

NAEP 2018
National Assessment of Education Progress
Overview & Update

Kim Ackermann
Texas NAEP State Coordinator



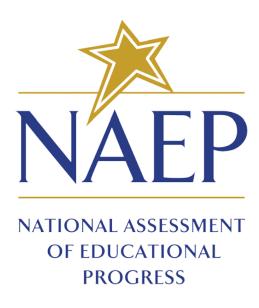
## **Agenda**

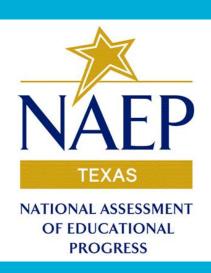
- NAEP defined
- Overview of 2018
- Digitally Based Assessments
- 21st Century Reporting
- Latest Results 2015
- NAEP on Social Media
- International Update
- Resources



#### What is NAEP?

- Congressionally mandated since 1969
- Assesses reading, math, science, writing, social studies, economics, arts (grades 4, 8, & 12)
- A representative sample of students
- Low stakes: used to make comparisons between states and measure student progress over time





## NAEP 2018 Program Overview



#### **Overview of NAEP 2018**

- Continue transition to Digitally Based Assessments (DBAs) for all content areas
- National only
  - Operational assessments
  - Pilots
  - Special studies



## NAEP 2018 Program

Grade 4	Grade 8	Grade 12
	National Results	
	National Results	
	National Results	
	National Results	
		Pilot
Study/ORF	Study	Study/Pilot
Pilot	Pilot	Pilot

#### **Assessment Details**

= tablet administration, 1 or 2 sessions of about 25 students each, lasting approximately 120 minutes

= paper administration, 1 or 2 sessions of about 25 students each, lasting approximately 90 minutes

= laptop administration, 2
sessions of about 15 students each,
lasting approximately 120 minutes

#### **Assessment Window**

1/29/18 – 3/9/18



## **NAEP 2018 Operational:**

#### **Social Studies**

- Digitally based (DBA) and paper and pencil (PBA) in the same schools, except small schools
- Bridge to analyze mode effect of transition from PBA to DBA
- DBA civics, geography and US history spiraled together about 120 minutes
- PBA geography and US history spiraled together—about
   90 minutes
- PBA civics separate—about 90 minutes



## **NAEP 2018 Operational: TEL**

Grades 8

- All DBA
  - About 120 minutes
  - NAEP-provided laptops
  - Two sequential sittings of 15 students per school
- Administered in separate sample of schools



#### **NAEP 2018 Pilots**

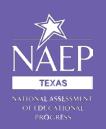
- Subjects
  - Mathematics, reading, and science at grade 12
  - Science at grades 4, 8 and 12
- All DBA
  - Standard DBA sections:
    - » Two 30-minute cognitive sections
    - » One 15-minute student questionnaire section
  - NAEP-provided tablets
  - Two sequential sittings of 25 students per school
  - Science—integrated pilot to include HOTS



## **Hands-on Science Tasks**

- Student perform tasks with science equipment
  - Can be in same setting as other students





## **Special Studies**

## Reading Scenario Based Tasks-Discrete Items

- Grades 4, 8, 12
- Spiraled with DBA pilots at all grades, so transparent to schools
- Purpose: Examine students' performance and processes on SBTs in comparison with discrete blocks using the same texts and items as the SBTs, without any of the SBT features



## **Special Studies**

## **Oral Reading Fluency (ORF) Study**

- Grade 4
- Purpose:
  - Follow-up to NAEP 2002 Oral Reading Study and 2017 ORF proof of concept, with plan to be operational in 2019
  - Possible that results will be reported from the 2018 study
  - Measure basic reading skills such as decoding, word recognition, and fluency
- Administered in a separate session in some (depending on enrollment) of the DBA pilot/SBT-DI schools
- Maximum session size is 12 students
- Administration:
  - Students take reading assessment
  - Followed by 15-minute technology-administered oral reading (i.e., students read aloud through microphone)

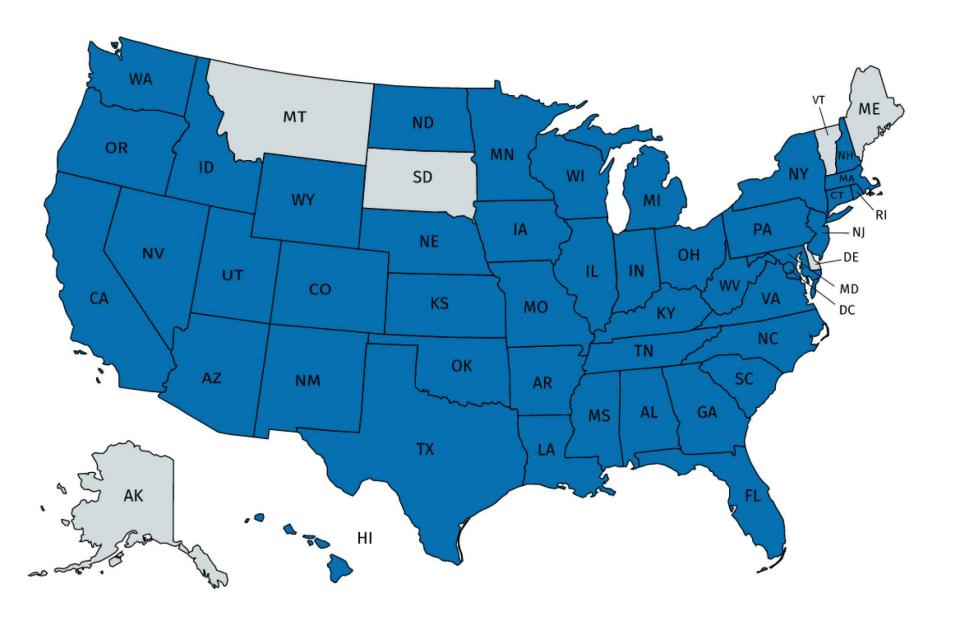


## **NAEP 2018 Sample Sizes**

## **Approximate # of Public School Students**

Subjects	Grade 4	Grade 8	Grade 12
Civics DBA		7,200	
Geography DBA		7,200	
US History DBA		9,000	
Civics PBA		7,200	
Geography PBA		7,200	
US history PBA		9,000	
TEL		14,400	
Science DBA pilot	16,100	15,900	17,500
Reading DBA SBT-DI	2,200	2,200	2,200
Mathematics DBA pilot			10,500
Reading DBA pilot			4,500
ORF	2,000		
<b>Total Public School Students</b>	20,300	79,300	34,700
<b>Estimated Total Schools</b>	520	2,050	870

## States With Schools Sampled for NAEP 2018





## 2017

## Digital-Based Assessments



## **NAEP's Digitally Based Assessments**



- Digitally Based Assessments (DBA)
- As computers and digital tools play an increasingly important role in today's classrooms, the National Assessment of Educational Progress (NAEP) is advancing with digitally based assessments (DBAs) to measure what the nation's students know and can do.



## What's happening now?

The NAEP program is in the midst of transitioning all of its assessments to digitally based content and delivery.

Beginning in 2017, the NAEP mathematics, reading, and writing assessments will be administered to students throughout the nation on NAEP-provided tablets. Additional subjects will be administered on tablets in 2018 and 2019.



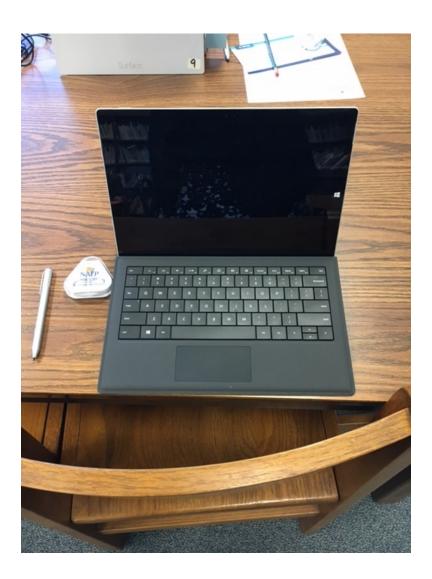
## What can schools and students expect when participating in DBAs?

- During testing, all necessary equipment (tablets, ear buds, and administrative equipment) will be provided by NAEP. The only resources a school will need to provide will be space, desks or tables, and electricity.
- Students will be provided a tutorial that will help them understand how to use the equipment and tools and enter their responses. Non-cognitive questionnaires that record the learning experiences of students will also be administered to students on tablets.

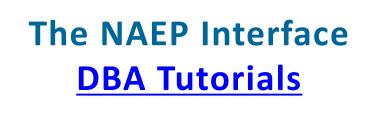


#### **The Tablet**

- Laptop-like form factor with attached keyboard
- Touchscreen
- Trackpad
- "Active" stylus



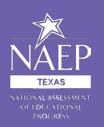






## **Universal Design**

- Technology allows more students than ever to participate in NAEP because of universal design features for accessibility.
- DBAs will feature tools such as zooming and text-tospeech, where appropriate by subject. These tools will provide students with disabilities and English language learners the support they may need.



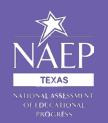
## How does NAEP protect the personal information of students and schools?

Student and school identifying information is never reported or shared by NAEP. As an additional protection against the disclosure of school or student data, confidentiality protocols are followed prior to any tabulation, analysis, or dissemination of NAEP data.



#### How are NAEP data protected against data breaches?

- NAEP data are stored in systems in a locked-down environment at a secure hosting facility that has strict measures in place to prevent unauthorized online access. Shortly before, during, and after assessments, data are transmitted through secure encrypted channels between NAEP systems, servers, and assessment administration devices. Data on those devices are also encrypted and the devices are secured against unauthorized use.
- Federal law dictates complete privacy for all test takers and their families. Under the National Assessment of Educational Progress Authorization Act (Public Law 107-279 III, section 303), the Commissioner of the National Center for Education Statistics (NCES) is charged with ensuring that NAEP tests do not question test takers about personal or family beliefs or make information about their personal identity publicly available.
- After publishing NAEP reports, NCES makes data available to researchers but withholds students' names and other identifying information. The names of all participating students are not allowed to leave the schools after NAEP assessments are administered. Because it might be possible to deduce from data the identities of some NAEP schools, researchers must promise, under penalty of fines and jail terms, to keep these identities confidential.





# Transitions in NAEP Administration and Reporting

#### **Assessment Administration** DBA Transition to Paper DBA Assessments Computer-Based Paper Reports Reports **DBA** Report Highlights Interactive reports Paper Reports Traditional report metrics Average scale scores Process data Achievement levels Percent correct on items NAEP Reporting



## Reporting: Paper vs. Digital





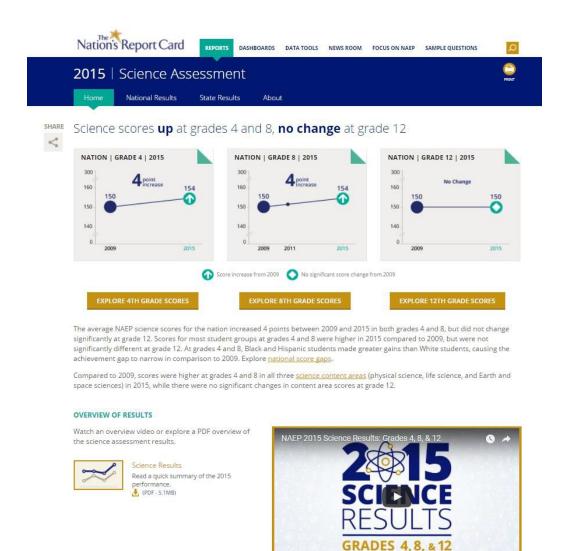
### Science in Action

Hands-On and Interactive Computer Tasks From the 2009 Science Assessment National Assessment of Educational Progress at Grades 4, 8, and 12



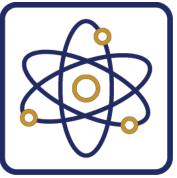


## Reporting: Paper vs. Digital





## **2009 NAEP Science Assessment**









- The 2009 NAEP science assessment evolved to include interactive computer tasks (ICTs)
- The assessment will move from computers to touch- enabled devices



## **Challenges & Tactics: Science**

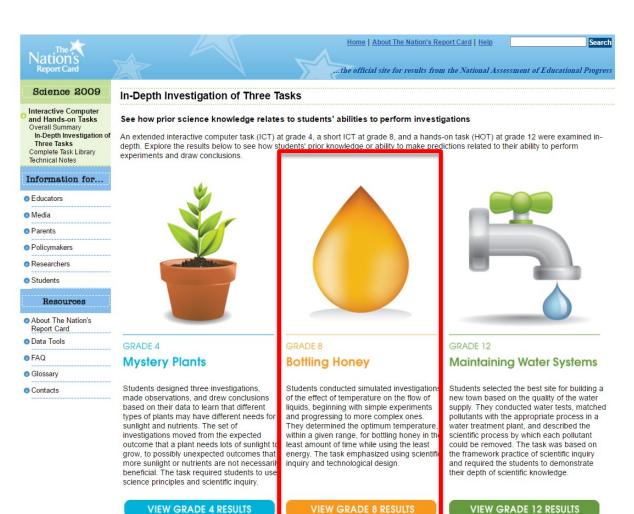
Challenge #1: Display how students engaged in problem solving in a science environment

Tactic: Created sections of the report that mirrored the tasks





## **2009 Science ICTs**



Students perform two simple experiments

— DETAILED RESULTS

Students design an investigation

--- DETAILED RESULTS

Students interpret their data

DETAILED RESULTS

#### PART B:

Engaging in real-life scenarios

Students explore the flow rate of honey

Students select the best temperature for bottling honey

Students began this task by performing two simple experiments in order to respond to the following multiple-choice questions:

#### Question:

Which liquid flows most slowly at 20 degrees Celsius?

- A) Corn syrup
- B) Honey
- C) Water
- D) Olive oil

#### Question:

Which liquid has the same flow rate at 30 degrees Celsius as water at 30 degrees?

- A) Olive oil
- B) Corn syrup
- C) Honey

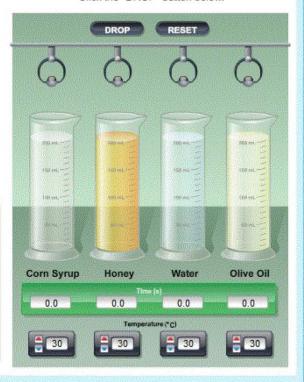
#### Results:

88 percent of students answered both multiplechoice questions correctly

54 percent answered both questions correctly and explained their answer to question 2



Click the "DROP" button below.



....



#### **Reporting Challenges**

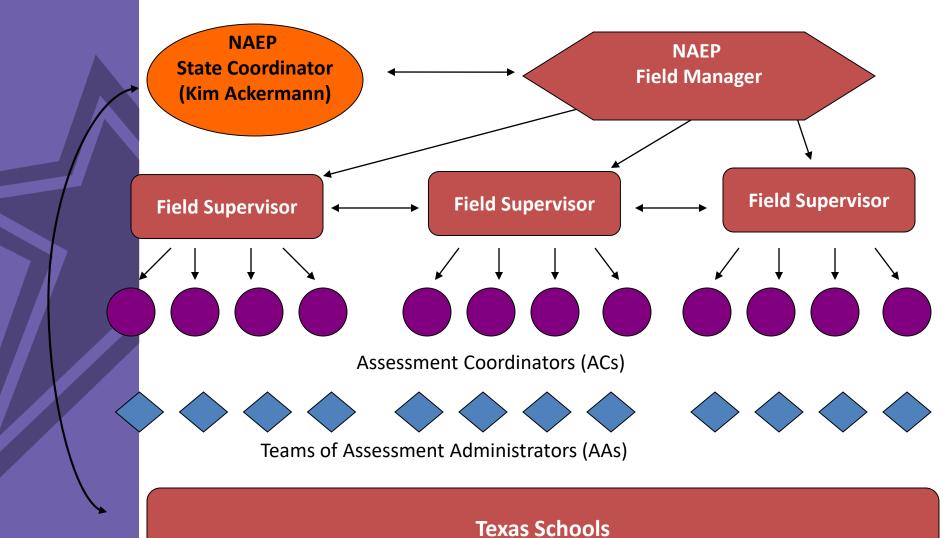
- Effective process for transferring data
- Evaluating the time students spend on each task
- Interpret and explain the wealth of new data
- Identify ways to communicate complicated data across audiences
- Report data that are meaningful to multiple audiences

## Texas

NAEP 2015 Results



## **NAEP Team Structure in Texas**





# Texas Trial Urban District Assessment (TUDAs)

- The Trial Urban District Assessment (TUDA) is a special project of the National Center for Education Statistics, the National Assessment Governing Board, and the Council of the Great City Schools to determine the feasibility of reporting district-level results for the National Assessment of Educational Progress (NAEP). TUDA results in mathematics and reading are based on representative samples of students in grades 4 and 8 in each participating urban district.
- Districts are invited by the National Assessment Governing Board to participate in the assessment based on a selection process that considers a number of factors including the district's size and racial/ethnic diversity. For example, districts eligible to participate in the TUDA assessments must be large cities with a population of 250,000 or more in addition to having a majority (50 percent or more) of their student population being Black or Hispanic or eligible for the National School Lunch program. The maximum number of districts participating in a given assessment year is based on the level of Congressional funding for the program.



# Texas Trial Urban District Assessment (TUDAs)

- Texas has 4 TUDA districts:
  - Austin ISD
  - Dallas ISD
  - Houston ISD
  - Fort Worth ISD
- The TUDA program began in 2002 with 6 urban districts participating in the NAEP reading and writing assessments
- In 2009, 18 districts participated in mathematics, reading, and science. Currently there are 21 districts participating



## **NAEP** Results

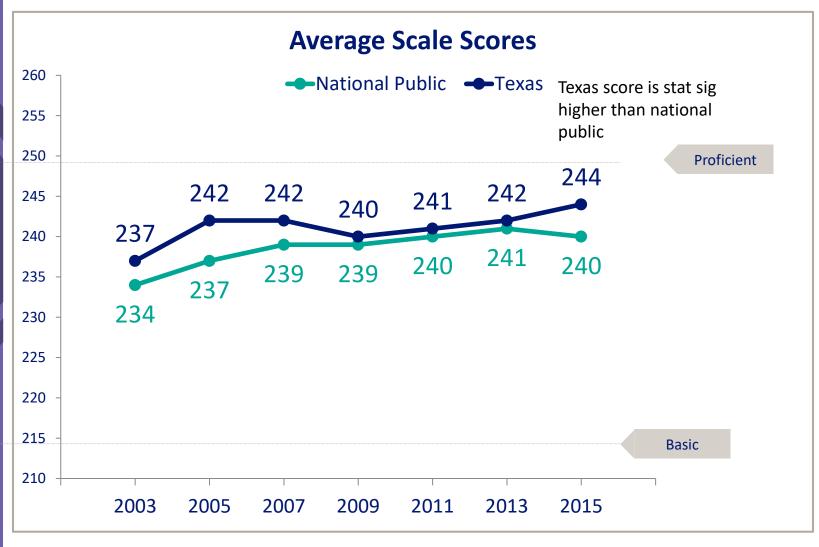


- The results of NAEP are released as The Nation's Report Card.
  - The report card provides national, state, and district-level results, results for different demographic groups, inclusion information, and sample questions.
- NAEP Results are reported in two formats
  - Average Scale Scores
    - » Numeric scale
    - > 0 500 on mathematics and reading assessments
    - » Scores cannot be compared across content areas
  - Achievement Levels
    - » Categorical scale
    - » Below Basic, Basic, Proficient, Advanced

Grade 4
Mathematics
Results



# **Grade 4 Mathematics Results**



NOTE: Observed differences are not necessarily statistically significant.



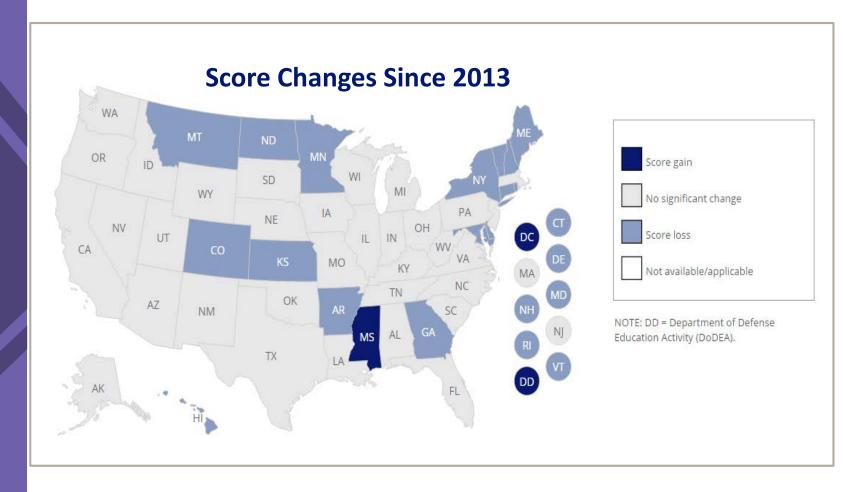
# **Grade 4 Mathematics Results**

- Texas rank overall 11<sup>th</sup>
- 2013 27th

Ethnicity							
Year	Jurisdiction	White	African American	Hispanic	Asian/Pacific Island	American Indian	
2015	National Public	248	224	230	256	228	
	Texas	255¹ (4th)	2331 (2nd)*	239¹ (4th)	271¹	‡	
2013	National Public	250	224	230	258	228	
	Texas	255 (6th)	231 (5th)	235 (14th)	272	‡	
<sup>1</sup> Statistically significantly higher than 2015 national public							
‡ Reporting standards not met.							
* Second to the DOD (Department of Defense Schools)							



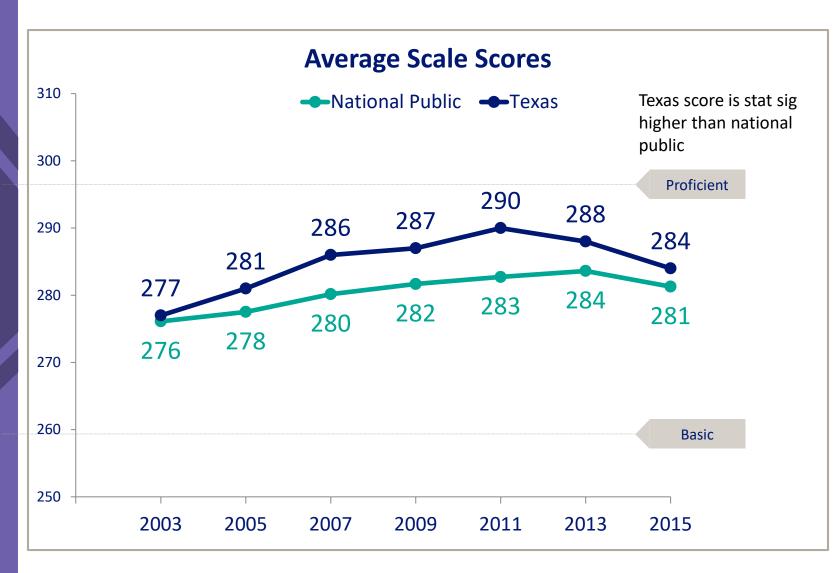
# **Grade 4 Mathematics Results**



Grade 8
Mathematics
Results



## **Grade 8 Mathematics Results**



NOTE: Observed differences are not necessarily statistically significant.



# **Grade 8 Mathematics Results**



■ 2013 – 16th

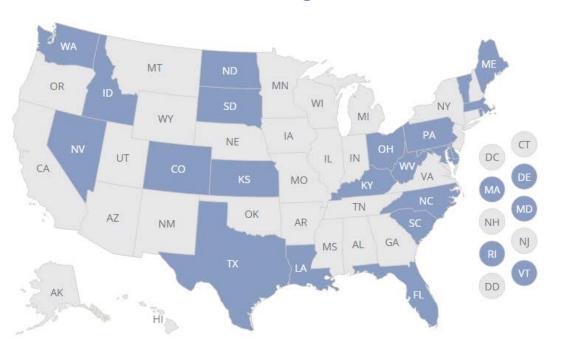
**Ethnicity** 

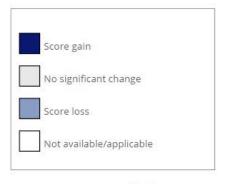
			A 6i		A = i = : = /D = = i f i =	A	
			African		Asian/Pacific	American	
Year	Jurisdiction	White	American	Hispanic	Island	Indian	
2015	National Public	291	260	269	305	267	
	Texas	298¹ (6th)	267 <sup>1</sup> (6th)	277 <sup>1</sup> (4th)	312	<b>‡</b>	
2013	National Public	293	263	271	306	270	
	Texas	300 (5th)	273 (4th)	281 (4th)	319	‡	
<sup>1</sup> Statistically significantly higher than 2015 national public							
‡ Reporting standards not met.							



# **Grade 8 Mathematics Results**

#### **Score Changes Since 2013**



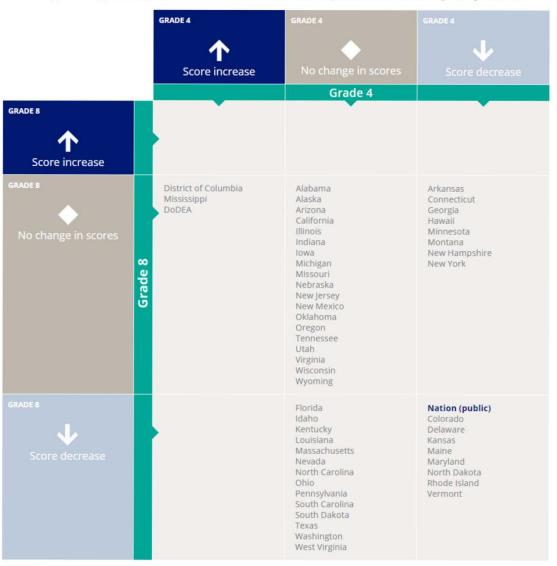


NOTE: DD = Department of Defense Education Activity (DoDEA).



# Summary

Change in average mathematics scores between 2013 and 2015 for public school students, by state/jurisdiction



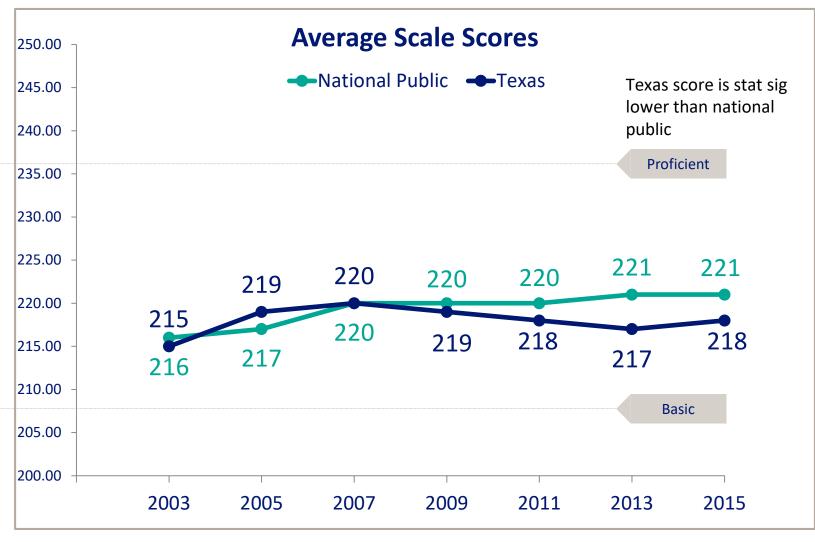
DoDEA = Department of Defense Education Activity.

NOTE: A blank cell indicates that no state/jurisdiction fell within that category.

Grade 4
Reading
Results



# **Grade 4 Reading Results**



NOTE: Observed differences are not necessarily statistically significant.



# **Grade 4 Reading Results**

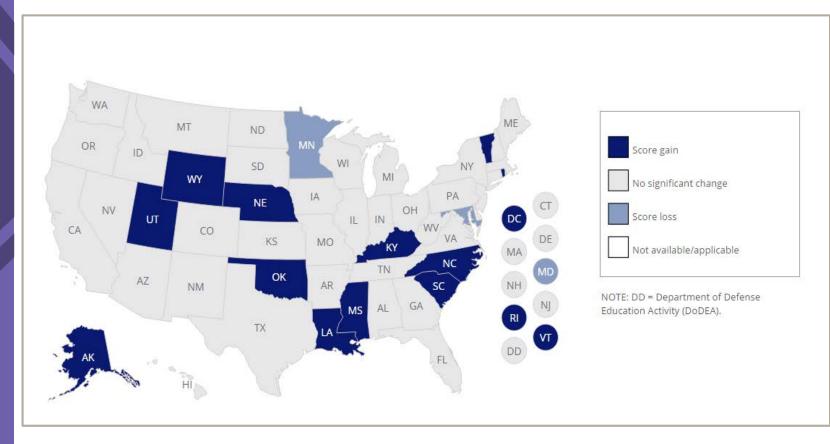
- Texas rank overall 40th
- 2013 41st

Ethnicity							
Year	Jurisdiction	White	African American	Hispanic	Asian/Pacifi c Island	American Indian	
2015	National Public	232	206	208	238	206	
	Texas	235 (12th)	205 (23rd)	210 (23rd)	248	‡	
2013	National Public	231	205	207	235	206	
	Texas	233 (12th)	209 (14th)	206 (35th)	252	‡	
‡ Reporting standards not met.							



# **Grade 4 Reading Results**

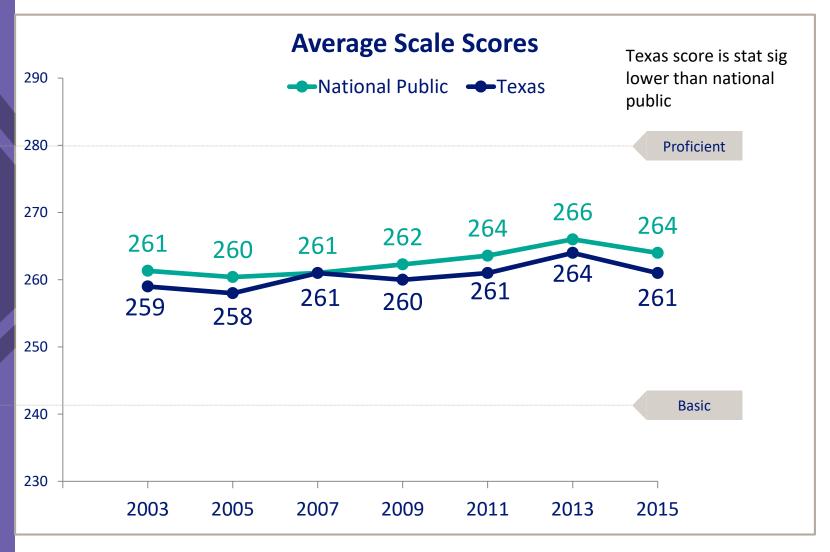
#### **Score Changes Since 2013**



Grade 8
Reading
Results



# **Grade 8 Reading Results**



NOTE: Observed differences are not necessarily statistically significant.



# **Grade 8 Reading Results**

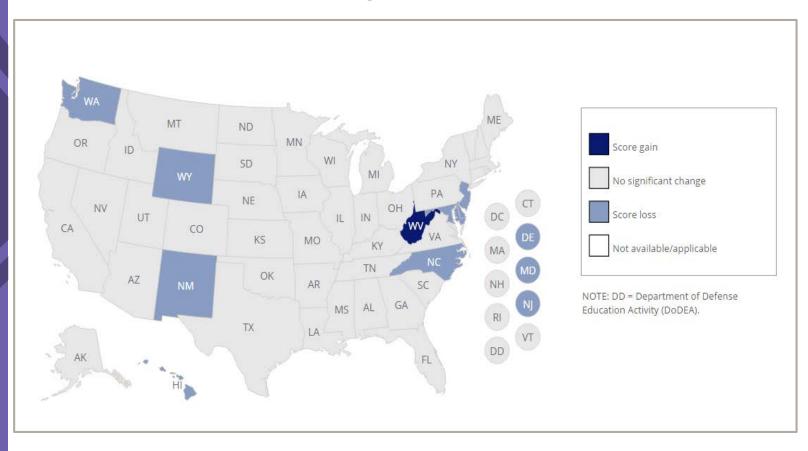
- Texas rank overall 39th
- 2013 38th

Ethnicity							
Year	Jurisdiction	White	African American	Hispanic	Asian/Pacific Island	American Indian	
2015	National Public	273	247	253	279	253	
	Texas	274 (21st)	251 (9th)	252 (35th)	283	<b>‡</b>	
2013	National Public	275	250	255	279	252	
	Texas	279 (9th)	253 (14th)	255 (29th)	285	#	
‡ Reporting standards not met.							



# **Grade 8 Reading Results**

#### **Score Changes Since 2013**





# **Reading Summary**

Change in average reading scores between 2013 and 2015 for public school students, by state/jurisdiction

	GRADE 4	GRADE 4	GRADE 4
	Score increase	No change in scores	Score decrease
		Grade 4	السمي
GRADE 8  Core increase		West Virginia	·
GRADE 8  No change in scores	Alaska District of Columbia Kentucky Louisiana Mississippi Nebraska Oklahoma Rhode Island South Carolina Utah Vermont	Alabama Arizona Arkansas California Colorado Connecticut Florida Georgia Idaho Illinois Indiana Iowa Kansas Maine Massachusetts Michigan Missouri Montana Nevada New Hampshire New York North Dakota Ohio Oregon Pennsylvania South Dakota Tennessee Texas Virginia Wisconsin DoDEA	Minnesota
GRADE 8  Score decrease	North Carolina Wyoming	Nation (public) Delaware Hawaii New Jersey New Mexico Washington	Maryland

DoDEA = Department of Defense Education Activity.

NOTE: A blank cell indicates that no state/jurisdiction fell within that category.



# **National Takeaways**

- Results described as "historic"
- First time in NAEP history, 3 out of the 4 grade/subject combinations declined
- First decline in mathematics results since 1990
- Performed extensive quality control analysis to ensure data validity



# Trial Urban District Assessment (TUDA) Mathematics

Change in average mathematics scores between 2013 and 2015 for public school students, by participating district

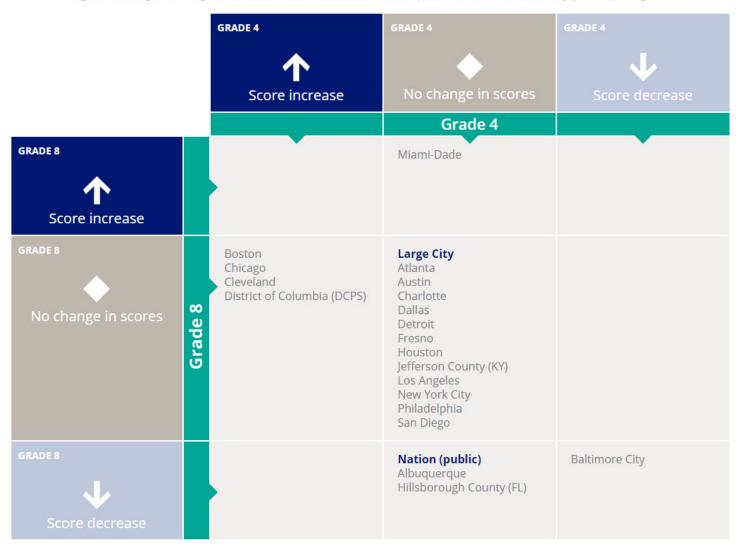


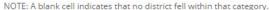
NOTE: A blank cell indicates that no district fell within that category.



# Trial Urban District Assessment (TUDA) Reading

Change in average reading scores between 2013 and 2015 for public school students, by participating district







# 2017

# NAEP on Social Media



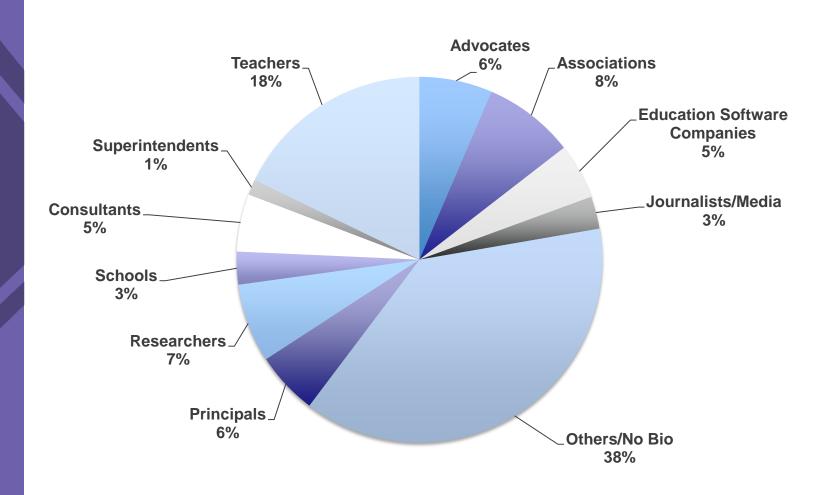
#### **Current Landscape**

- Since 2011, NAEP has gained...
- 7,800+ Twitter followers
- 1,600+ Facebook fans
- 190+ YouTube subscribers
- 50 Vine followers





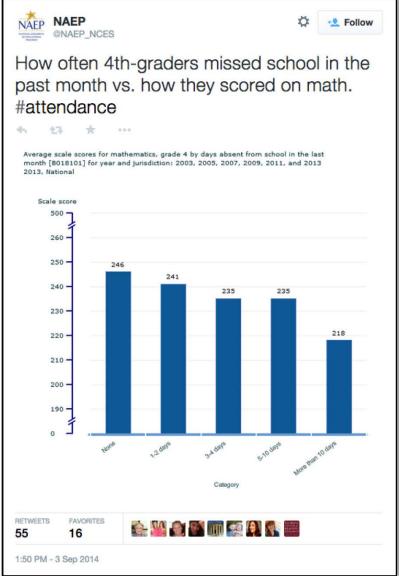
#### **Who Are Our Twitter Followers?**





#### **NAEP on Twitter**







#### **NAEP on Facebook**





#### **NAEP** on YouTube





Private Schools and NAEP: A National Conversation

1,302 views • 6 months ago



How are States Performing in Mathematics and...

285 views • 1 year ago



An Introduction to the National Indian Education...

836 views • 6 months ago



An Introduction to the NAEP 2013 Mathematics and...

5,877 views • 1 year ago



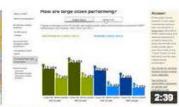
2013 Trial Urban District Assessment Summary

418 views • 1 year ago



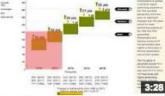
What Knowledge and Skills Do Students Have in...

151 views • 1 year ago



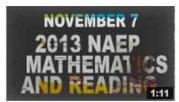
2013 Trial Urban District Assessment Video Site...

131 views • 1 year ago



Are Students Making Progress in Mathematics...

268 views • 1 year ago



#### 2013 NAEP Mathematics and Reading: A Preview

351 views • 1 year ago



#### **Exploring a TEL Task**

611 views • 1 year ago



- Visit NAEP:
  - <a href="http://nationsreportcard.gov">http://nationsreportcard.gov</a>
- Follow NAEP:







# What is Up and Coming in International Assessments

# **International Studies in 2018**

Assessment	Subjects	Grade or Age Level	Sampled Schools	Sampled Students	Administration Window	Recruitment
eTIMSS Field Test	Mathematics and Science	4 and 8	About 40 per grade level	2 classes	March-April 2018	May 2017
ICILS Main Study	Computer Literacy	8	About 320	30 students 20 teachers	March-April 2018	May 2017
PISA Main Study	Reading, Mathematical and Science Literacy	15-year olds	About 280	Up to 52 students	Fall 2018	Spring 2018
TALIS Main Study	N/A Teacher only online survey	Teachers of grades 7, 8, and/or 9	About 280	Up to 20 teachers	Spring 2018	Fall 2017



#### **PISA Overview**

- Rotating topics: reading, mathematics, and science literacy; other subjects also offered (problem solving, financial literacy)
- Administered every 3 years
- Target population: Students aged 15 years (mostly in grades 9 and 10)
- Coordinated by the Organization for Economic Cooperation and Development (OECD)
- International contractors, led by ETS



#### **TIMSS Overview**

- Trends in mathematics and science achievement
- Students in grade 4, 8, and 12
- Administered every 4 years at grades 4 and 8
- Coordinated by the International Association for the Evaluation of Educational Achievement (IEA)
- International contractors, led by Boston College
- National contractors, led by Westat





#### **PIRLS Overview**

- Coordinated by the International Association for the Evaluation of Educational Achievement (IEA) and Study Directors located at Boston College
- In 2011, 53 education systems participated
- Literacy at grade 4 (informational and literary texts)
- Open-ended and multiple-choice format questions
- Student, teacher, and school questionnaires





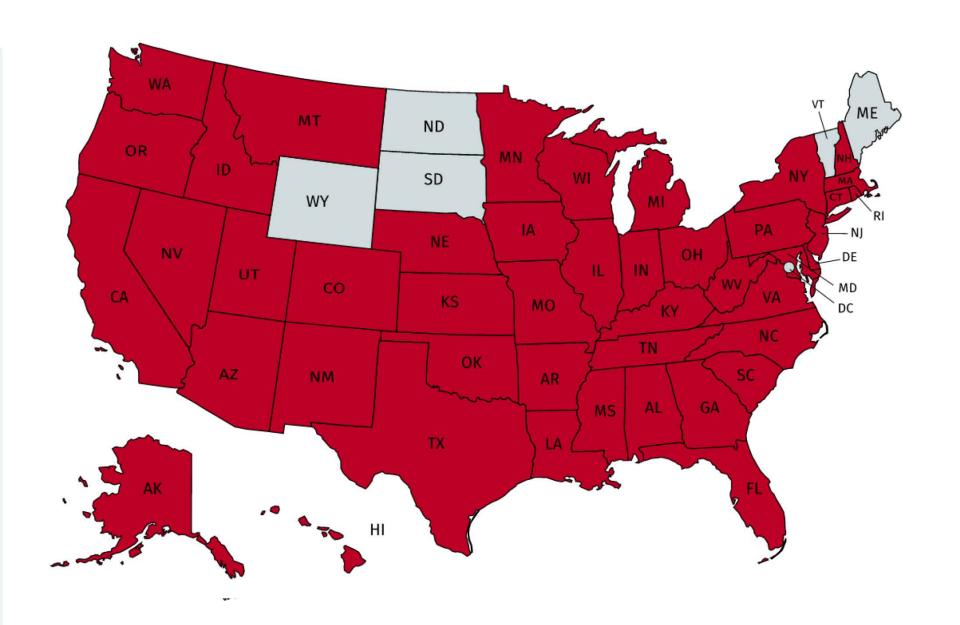
# International Computer and Information Literacy Study (ICILS)

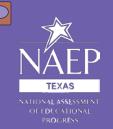
Computer-based assessment for 8<sup>th</sup>-graders and questionnaires for students, teachers, and principals Assessment:

- Computer and information literacy (CIL): "an individual's ability to use computers to investigate, create, and communicate in order to participate effectively at home, at school, in the workplace, and in society"
  - » Digital information focuses on understanding computers, gathering information, producing information, and digital communications
  - » Computational thinking focuses on conceptualizing problems and operationalizing solutions, the style of thinking used when programming a computer or developing an application for another type of digital device



### States with Schools Sampled for ICILS 2018





# NCES International Assessments and Surveys

**PIAAC** 

TIMSS Advanced

**PISA** 

TIMSS ICILS

4<sup>th</sup> grade

mathematics,

Reading,

8<sup>th</sup> grade Mathematics, science, computer and information 15-year-olds
Reading,
mathematics,
science,
periodically
other subjects

12<sup>th</sup> grade Advanced mathematics and physics Adults 16-74
Literacy,
numeracy,
problem
solving,
outcomes in
employment,
income,
education,
health

PIRLS TIMSS

IELS

**Kindergarten**Early learning

science

literacy

**TALIS** 

Middle grades

Teachers and teaching



# International Activities Program

#### What's available on the website?



http://nces.ed.gov/surveys/international/



#### For More Information

**NCES** 

http://nces.ed.gov/

NCES International Activities Program

http://nces.ed.gov/surveys/international/

International Table Library

http://nces.ed.gov/surveys/international/table-

library.asp

International Data Explorer

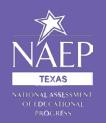
http://nces.ed.gov/surveys/international/ide/





# 2017

# **NAEP Resources**



- The NAEP Questions Tool enables users to explore more than 2000 released questions, student responses, and question-level data across multiple content areas. <a href="http://nces.ed.gov/nationsreportcard/ITMRLS/">http://nces.ed.gov/nationsreportcard/ITMRLS/</a>
- NAEP Item Maps help to illustrate what students know and can do in NAEP subject areas by positioning descriptions of individual assessment items along the NAEP scale at each grade level.

http://nces.ed.gov/nationsreportcard/itemmaps/



- The NAEP Data Explorer (NDE) is a web-based application for accessing NAEP data. <a href="http://nces.ed.gov/nationsreportcard/naepdata/">http://nces.ed.gov/nationsreportcard/naepdata/</a>
- The NAEP State Comparisons Tool lists states and jurisdictions according to average scale scores of students overall and average scale scores of selected student subgroups for a specific year. <a href="http://nces.ed.gov/nationsreportcard/nde/statecomp/">http://nces.ed.gov/nationsreportcard/nde/statecomp/</a>



#### **Contact Information**

- Texas Education Agency Student Assessment
  - Kim Ackermann, NAEP Coordinator
  - Kim.Ackermann@tea.texas.gov
  - **-** 512-463-9536
- www.mynaep.com (MySchool Web Site)
- NAEP Help Desk 1-800-283-6237 or <u>naephelp@westat.com</u> Monday through Friday between 8 a.m. and 5 p.m. ET.