



BEYOND THE PENCIL:

*The Nation's Report Card;
Transition to Technology*

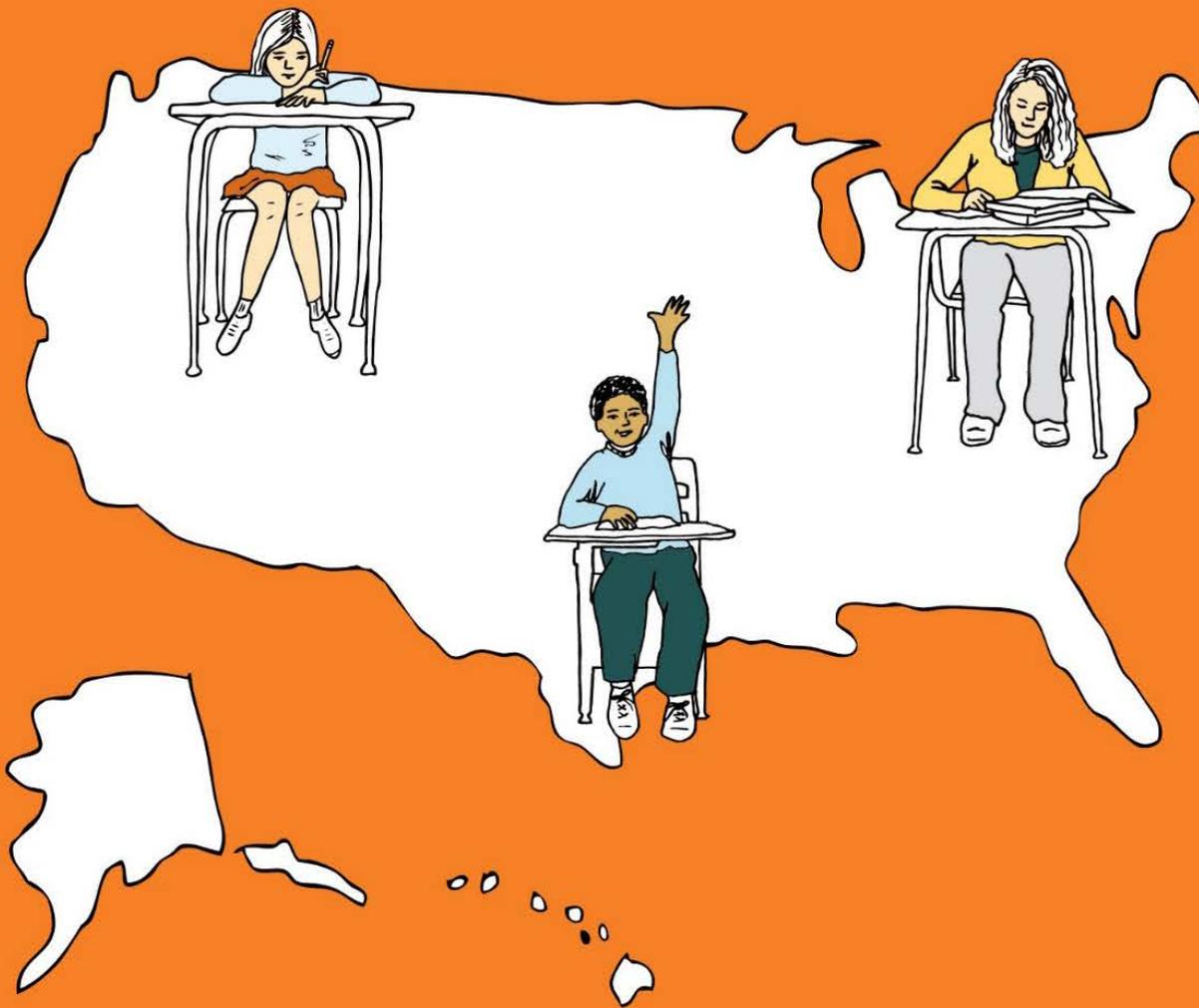
William Ward

National Center for Education Statistics

Rochelle Michel

Educational Testing Service

AN OVERVIEW OF NAEP





What Is NAEP?

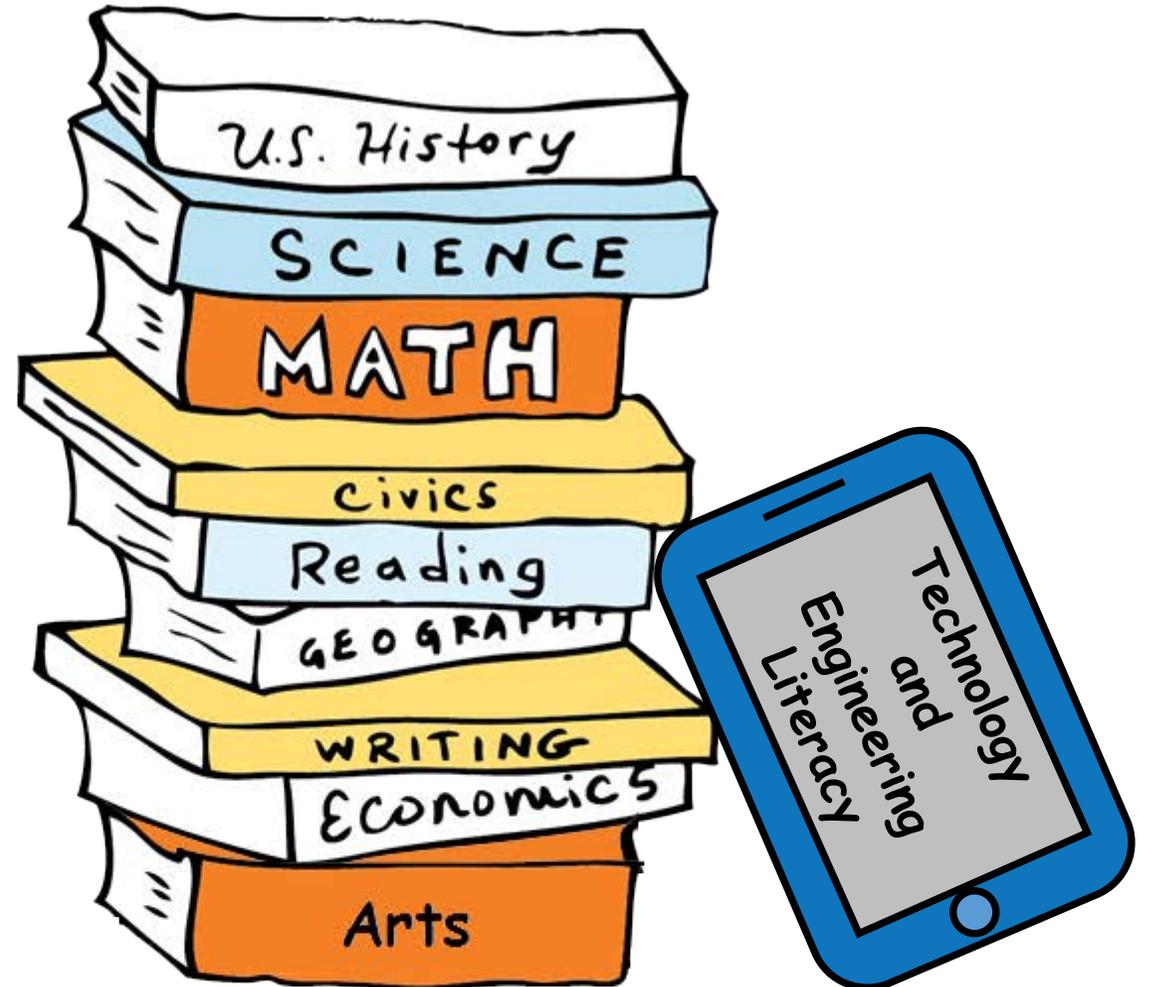
- National Assessment of Educational Progress
- Common yardstick of student performance across states and select large urban districts
- Congressionally mandated

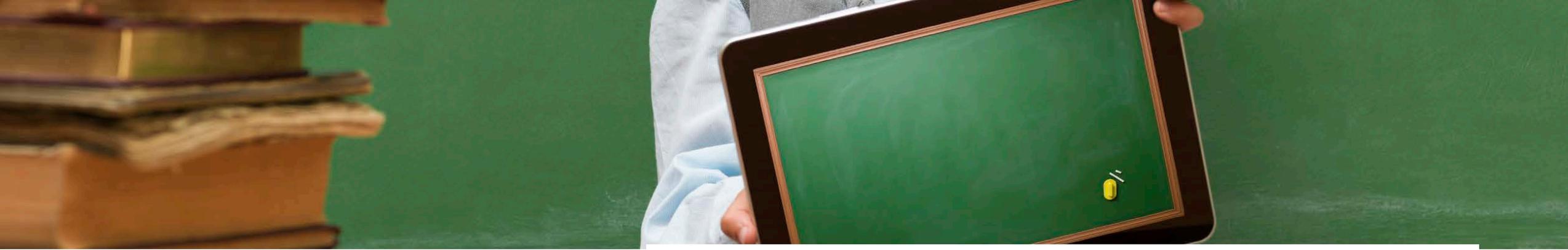




What Is NAEP?

- Demonstrates what students know and can do in a variety of subject areas
- Designed to assess challenging content
- Newest assessment: Technology and Engineering Literacy (TEL)





What Is NAEP?

- Reports scale scores and achievement levels for student performance
- National, state and urban district reporting

The 
Nation's
Report Card



What Are NAEP's Goals?

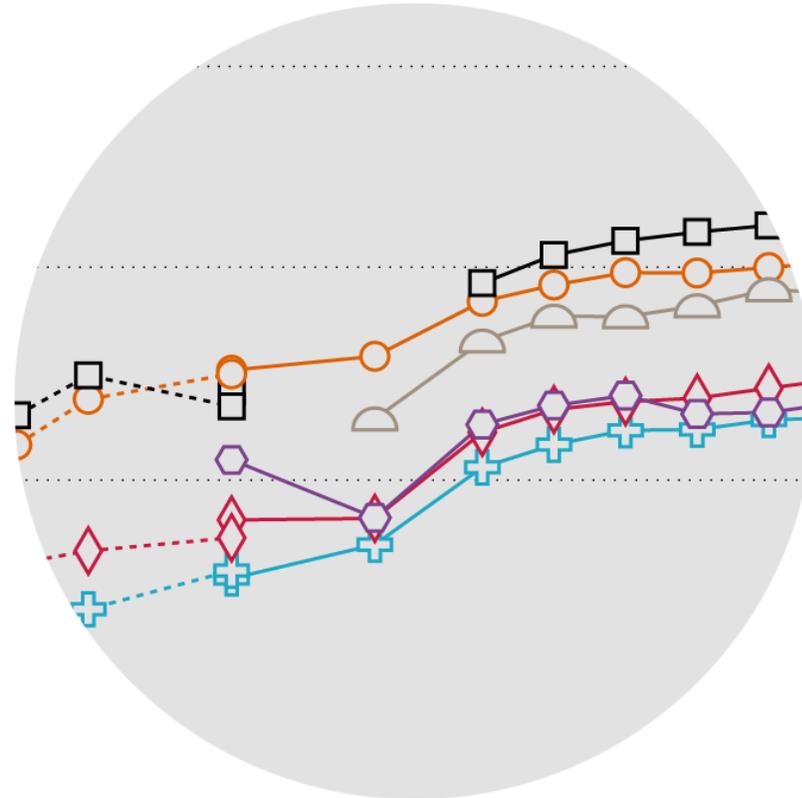
- Report the condition of academic education across the nation





What Are NAEP's Goals?

- Track trends in student performance over time





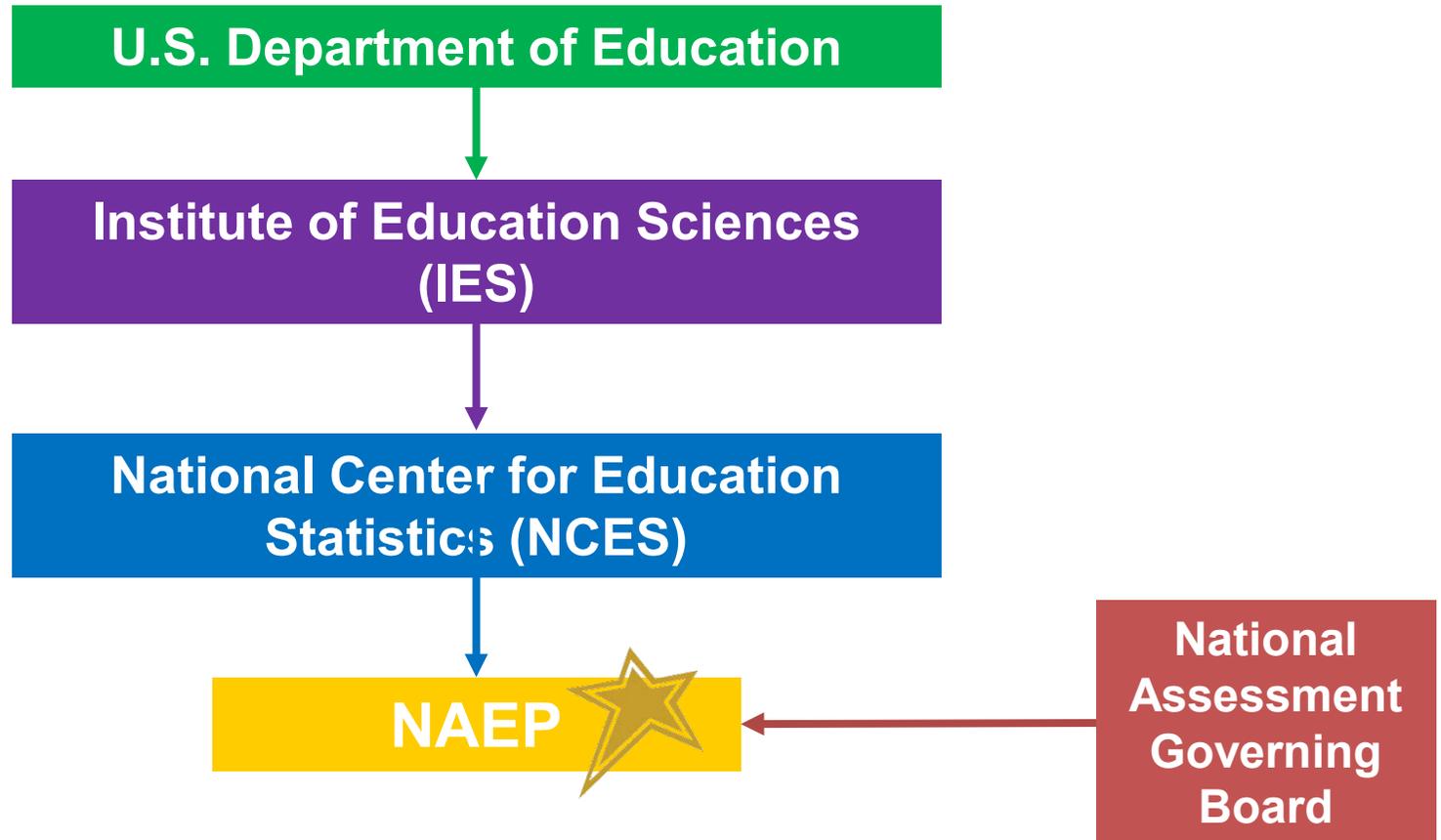
What Are NAEP's Goals?

- Report on group-level student performance and contextual information on student learning





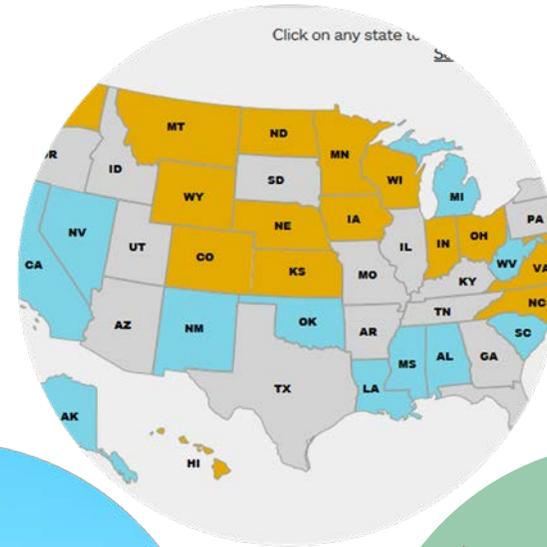
Who Is Responsible For NAEP?





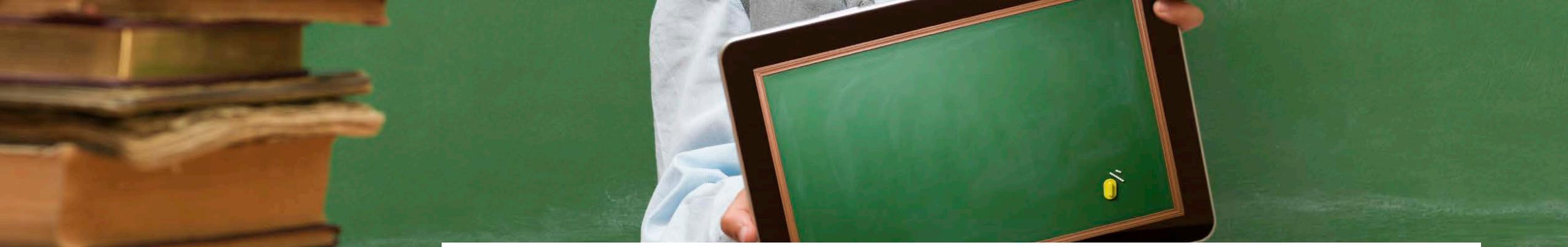
What Does NAEP Say About Student Achievement?

Grades
4 8
12

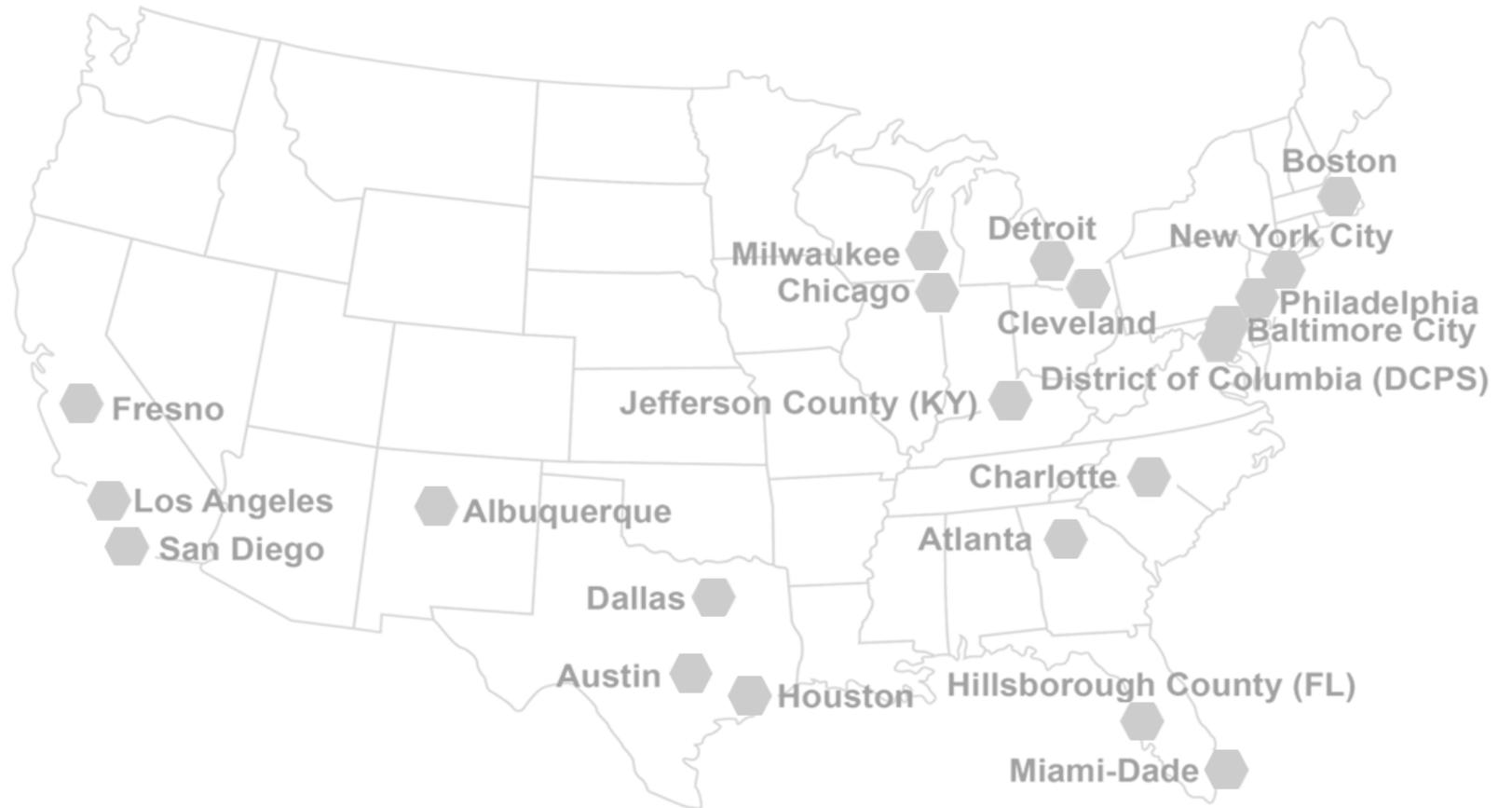


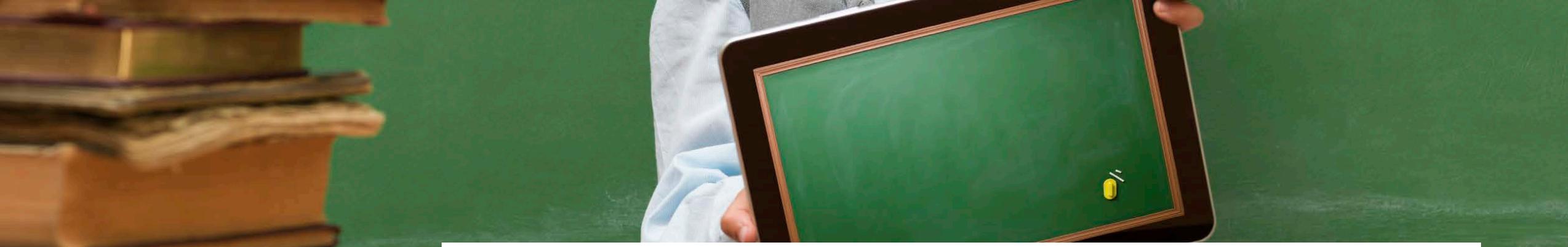
Trial Urban District Assessment (TUDA)



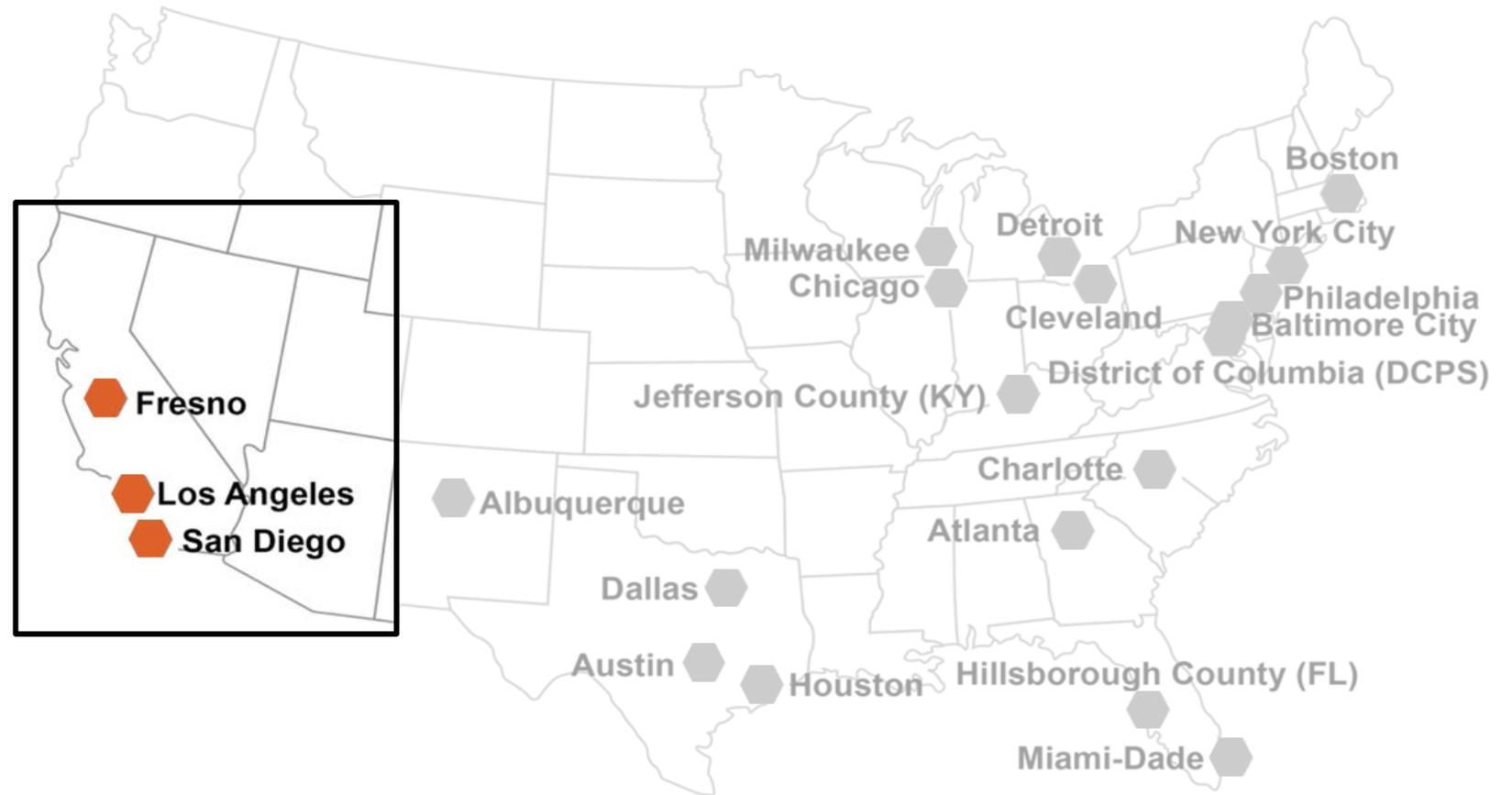


Which Districts Are In TUDA?

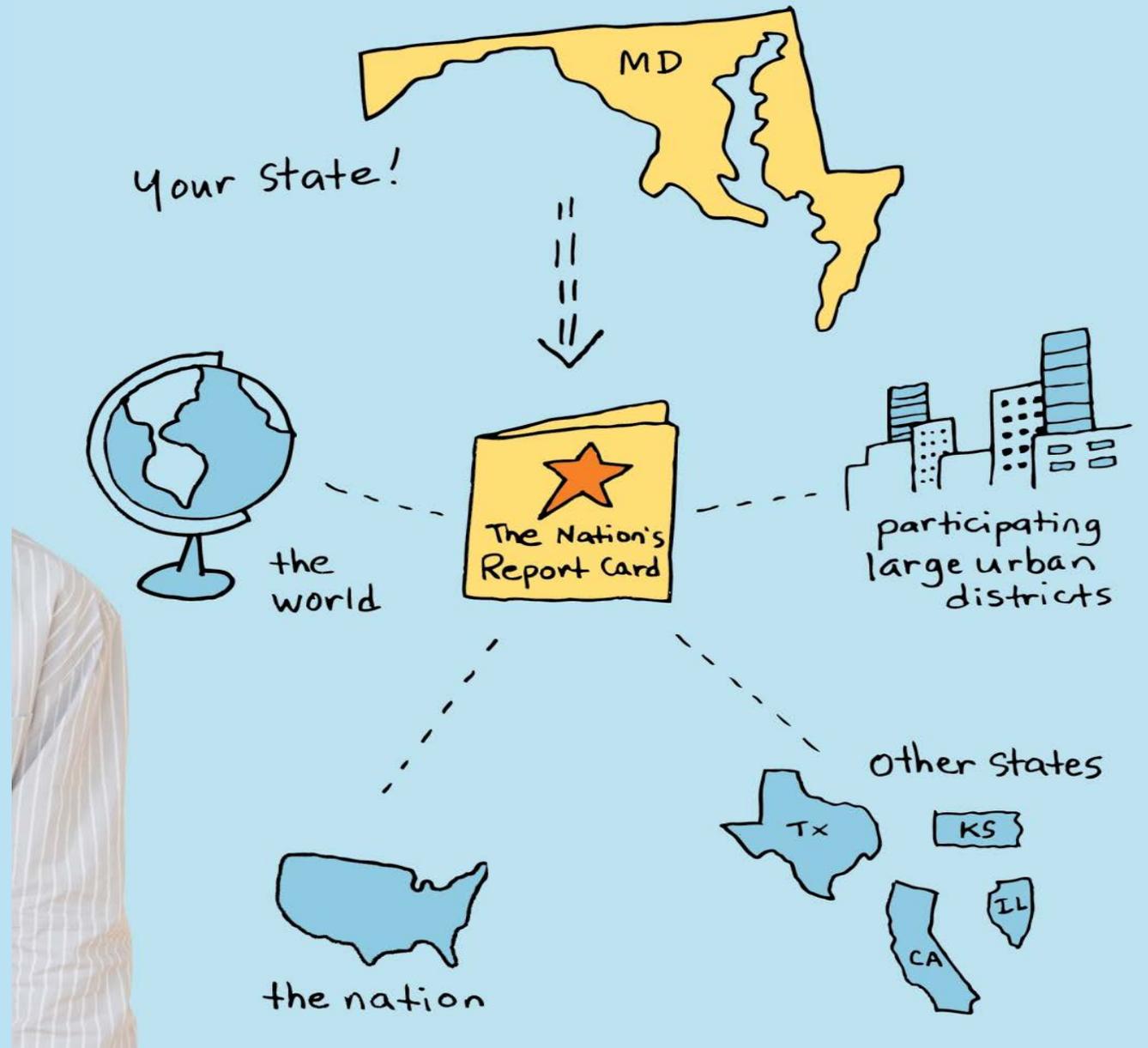




Which Districts Are In TUDA?



NAEP COMPARED TO OTHER ASSESSMENTS





NAEP Schedule

National
Civics
Geography
U.S. History
TEL
(Grade 8)

**National
State**
TUDA
Math
Reading
Science

National
Arts
(Grade 8)

**National
State**
TUDA
Math
Reading
Writing

National
Civics
Geography
U.S. History
TEL

**National
State**
TUDA
Math
Reading
Science

2014

2015

2016

2017

2018

2019



NAEP In The News

Math Gains Add Up on National Testing

Scores for U.S. Eighth- and Fourth-Grade Students Continue to Rise, but Reading Numbers Barely Budge

BY STEPHANIE BANCHERO

Elementary-school students notched the highest scores ever on national math exams this year, continuing a 20-year trend of improvement, but reading scores remained lackluster, according to data released Tuesday.

Higher in reading. Also in math, the data showed that eighth-grade students scored 265, one point higher than in 2009 and five points higher than in 2007. The results revealed that students are making progress over how to achieve, with education advocates seizing on the news as a sign of progress.

WASHINGTON — Scores on the National Assessment of Education Progress, Still needs improvement. The nation's progress on math and reading tests administered by the U.S. Department of Education.

Schoolkids' scores improve, but still don't hit the mark

Associated Press

WASHINGTON — Scores on the National Assessment of Education Progress, Still needs improvement. The nation's progress on math and reading tests administered by the U.S. Department of Education.

The reading test asked students to read passages and recall details or interpret them. In math, students were asked to answer questions about topics such as geometry, algebra and numbers.

Mixed results for U.S. students in math, reading

They are making progress. But they lag in reaching goals set by No Child Left Behind.





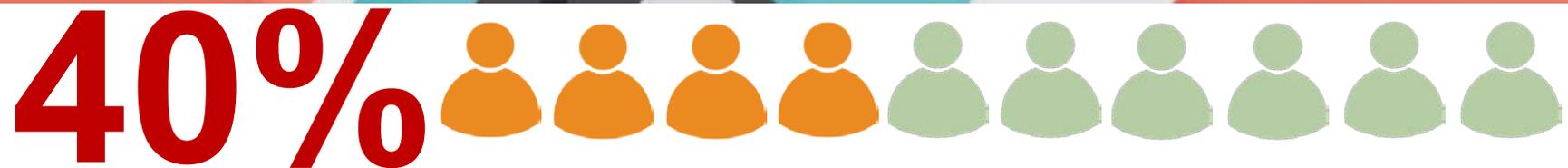
TRANSITIONING TO TECHNOLOGY

Why Is NAEP Making This Transition?

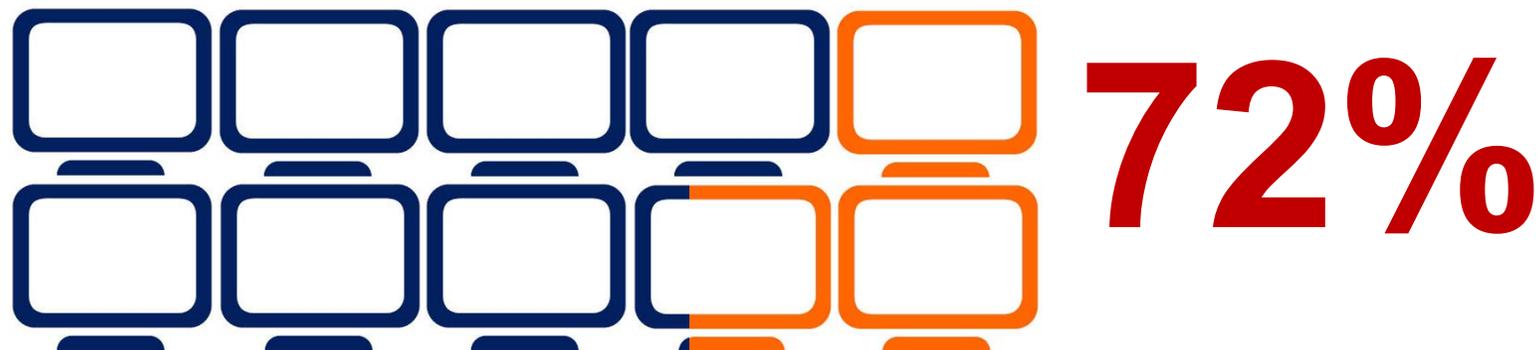
- Technology in Student Learning
- Advances in Cognitive and Learning Sciences
- Changes in Assessment Landscape



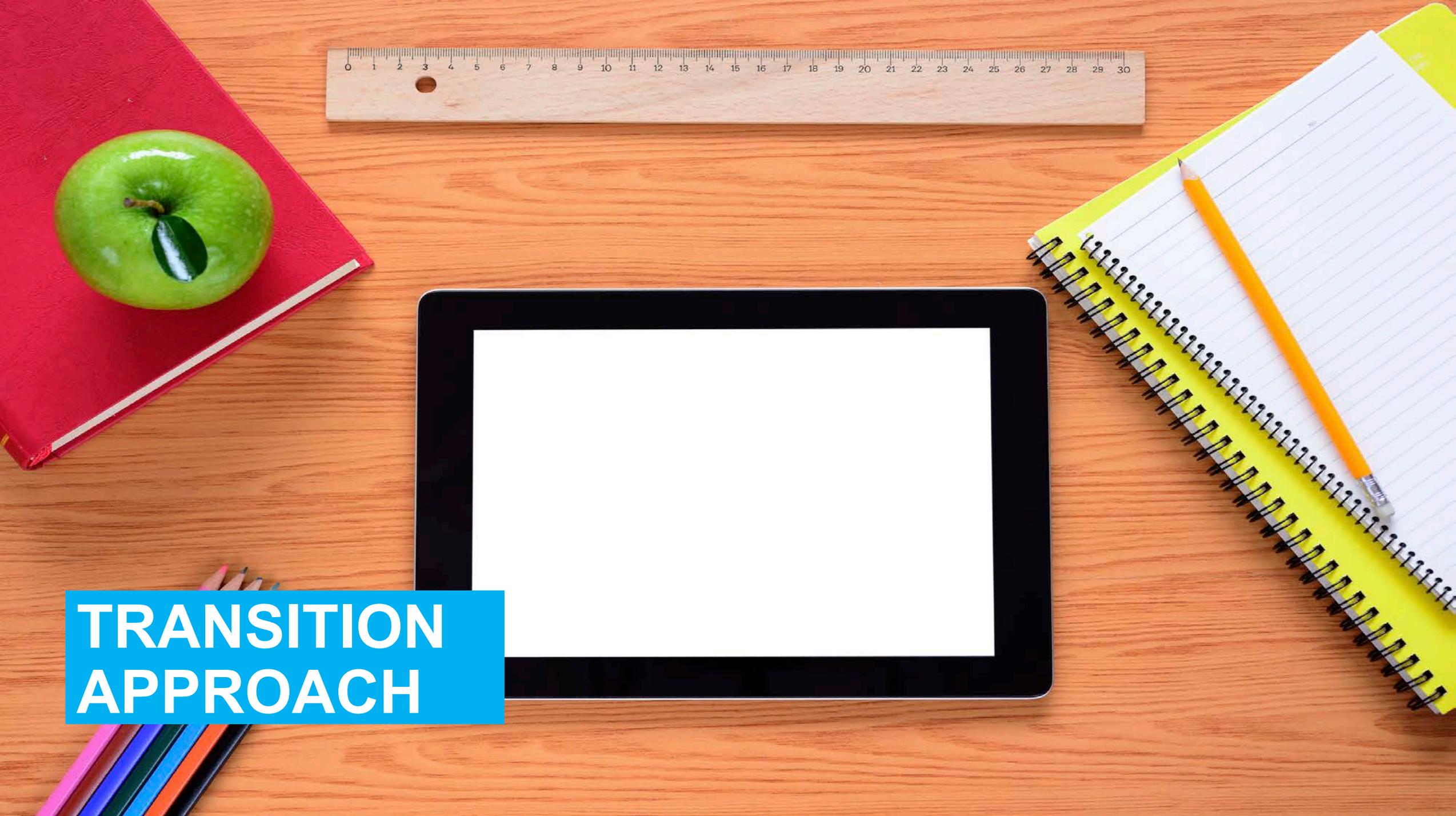
Use Of Technology In Schools



of public school teachers use computers for instruction



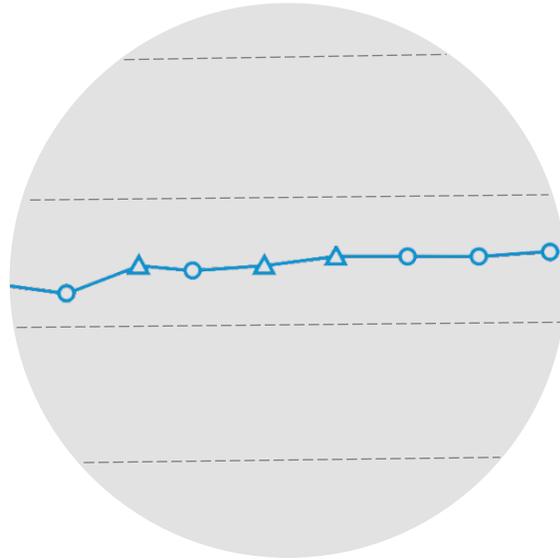
of schools use online student assessments



TRANSITION APPROACH



Transition Goals



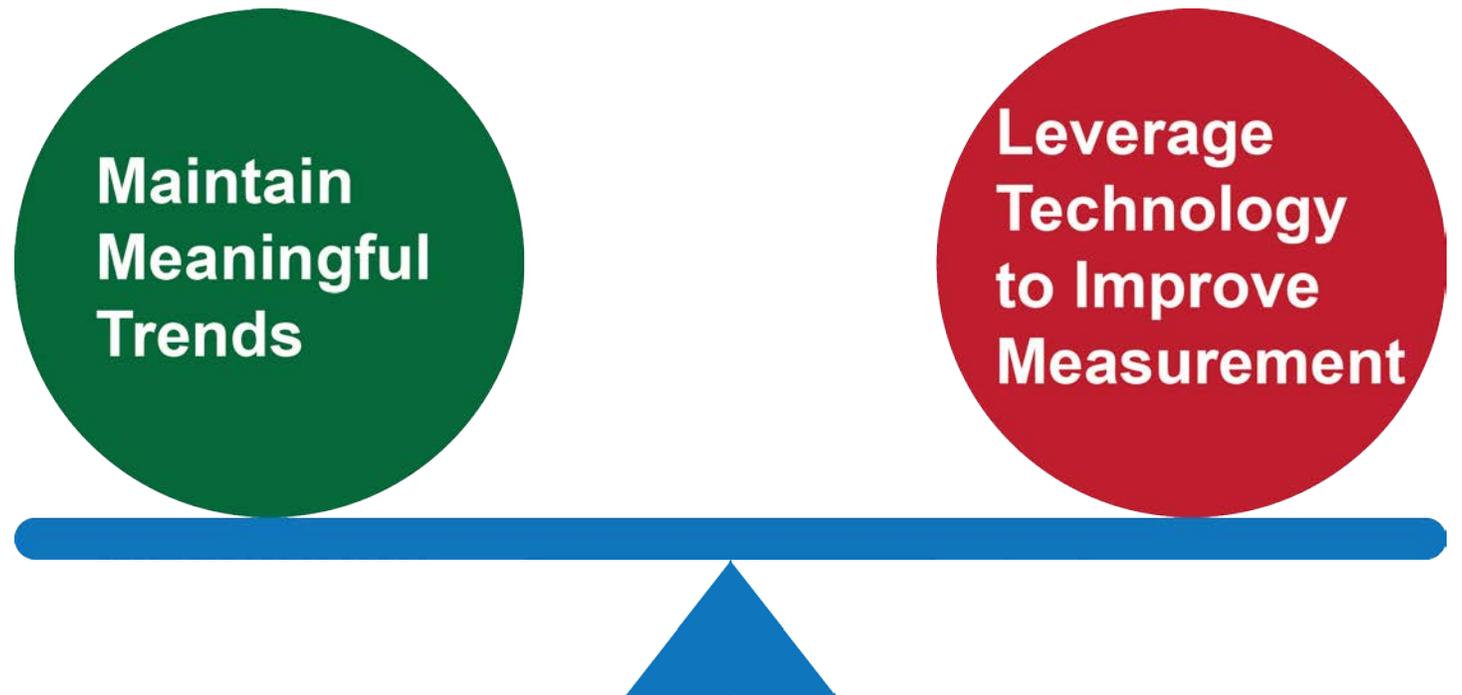
Maintain
Meaningful
Trends



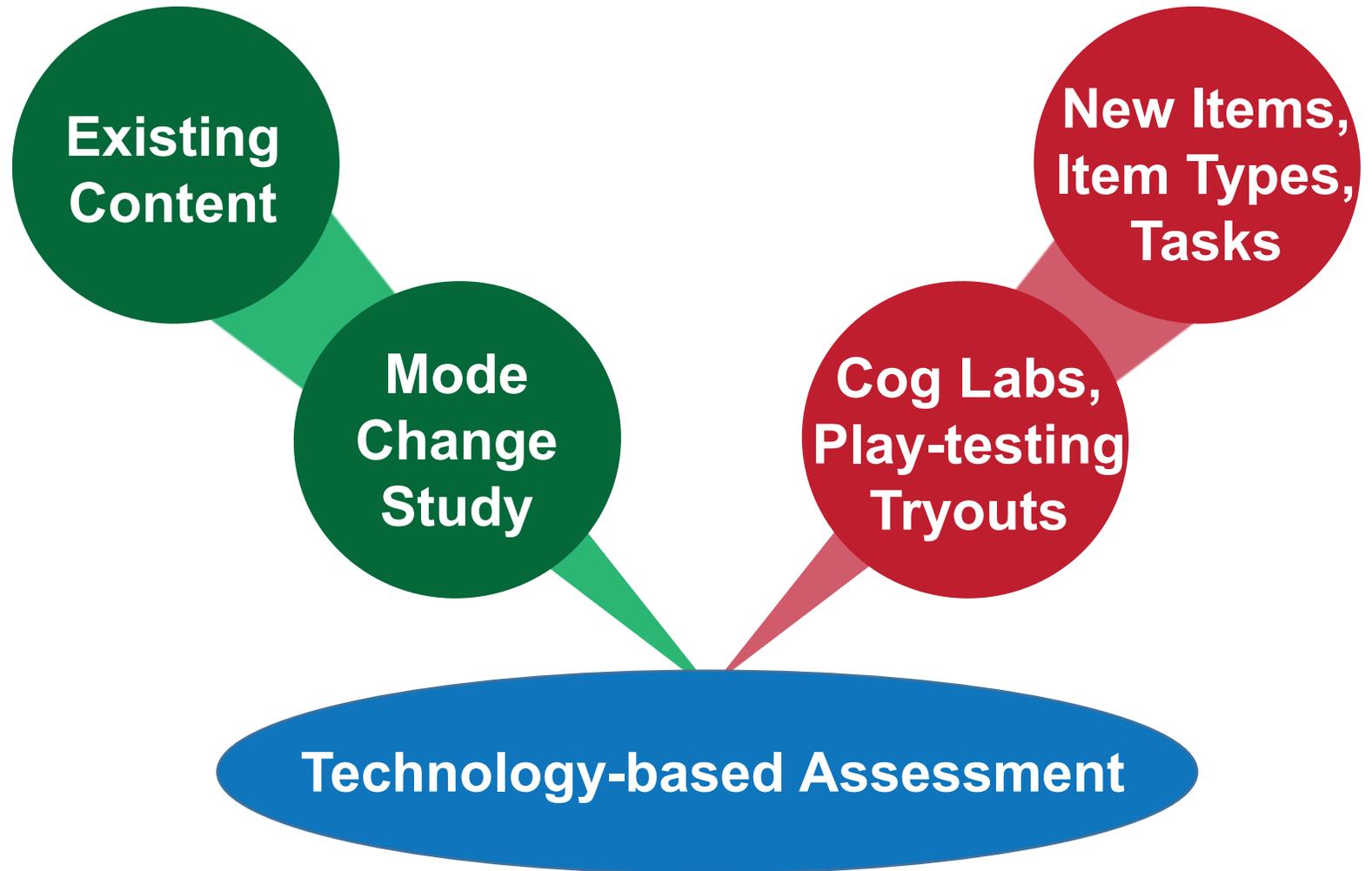
Leverage
Technology to
Improve
Measurement



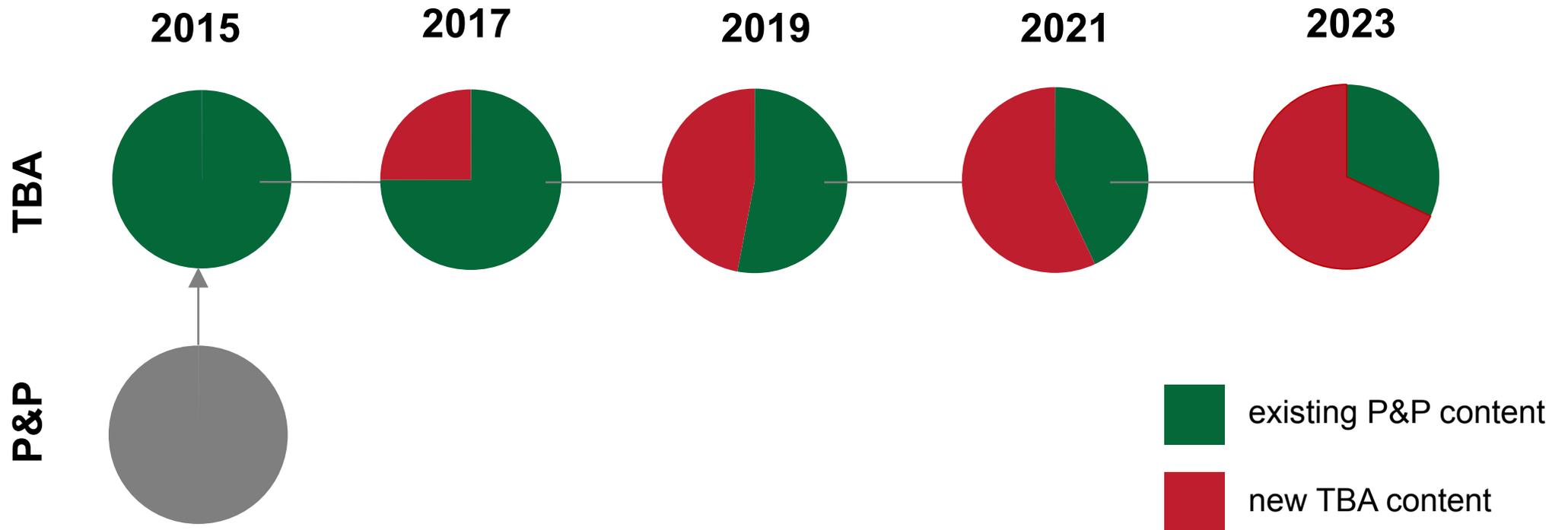
It Will Be A Balancing Act



Transition Activities

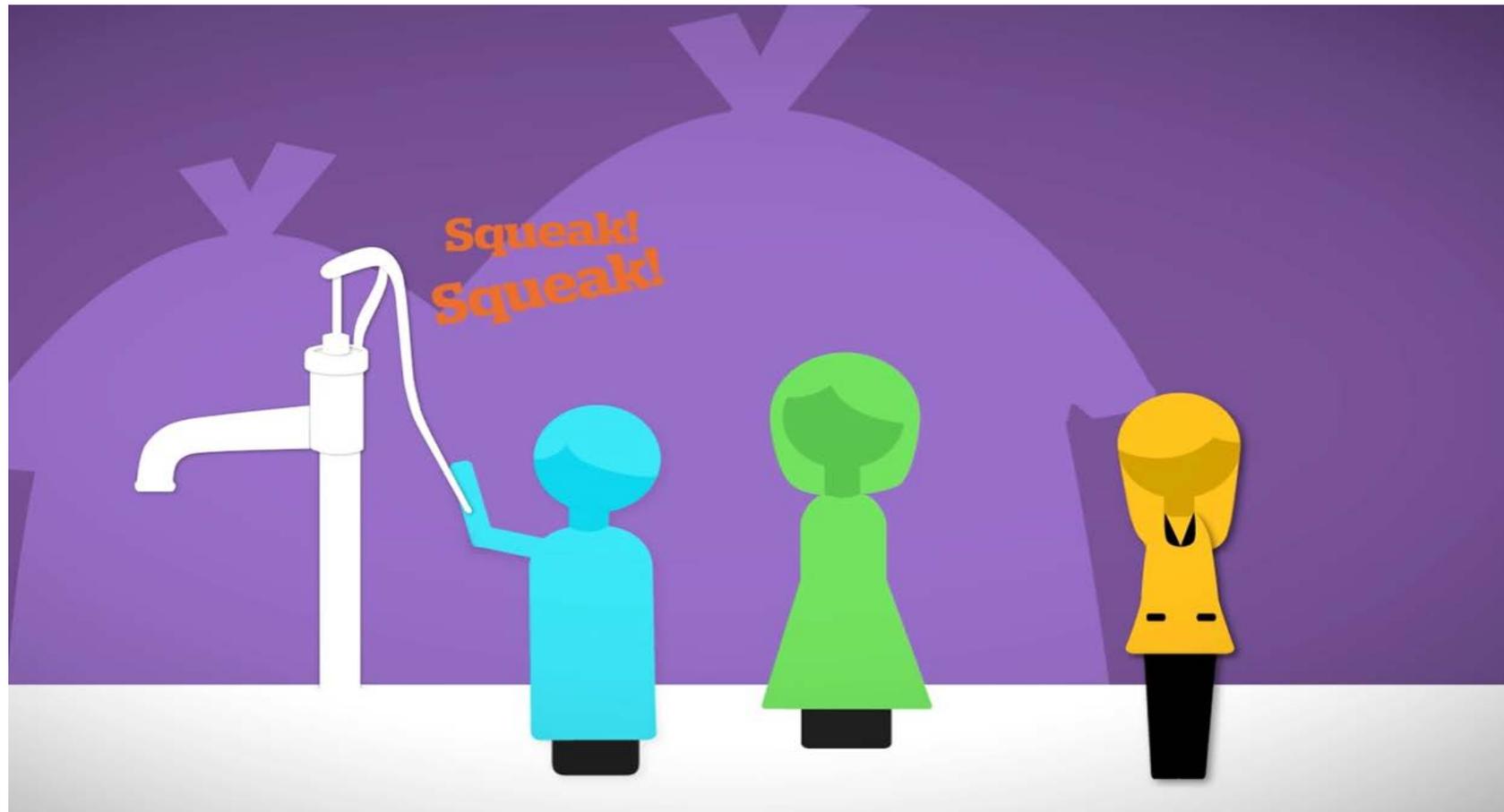


Transition To Technology



TEL: Wells Task

<http://nces.ed.gov/nationsreportcard/tel/>



A young woman with long, curly dark hair is the central focus, looking intently at a tablet computer she is holding. She is wearing a light blue denim jacket over a pink top. In the background, two other young women are visible, both also looking at their devices. One is wearing a red cardigan and the other a light blue t-shirt. The setting appears to be a bright, modern classroom or office environment.

**OPPORTUNITIES
AND
CHALLENGES**



Opportunities Within TBA

- Richer information about student performance
- Seamless, invisible accommodations
- Assessment content that reflects 21st century skills





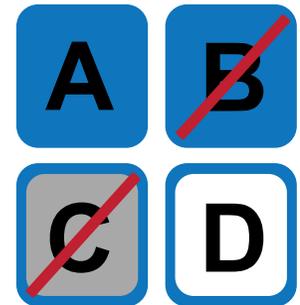
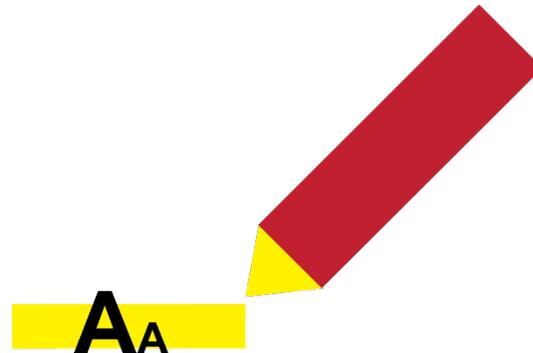
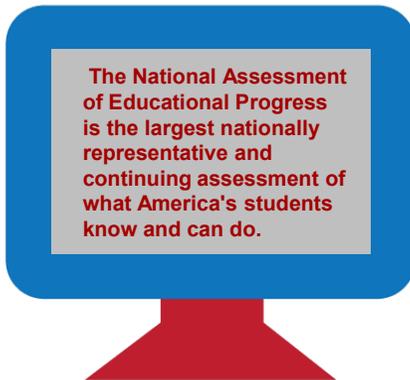
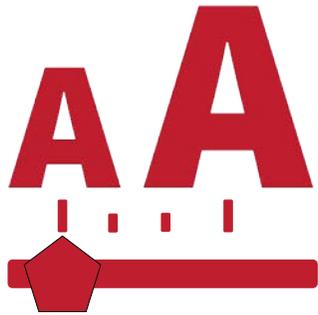
Richer Information About Student Performance

- More authentic items and tasks to measure a broad range of knowledge and skills
- More in-depth understanding of what students know and are able to do
 - Capture information about student problem solving processes





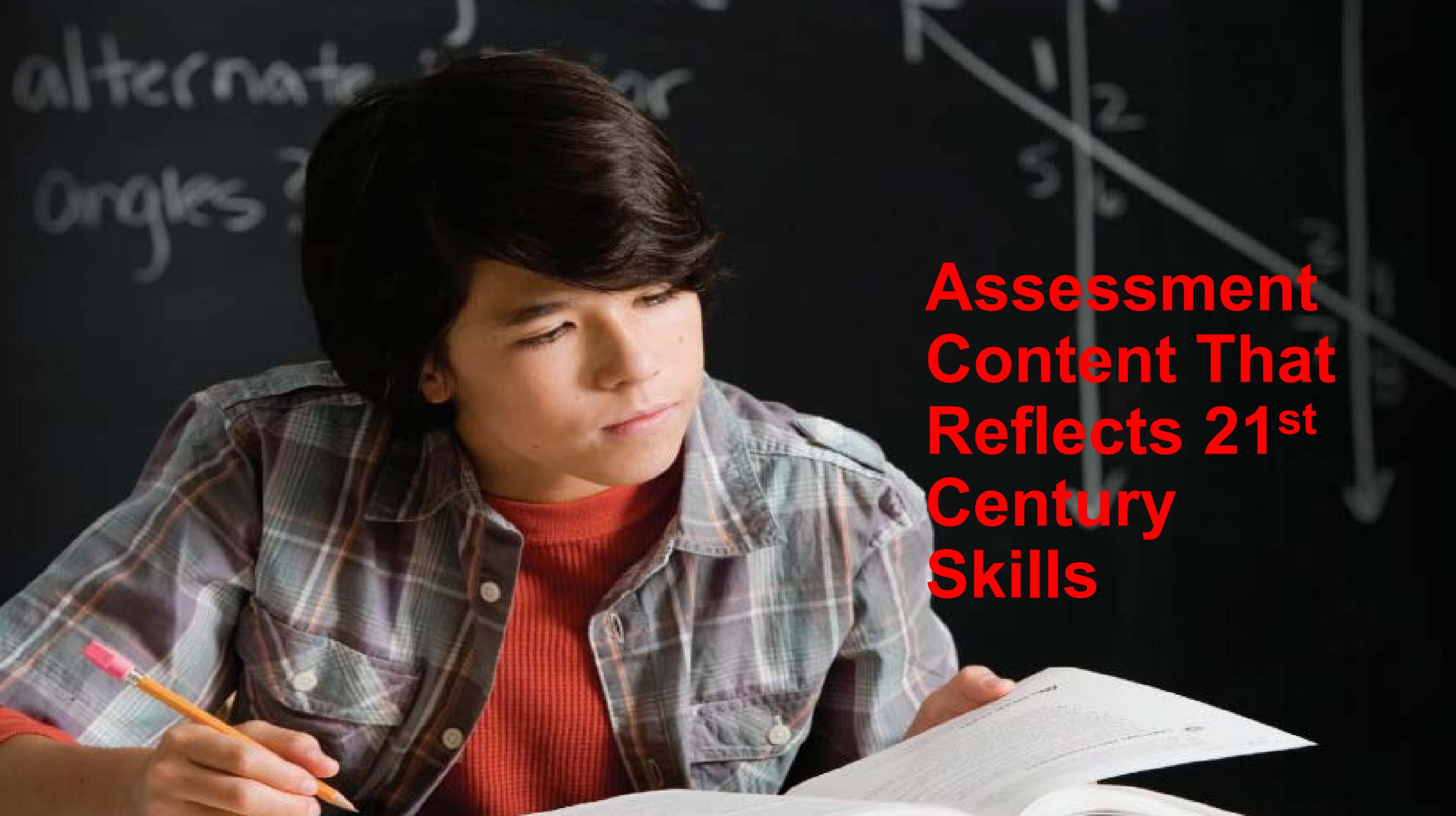
Design For Accessibility





Expert Feedback

“Rapidly changing technology is driving all aspects of modern life, including learning and assessment. NAEP should continue to serve as a leader in assessment innovation as new technologies become available for assessment...”



**Assessment
Content That
Reflects 21st
Century
Skills**

Grade 12 mathematics high-complexity items

- Students are expected to use:

reasoning

judgment

planning

creative thought

analysis

**Assessment
Content That
Reflects 21st
Century
Skills**



Challenges

- Digital divide
- Developing methodology that maintains trend while being innovative
- Requires increased level of both technical and logistical cooperation from districts and schools

A group of children are engaged in a hands-on science activity outdoors. In the foreground, a young girl with long brown hair, wearing a blue shirt, is smiling as she adjusts a red wire on a piece of equipment. The equipment consists of a metal base with a coiled silver cable, a red knob, and a white cylindrical component with a red lens. In the background, a boy in a bright green shirt is focused on his work, and another child in a blue patterned shirt is partially visible. The scene is set against a backdrop of green grass and trees, suggesting a park or schoolyard environment.

**MORE
INNOVATIVE
REPORTING**



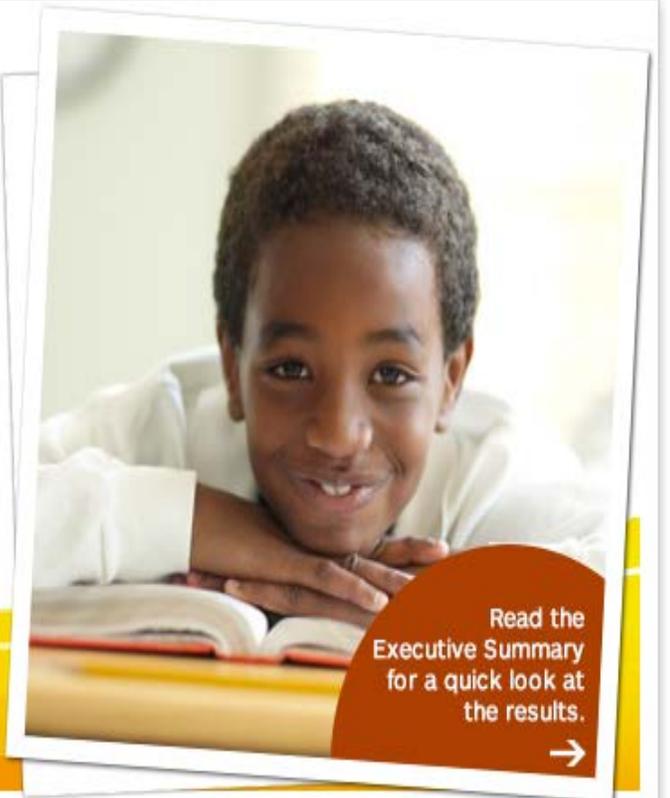
2013 Mathematics And Reading



Welcome to The Nation's Report Card!

- Explore interactive and dynamic graphics that illustrate the results of the 2013 mathematics and reading assessments.
- Test yourself with actual National Assessment of Educational Progress (NAEP) questions.
- Watch videos for tips on how to explore and interpret results.

WATCH VIDEO >>



Lessons Learned from the 2012 Grade 4 Writing Computer-Based Assessment (WCBA) Study

4th Grade Writing Computer- Based Assessment

Computers are becoming increasingly important in today's classrooms as tools for both teaching and learning, but little is known about the knowledge and skills of elementary students in large-scale computer-based writing assessments. The Grade 4 Writing Computer-Based Assessment (WCBA) study was conducted to determine if fourth-grade students could effectively demonstrate their writing knowledge and skills during a computer-delivered assessment.

The Grade 4 WCBA Study consisted of two parts:

- small-scale usability testing to inform development of the assessment platform for fourth-grade students; and
- a pilot writing assessment administered to a sample of 13,000 students nationwide.

Lessons learned from the study can inform future development of computer-based assessments as well as shed light on what fourth-grade students know and can do. Additionally, we were able to gain insights on fourth-grade students' use of editing tools to compose their responses.

Note that the sample used in this study is not representative of the nation. The performance results only pertain to participants in the pilot study. Please use caution when interpreting these findings.

Click the buttons below to learn more about the study and its findings.

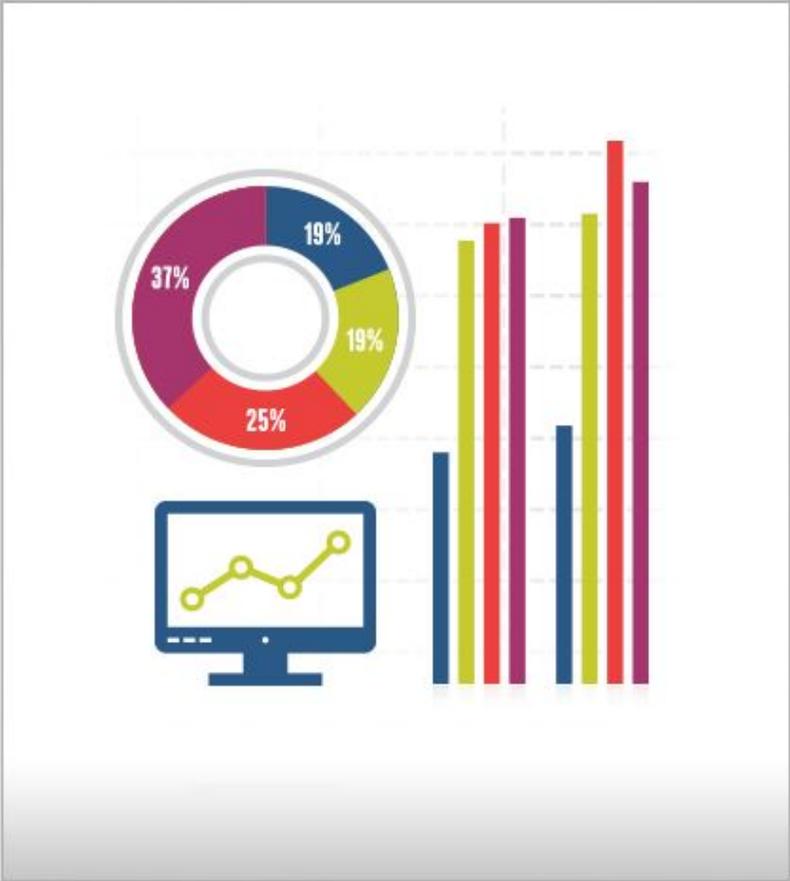


4th Grade Writing Computer-Based Assessment

How well did fourth-grade students perform on the WCBA Study?

In 2012, NAEP administered the Writing Computer-Based Assessment (WCBA) to around 13,000 fourth-grade students nationwide. The students were provided a laptop and headphones to fully engage with the computer-based assessment, which included video and audio. Students completed either two 30-minute writing tasks or three 20-minute writing tasks. The WCBA captured a snapshot of students' abilities to develop, organize, and express their ideas to achieve a purpose and address a specified audience.

The tabs in this section describe lessons learned about fourth-grade students' ability to write using the computer. Results are for students who completed two 30-minute tasks, unless otherwise noted. Student actions were also analyzed for the lowest performing 20 percent of students, the highest performing 20 percent of students, and the students performing in between.



NAEP Suite Of Online Tools

The screenshot shows the homepage of the National Assessment of Educational Progress (NAEP) website. At the top, the logo for the Institute of Education Sciences and the National Center for Education Statistics is displayed. A search bar is located in the top right corner. Below the header, there is a navigation menu with links for Publications & Products, Surveys & Programs, Data, Tools & Training, Fast Facts, School Search, and News & Events. The main content area features the NAEP logo and the title 'National Assessment of Educational Progress (NAEP)'. Below this, there are links for Publications & Products, Staff, and Data Tools, along with options to Join NewsFlash and Contact NAEP. A search bar for NAEP is on the left, and a list of navigation links is below it. The main heading is 'NAEP Tools and Applications', with social media sharing options for Like, Tweet, and Email. A paragraph describes the NAEP website's features and provides a link to a brochure titled 'NAEP Tools on the Web' (1.1 MB). Below this, a table lists four tools: Data Explorer, Questions Tool, Item Maps, and State Comparisons. The Data Explorer tool is highlighted with a detailed description of its capabilities, including customizable tables and graphics, and the ability to export data to various formats.

ies INSTITUTE OF EDUCATION SCIENCES

NATIONAL CENTER FOR EDUCATION STATISTICS

Enter search terms here

Publications & Products | Surveys & Programs | Data, Tools & Training | Fast Facts | School Search | News & Events

NAEP National Assessment of Educational Progress (NAEP)

Publications & Products | Staff | Data Tools

Join NewsFlash | Contact NAEP

Search NAEP

Go

NAEP Home

NAEP Overview

Information for ...

Main NAEP Assessments

Long-Term Trend Assessments

High School Transcript Study

National Indian Education Study

Other Studies

Sample Questions, Analyze Data, and More

→ NAEP Data Explorer

NAEP Tools and Applications

Like Tweet Email

The NAEP website features a number of applications designed to give users quick and easy access to questions from previous assessments, performance comparisons, and NAEP assessment data for quick or complex analyses; read a brochure, [NAEP Tools on the Web](#) (1.1 MB), describing the tools. See more information about each tool below, and print Quick Reference Guides if you are a new user.

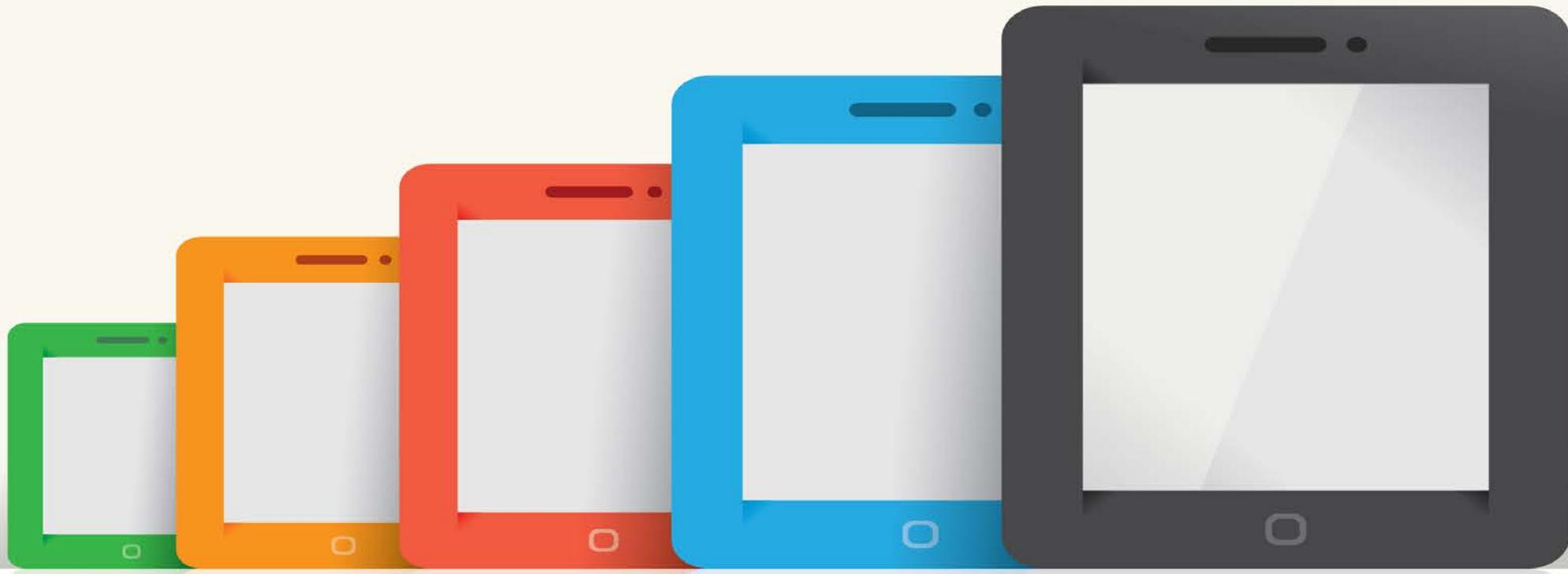
 Data Explorer	<h3>NAEP Data Explorer</h3> <p>The NAEP Data Explorer (NDE) creates customizable tables and graphics to display NAEP results. See the results of an assessment across multiple years, and broken down across a variety of student groups. For some assessments, results are available by state or participating urban district. Results can be filtered by content areas.</p> <p>For in-depth exploration, the NDE provides significance testing, gap analysis, and regression analysis. You can export tables and charts to Word documents, Excel workbooks, and PDFs. Special versions of the NDE focus on the High School Transcript Study (HSTS) and the National Indian Education Study (NIES).</p>
 Questions Tool	
 Item Maps	
 State Comparisons	

NAEP Suite Of Online Tools

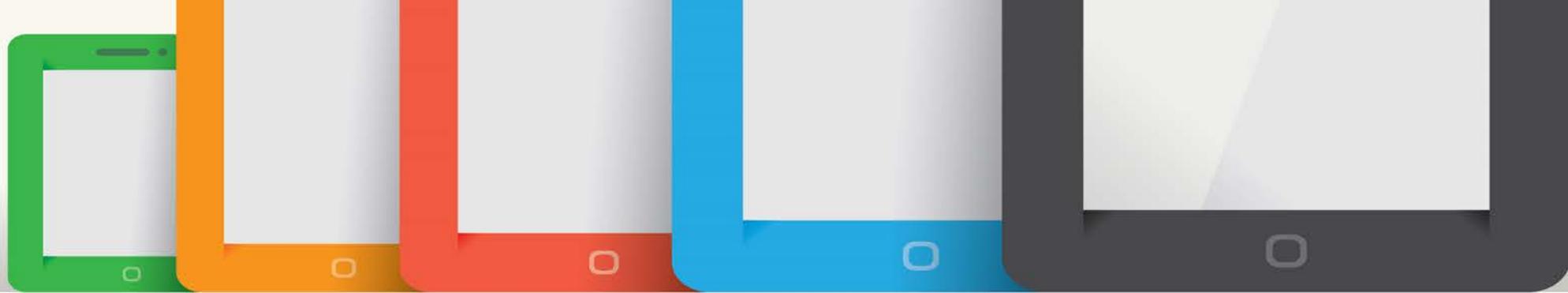
The screenshot displays the NAEP website interface with several tools highlighted in green boxes:

- Questions Tool**: Located at the top right, featuring a red folder icon with a question mark.
- Data Explorer**: Located in the middle left, featuring a blue magnifying glass icon.
- State Comparisons**: Located in the middle right, featuring an orange map of the United States icon.
- Item Maps**: Located in the lower middle left, featuring a green ruler icon.
- State Profiles**: Located in the lower middle right, featuring a purple bar chart icon.
- Test Yourself**: Located at the bottom left, featuring a blue notepad icon.
- District Profiles**: Located at the bottom right, featuring a blue city skyline icon.

The background shows the NAEP website header with the logo for the Institute of Education Sciences, navigation links for Publications & Products, Surveys & Programs, and a search bar. The main content area includes a search bar, a sidebar with links like 'NAEP Home' and 'NAEP Overview', and a central section titled 'NAEP Data Explorer' with a description of the tools.



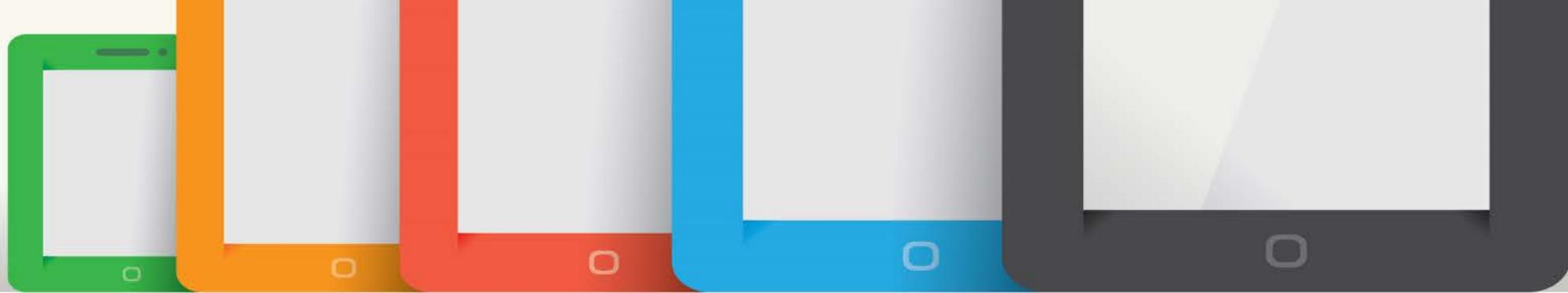
**MOVING FORWARD
THROUGH INNOVATION**



How Is NAEP Looking At The Big Picture?

Survey Assessment Innovations Laboratory (SAIL)

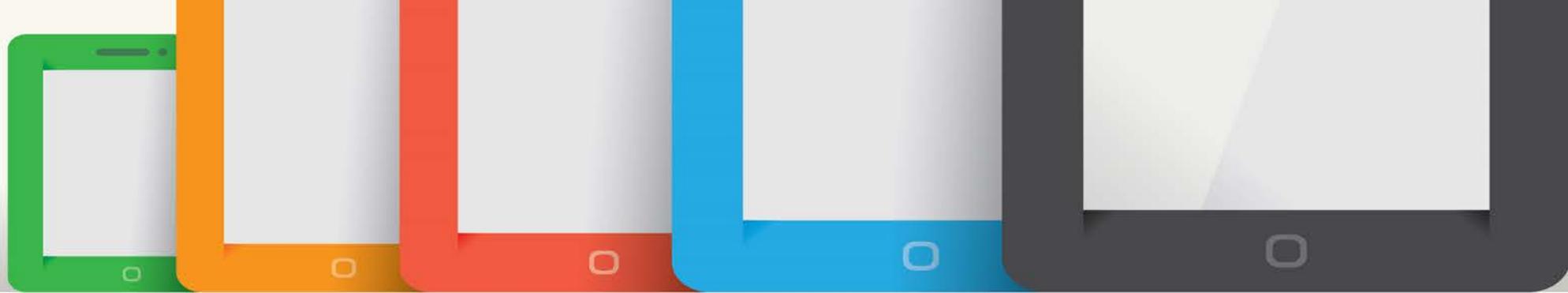
- Centralized research and development of assessment innovations
- Leverages emerging technologies in cognitive and learning sciences
- Guidance provided by national network of researchers and scientists



How Is NAEP Looking At The Big Picture?

Survey Assessment Innovations Laboratory (SAIL)

- Three initial projects are underway
 - Assessing science using a virtual laboratory
 - Integrated measurement of reading, writing, and critical thinking skills in an immersive virtual environment
 - Capturing STEM constructs with virtual objects and manipulables



How Is NAEP Looking At The Big Picture?

NCES Integrated Assessment System (NIAS)

- End current “silo” approach
- Reduce burden on our survey participants and resources
- Effectively respond to needs of the new generation of stakeholders

A young boy with a surprised expression, wearing a light blue shirt, a grey vest, and a dark blue bow tie, holds a tablet with a green screen. He is standing in front of a green chalkboard. To his left is a tall stack of books with various colored spines. The word "CONCLUSION" is written in white capital letters on a blue rectangular background in the lower-left corner.

CONCLUSION



Key Takeaways

- Balance between core function and innovation and technology
- Maintain NAEP's reputation as gold standard
- Students of the 21st century deserve no less