Class Taken, 2011  
Mathematics, Grade 8



Source: The Nation's Report Card: Mathematics, 2011



# NAEP Serves as a Reference Point for International Comparisons

- ★ In 2011, NAEP was linked to:
  - **TIMSS** (Trends in International Mathematics and Science Study)
  - **PIRLS** (Progress in International Reading Literacy Study)
- ★ This will allow states to compare their performance in reading, math, and science to countries around the world.



# What Can Parent Leaders Do About Improving Achievement and Closing Gaps?

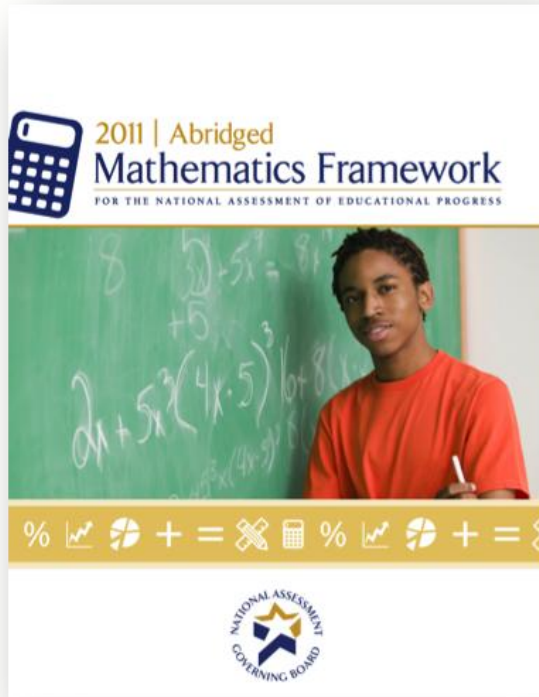
# Become Informed to Ask Critical Questions

- ★ Is student achievement *good enough*?
- ★ How can we do more?

**NAEP data and resources are one way that parent leaders can become informed to ask questions about student achievement.**

# NAEP Frameworks:

## Detail what each NAEP subject area assessment measures



- **Number Properties and Operations** – including computation and understanding of number concepts
- **Measurement** – including use of instruments, application of processes, and concepts of area and volume
- **Geometry** – including spatial reasoning and applying geometric properties
- **Data Analysis, Statistics, and Probability** – including graphical displays and statistics
- **Algebra** – including representations and relationships

# NAEP Frameworks:

## Detail what each NAEP subject area assessment measures

### *Possible Questions:*

- ★ *Are students taught algebra 1 or pre-algebra by eighth grade?*
- ★ *Are students expected to read and analyze a range of texts, including a wide array of literary and informational texts?*

# NAEP Questions Tool:

Lets you view questions to see what students are expected to know and be able to do, and compare how different states and districts performed



## Questions Tool >

Search, sort, and print sample NAEP questions.

Audrey used only the number tiles with the digits 2, 3, 4, 6, and 9. She placed one tile in each box below so the difference was 921.

Write the numbers in the boxes below to show where Audrey placed the tiles.

$$\begin{array}{r} \square \quad \square \quad \square \\ - \quad \square \quad \square \\ \hline \end{array}$$

9 2 1

Correct answer:

$$\begin{array}{r} \square \quad \square \quad \square \\ - \quad \square \quad \square \\ \hline \end{array}$$

9 2 1

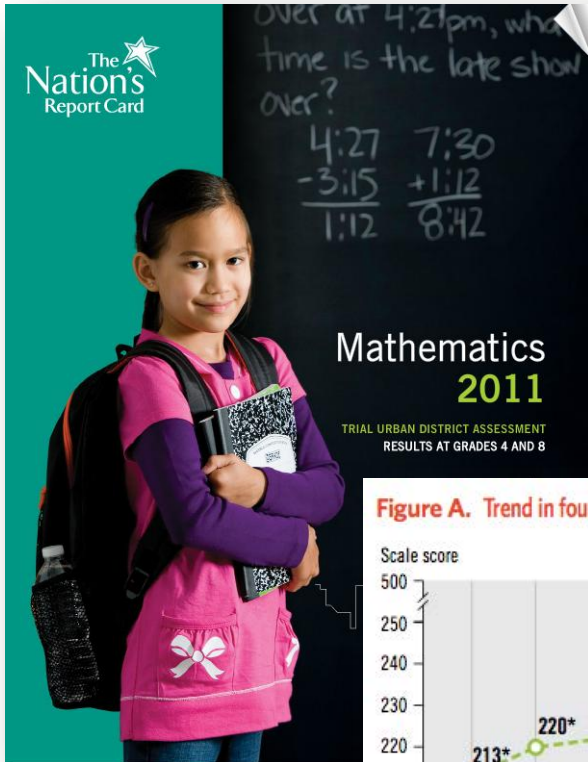
# NAEP Questions Tool:

Lets you view questions to see what students are expected to know and be able to do, and compare how different states and districts performed

## *Possible Questions:*

- ★ *Do our assessments use a variety of question formats, such as multiple choice and open-ended questions?*
- ★ *How well did our state/district do on open-ended questions?*
- ★ *Do our reading assessments measure different thought processes, such as locating information in texts, making interpretations across two different texts, and evaluating author's purpose?*

# The Nation's Report Card: Provides achievement data for the nation, states, urban districts, and demographic subgroups



The Nation's Report Card  
Home | About The N  
...the official site for r

**Reading**

- Grade 4 National Results
- Grade 4 State Results
- Grade 4 District Results
- Grade 8 National Results
- Grade 8 State Results
- Grade 8 District Results
- Sample Questions
- Classroom Context

**Top Stories in NAEP Reading 2011**

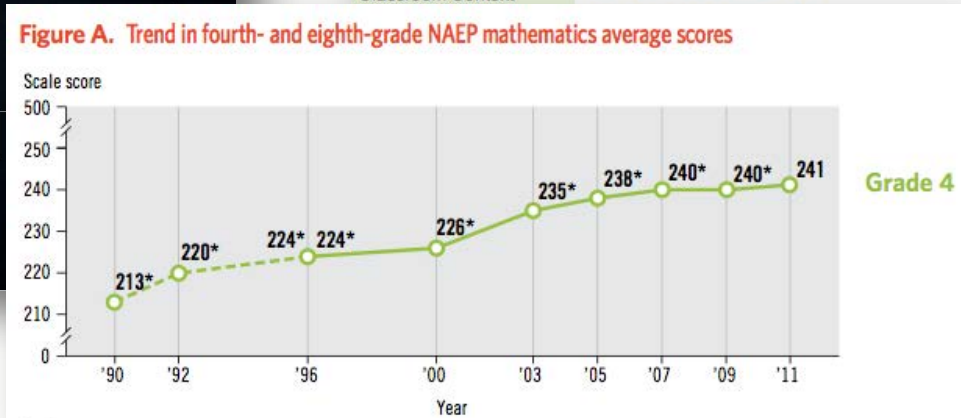
**National:** Compared to 2009, reading scores for fourth-graders are unchanged and eighth-graders score higher.

● [See national summary](#) >

**State:** Students in Hawaii and Maryland make gains since 2009 at both grades.

● [See state summary](#) >

© Jupiterimages



Urban districts score higher in 2011 than in 2009.

# The Nation's Report Card:

Provides achievement data for the nation, states, urban districts, and demographic subgroups

## *Possible Questions:*

- ★ *Are education leaders familiar with The Nation's Report Card and our state's/district's performance on NAEP?*
- ★ *Can I host an information session to share what I have learned about The Nation's Report Card?*



# NAEP Data Explorer:

Lets you create state and district tables and charts of assessment data from every NAEP exam to compare subgroup performance and see achievement trends over time



**Data Explorer >**  
Analyze NAEP data and create tables and graphics.

**MAIN NDE** 1. Select Criteria 2. Select Variables 3. Edit Reports

**STEP 1:** Select criteria from each drop-down menu to begin. Additional options related to your selections jurisdictions, and years based on available data.

**Subject:** Mathematics **Grade:** Grade 8

Category	Sub Category	Measure	All Years	2011	2009
NAEP Scale Scores	Mathematics Scales	<input checked="" type="checkbox"/> Composite scale <a href="#">details</a>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/> Algebra scale <a href="#">details</a>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/> Data analysis, statistics, and probability scale <a href="#">details</a>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/> Geometry scale <a href="#">details</a>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/> Measurement scale <a href="#">details</a>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/> Number properties and operations scale <a href="#">details</a>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Group	Jurisdiction	All Years	2011	2009
	<input type="checkbox"/> Kentucky	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> Louisiana	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> Maine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input checked="" type="checkbox"/> Maryland	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> Massachusetts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

# NAEP Data Explorer:

Lets you create state and district tables and charts of assessment data from every NAEP exam to compare subgroup performance and see achievement trends over time

## *Possible Questions:*

- ★ *What are the achievement gaps in our state/district? What are we doing to address these gaps?*
- ★ *Has the percentage of students performing at or above Proficient on NAEP changed over time? What might explain this?*

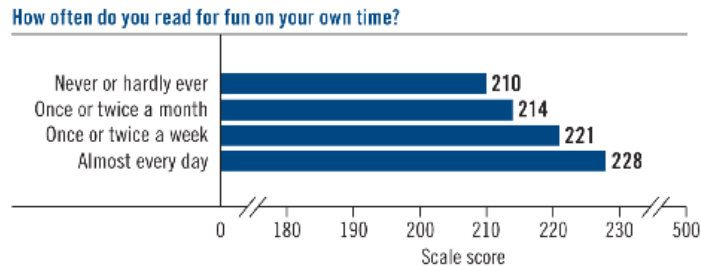
# Background Questions:

## Identify at-home and in-class factors related to academic achievement

### Fourth-graders who read for fun almost every day score higher

Students were asked how often they read for fun on their own time. Students selected one of four responses indicating “never or hardly ever,” “once or twice a month,” “once or twice a week,” or “almost every day.” In 2011, fourth-graders who reported reading for fun almost every day scored higher on average than those who did so less frequently, and students who reported never or hardly ever reading for fun scored lowest (**figure 12**).

**Figure 12.** Average scores in fourth-grade NAEP reading, by students' responses to a question about how often they read for fun on their own time: 2011



# Background Questions:

Identify at-home and in-class factors related to academic achievement

## *Possible Questions:*

- ★ *What can parents do at home or in conjunction with teachers to assist education leaders in increasing achievement for all children and closing the gaps?*
- ★ *Are teachers actively engaging parents either directly or through student activities?*

# What Can Parent Leaders Do?

- ★ **Learn** about NAEP data and resources to ask informed questions about education, achievement and achievement gaps in Your State/District.
- ★ **Share** NAEP data with other parents, your organization, teachers, education leaders, and school boards.
- ★ **Identify** achievement factors that can make a difference in Your State/District.
- ★ **Ask** your teachers and leaders about plans to raise achievement and close gaps.

## For More Information...

★ **National Assessment Governing Board:**

[www.nagb.org/parents](http://www.nagb.org/parents)

★ **The Nation's Report Card:**

[www.nationsreportcard.gov](http://www.nationsreportcard.gov)

★ **Tools:**

<http://nces.ed.gov/nationsreportcard/about/naeptools.asp>