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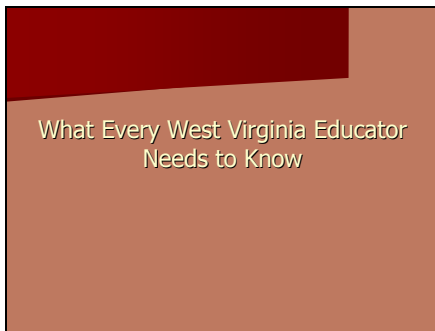


My purpose today is threefold.

First of all, I want to explain what NAEP is and why every educator needs to have at least some familiarity with NAEP.

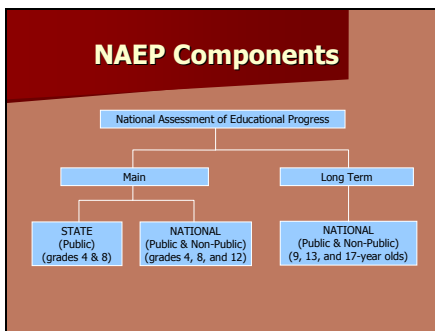
Second, I want to review three of the resources that NAEP makes available to educators over the Web, and Third, I'd like to review NAEP scores to date.

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There's a lot we can learn about NAEP. Today, however, I want to concentrate on the basics that all WV educators need to master in order to discuss it intelligently and use NAEP data responsibly. I also want to clear up some misconceptions about NAEP.

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First of all, let's remember that NAEP, the National Assessment of Educational Progress, is also called *The Nation's Report Card*.

There are 2 versions of NAEP

✓ Main NAEP

✓ And Long Term NAEP

✓ Main NAEP is administered to a statewide student sample (in grades 4 & 8), and

✓ to a national student sample in grades 4, 8, and 12.

✓ Long Term NAEP is a national assessment only and it is administered on the basis of age, rather than grade.

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### NAEP: The Nation's Report Card

- ✓ NAEP is the Nation's only monitor of what students know and can do in various subject areas
- ✓ NAEP is a survey designed to produce national and state level results
- ✓ NAEP produces results for populations, not individuals

Here are some facts that you should be aware of:

- 🔗 [read bullet]
- 🔗 [read bullet]
- 🔗 [read bullet]

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### Why is NAEP Important in West Virginia?

- NAEP is the only on-going assessment for national comparisons
- NAEP is a part of WV State Code (§18-2E-2)
- NAEP is a part of Policy 2340 – Statewide Assessment Program
- NAEP is a part of *No Child Left Behind*

Most importantly,

- 🔗 NAEP is the **ONLY** on-going trend data available for national comparisons.
- 🔗 Participation in NAEP is required both by WV State Code and
- 🔗 by WV State Board policy.
- 🔗 NAEP participation is also required by federal law under the *No Child Left Behind* law.

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### New Context for NAEP

No Child Left Behind Act of 2001

"to ensure that all children have a fair, equal, and significant opportunity to obtain a high-quality education and reach, at a minimum, proficiency on challenging State academic achievement standards and State academic assessments."

Although NAEP has been in existence for more than 40 years, the *No Child Left Behind Act of 2001* provided a new context for NAEP.

The knowledge gained from NAEP now helps assure legislators, educators, and the general public that the intent of this legislation is being implemented.

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### New Context for NAEP

This legislation requires states/districts who receive Title I funding to participate in state NAEP in reading and mathematics at grades 4 and 8 every two years. State participation in other state NAEP subjects, science and writing, remains voluntary in many states

No longer is participation in the state NAEP totally voluntary. Although content areas such as science and writing remain voluntary in most states, participation in the fourth and eighth grade reading and mathematics assessments every two years is required by every district receiving Title I funding.

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### How will NAEP be used?

- Will **not** be used as a formal external confirmation measure
- An important discussion tool
- Will provide a "second opinion" about student achievement on state tests
- National Assessment Governing Board (NAGB) principles for using NAEP to confirm test results permit NAEP to be used as evidence to confirm the **general trend** of state tests in grades 4 and 8 in reading and mathematics.

But what, exactly, is this new context?

How will NAEP results be used to assure compliance with the NCLB legislation?

☞ First of all, it will not be used as a formal "high stakes" measure.

☞ It will, however, serve as an important discussion tool...

☞ providing a second opinion on student achievement as reported by statewide assessments.

☞ Student progress in reading and math as reported by statewide assessment results will be confirmed through comparison with state NAEP results.

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### School Selection

Schools are classified based on 2 characteristics:

1. Type of location
  - large central city (>250,000)
  - mid-size central city (50,000-250,000)
  - urban fringe of large central city
  - urban fringe of mid-size central city
  - large town (25,000-50,000)
  - small town (2500-25,000)
  - rural, outside metropolitan statistical area
  - rural, in metropolitan statistical area
2. Minority enrollment

Although schools are selected for NAEP participation at random, they must meet certain criteria that are typical of the state as a whole.

Schools are classified by both location type and minority enrollment.

Many people ask, "If students and schools are chosen at random, why do the same schools seem to be chosen for each NAEP administration. It is easy to see from this classification model that only a portion of WV schools can provide students in sufficient numbers that reflect the demographics of our state.

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### Student Selection

- Typically, 31 students per subject, per grade are selected randomly in each school.
- About 2500-3000 students are assessed for each grade and subject per state
- National samples of schools and students are also selected to represent the diverse student population in the United States.

Within each selected school, students are selected totally at random. Although, in the past, some small elementary schools have been permitted to have all 4<sup>th</sup> graders assessed,

☞ Typically, 31 students per subject are selected at each grade level.

☞ Statewide, NAEP selects between 2,500 and 3,000 students for each subject and grade level.

☞ A different sampling process is used when the National NAEP is administered.

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### School Selection, cont.

- In an average state, approximately 100 schools are selected per grade, per subject
- Schools are announced in mid - to late September
- Testing window is late January through early March

On the average,

☞ 100 schools are selected per grade and subject statewide.

Schools have, in the past, been notified of their selection in September; but in 2006, we notified schools by the end of the school year.

☞ The NAEP testing window runs from the end of January to the beginning of March.

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### Student Participation

- All NAEP assessments are voluntary for students
- Before the administration of the assessment, parents of selected students must be informed that their child may be excused from participating and is not required to complete the assessment or to answer any test question
- Student information is confidential (a record of participating students remains at the school)

Although district and school participation is mandatory, ☞ student participation is not.

☞ Parents are made aware of this and given the option to withdraw their children from the assessment.

☞ No student identifiable information is permitted to leave the school.

As educators, of course, we need to make every effort to maximize parent understanding and student participation both to protect our Title I funding and to ensure collection of valuable state trend data.

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### Results

- State results only (No student, classroom, school, county, or RESA results)
- Average scale scores
- Achievement levels: Advanced, Proficient, Basic

☞ It is important to be aware that no student, class, school, county, or RESA results are reported or even available.

☞ NAEP results are available as either scale scores, or

☞ Achievement levels. The achievement levels are: Advanced, Proficient, and Basic. The decision to provide five levels of WESTEST mastery was made on the advice of West Virginia's Technical Advisory Committee in order to provide more opportunity for students to show progress in meeting AYP.

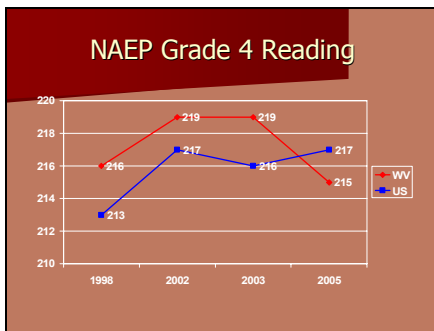
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### Current WV NAEP Results

[General comments]

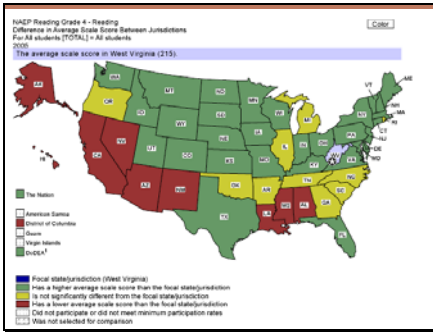
WV's results have generally followed national trends. A few scale score points above or below the nation on a scale of 500 is often not statistically significant. A single data point (such as grade 4 writing) does not really tell much of a story. The results for grade 4 and grade 8 reading are cause for concern. Likewise, a discrepancy of 5 or 6 points such as math may signify a problem. In terms of NCLB, the gaps between blacks and whites and high and low SES are generally smaller than the national average. WV increased participation of students with disabilities.

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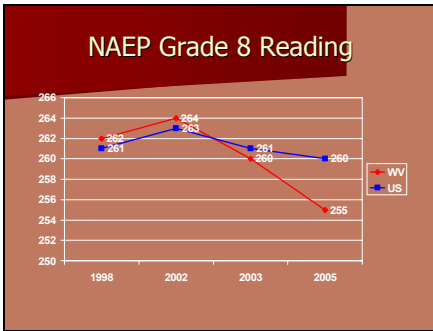
Prior to 2005, Reading had been one of WV's strengths.

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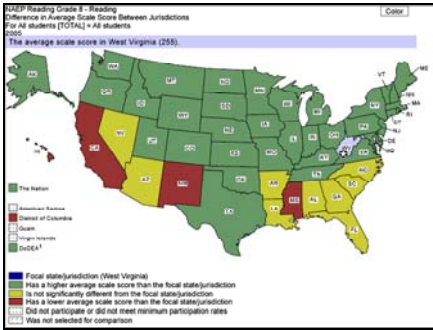
This map shows how WV students performed on the 2005 4<sup>th</sup> grade reading assessment compared with other states. The green states performed better than WV. The red states performed lower than WV, and the yellow states performed statistically the same as WV.

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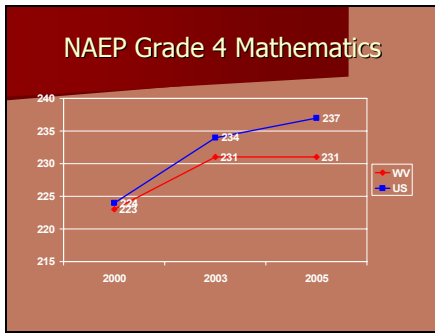
Grade 8 results dipped below the nation in 2003 and the gap widened in 2005.

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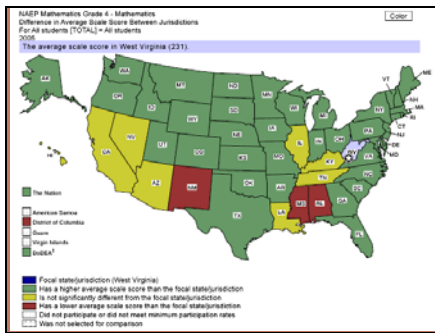
Here you can see that very few states performed lower than WV on the 2005 8<sup>th</sup> grade Reading assessment.

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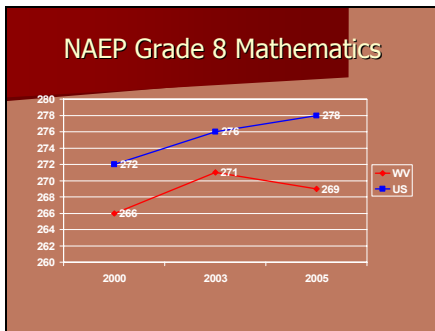
We hope that the last year's effort, along with some new initiatives, will avert widening the gap between WV and the nation in mathematics.

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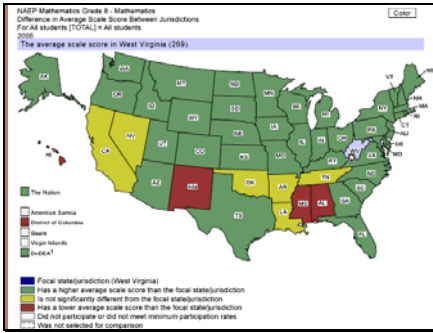
Here we see that WV is definitely performing below the level of many other states in 4<sup>th</sup> grade mathematics.

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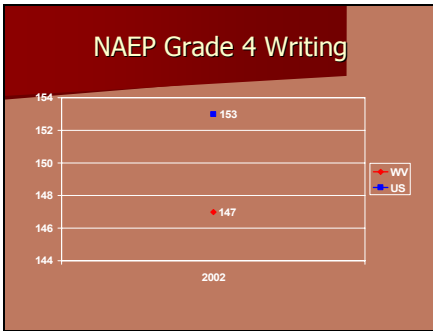
This gap between WV students and the National sample at grade 8 is statistically significant.

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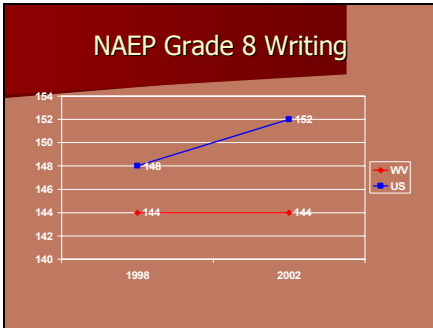
Only 4 states and the District of Columbia performed lower than WV in eighth grade mathematics.

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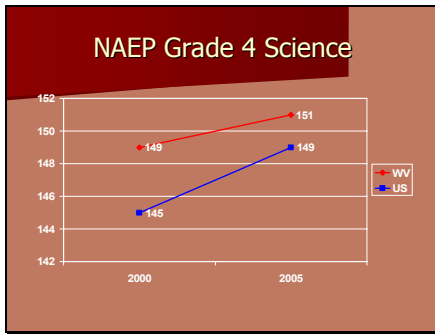
A new statewide emphasis on Writing may help to close this gap.

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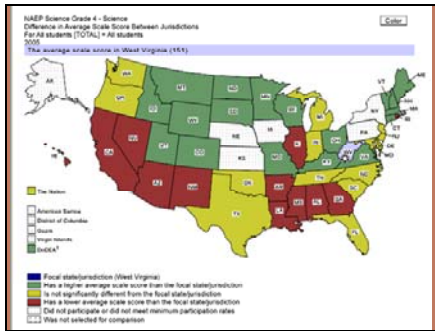
As well as this one which seems particularly alarming as both a gap and a potential trend.

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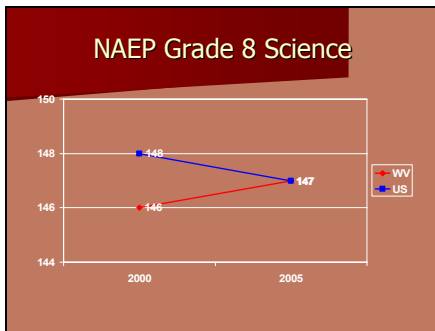


Although the increase in 4<sup>th</sup> grade science scores to 151 in 2005 is not statistically significant, the difference between WV and the nation is.

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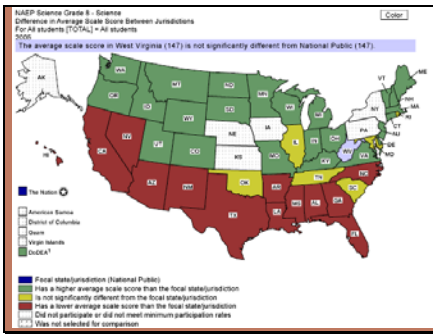


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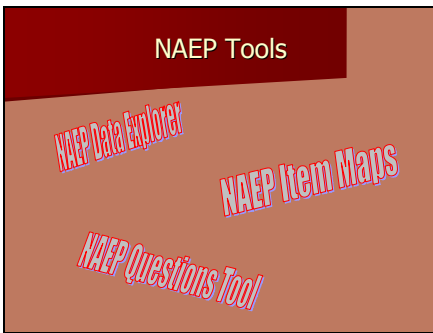


Statistically speaking, WV's 8<sup>th</sup> grade science achievement has not changed from 2000. WV students perform at the same level as their peers in the nation's public schools.

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NAEP offers three Internet tools that are of special interest to educators:

- ✓ The NAEP Data Explorer (formerly the NAEP Data Tool), and
- ✓ The NAEP Questions Tool
- ✓ The NAEP Item Maps

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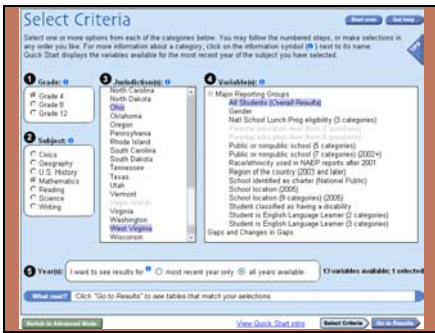


The data tool allows access to the data collected by most NAEP assessments.

*No Child Left Behind* is all about closing achievement gaps, but we can't close a gap if we are not aware that it exists. By using the NAEP Data Tool in conjunction with our statewide assessment data, we can not only discover gaps, but also try to determine whether this is a local, state, or national problem before deciding on a course of action.

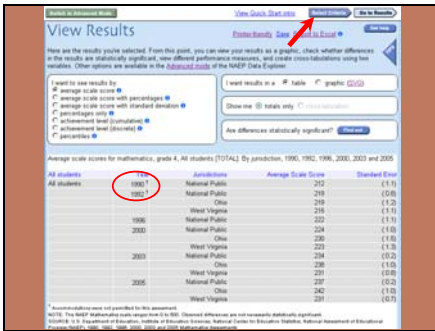
All state educators should know how to access the Data Tool, and how to use it.

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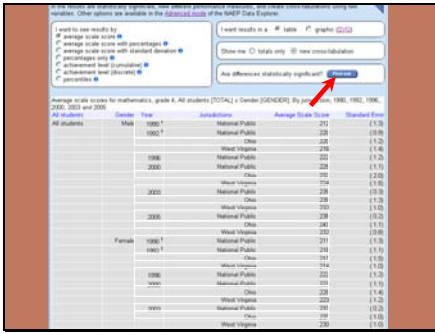
The first step is to select the criteria we wish to use. This consists of selecting a grade and subject area and one or more jurisdictions to compare. Next choose a variable. Although I recommend that you start with “All Students,” you can see that many other variables are available including race, gender, income, students with disabilities, etc. Next decide whether you want to view only the most recent results or choose from any of the years in which this particular subject was assessed. Finally click “Go to Results.”

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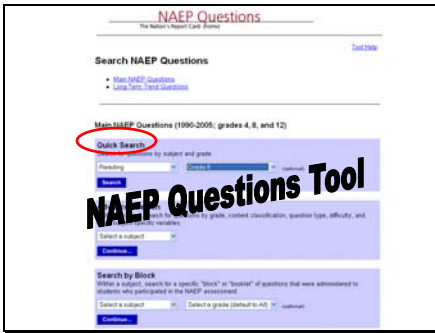
The results screen shows 4<sup>th</sup> grade mathematics average scale scores for each jurisdiction chosen (in this case WV, Ohio, and the Nation as a whole) for each year of assessment. Alternatively, we could have chosen to see results displayed in terms of achievement levels, percentiles, or any of the other options listed here. Additional options include graphic displays, cross tabulations, and analysis of statistical significance. If we examine this table for trend information, it seems that, from 1992 to 2005 Ohio has consistently scored above the Nation and WV has scored below the Nation. Until 2005 all three jurisdictions showed an increasing trend, with the exception of WV leveling in 2005. Although this may not be the type of information that we are eager to discover, it is certainly data that we need to consider in our state decision making process. One important caveat should be mentioned here. As indicated in the footnote, the superscripted “1” indicates NAEP administrations that did not allow special education accommodations. It would be unwise to compare such administrations with the results of more recent administrations that allow most state accommodations. By clicking on “Select Criteria” we can return to the previous screen and change the grade, subject, jurisdiction, variables, or years of our search.

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For example, by simply changing the variable from “All Students” to “Gender”, we can see the same assessment data disaggregated by males and females. In general, we see that, for all three jurisdictions, males outperform females in fourth grade mathematics. Identifying this as a possible nationwide gap may impact the decisions made at the state or local level to close the gap. This type of data can be particularly useful in writing school and county improvement plans. Before doing so, however, we would certainly want to find out if these differences are statistically significant; but that goes a little beyond the intent of this basic introduction.

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The tool that I would like to focus on today is the NAEP Questions Tool.

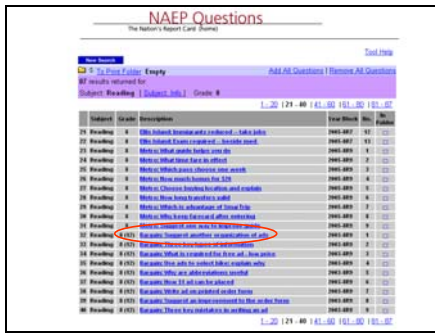
After every assessment cycle, NAEP releases a portion of the main assessment to the public. This tool allows users to view those questions, as well as their associated scoring guides, keys, classification information, performance data, student group data, and actual student responses for constructed-response questions.

The Questions Tool provides educators, researchers, parents, and students with access to over 1,000 questions that have been released to the public from NAEP assessments.

Although more sophisticated searches are available, you will probably want to start with a quick search on your first visit to the site. This consists simply of choosing a subject and a grade level.

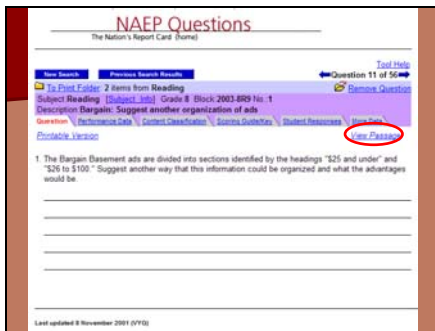
In this case, I’m choosing “Reading”, “Grade 8” before clicking the “Search” button.

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Selecting a question from the Search Results screen will display that question as well as a wealth of information and data associated with it. Select the test item by clicking on the blue hyperlinked text.

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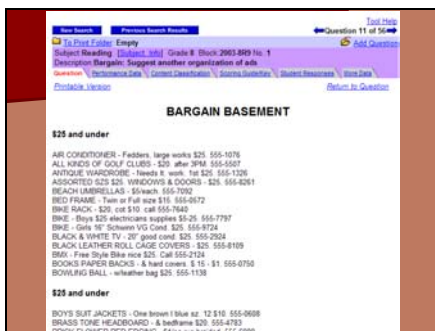


Information options for each item are grouped under folder tabs. When an item is selected, the program defaults to the "Question" tab.

Other tabs include: Performance Data; Content Classification; Scoring Guide/Key; Student Responses; and More Data.

In order to critically review this item we would probably want to read the associated passage. To do this, click "View Passage."

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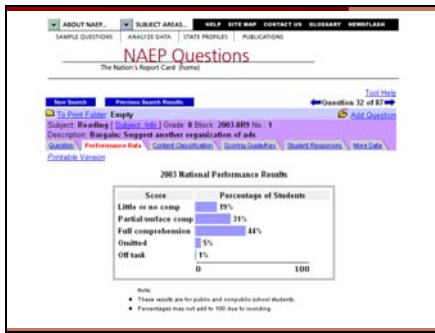


The "Bargain Basement" passage consists of a number of items for sale that are grouped by price. The test item measures how well students can reorganize the items and explain the advantage(s) for regrouping.

Let's click on the "Performance Data" tab associated with this test item to see how well students performed.

[Click "Performance Data"]

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Under performance data, you can see how well students performed on a particular question.

44% of students responding to this item demonstrated “Evidence of Full Comprehension”

The “Content Classification” tab shows the area of knowledge that the question is assessing. [Click tab]

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The screenshot shows the 'Contexts for Reading' section. It is divided into two main parts: 'Reading to Perform a Task' and 'Aspects of Reading'. Under 'Reading to Perform a Task', it states: 'Involves reading in order to accomplish or do something. When people read to perform tasks, they use their expectations of the purpose and structure of practical text to guide how they select, understand, and apply information. Practical text may include charts, lists or train schedules, directions for games or repairs, classroom or library procedures, tax or insurance forms, recipes, voter registration materials, maps, referrals, consumer warranties, or office memos. The reader's orientation involves looking for specific information to do something. Readers need to apply information, not simply understand it. In this type of reading, readers are not likely to savor the style or thought in the texts as they might in reading for literary experience.' Under 'Aspects of Reading', the 'Examining Content and Structure' section explains: 'Examining text content and structure requires critically evaluating, comparing and contrasting, and understanding the effect of such features as story, humor, and organization. Questions used to assess this aspect of reading require readers to stand apart from the text, consider it objectively, and evaluate its quality and appropriateness. Knowledge of text content and structure is important. Questions ask readers to determine the usefulness of a text for a specific purpose, evaluate the language and textual elements, and think about the author's purpose and style. Some questions also require readers to make connections across parts of a text or between texts. For example, students might be asked to compare a poem and a story with the same theme or relate information from a first person account to a textbook description of an event. Questions that assess this aspect of reading include the following:
 

- Compare the structure of this magazine article to that one.
- How useful would this be for \_\_\_\_\_? Why?
- Does the author use (irony, personification, humor) effectively? Explain.

The area of knowledge assessed by this item is the aspect of reading called “Examining Content and Structure within the context of “Reading to Perform a Task.” The reading contexts and aspects refer directly to the NAEP reading framework.

In order to effectively use this item in a classroom assessment you should be aware of which WV state objective it assesses under our Reading content standard.

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The screenshot shows the 'Scoring Guide' section for a reading question. It provides detailed criteria for different score levels. The 'Evidence of full comprehension' section states: 'These responses contain at least one suggestion that considers how the ads are used and is explained in general or specific terms. The suggestion must be one that would result in a reorganization of the ads. That is, advertised items would appear under different categorical headings, which would make the ads easier to use.' The 'Evidence of partial or surface comprehension' section states: 'These responses contain at least one suggestion with no explanation, or with an explanation that demonstrates little understanding of how the ads are used. The suggestion must be one that would result in a reorganization of the ads. That is, advertised items would appear under different categorical headings.' The 'Evidence of little or no comprehension' section states: 'These responses contain inappropriate information from the ads or personal opinions about the ads but fail to propose a new organization. They do not explain any advantages of a possible reorganization. They may simply suggest some form of the current organization that would not actually result in moving items into different categories.'

The “Scoring Guide” tab gives the correct answer, or in this case, the range of scores and criteria used to score responses.

Under the “Performance Data” tab we noticed that 44% of students responding to this item demonstrated “Evidence of Full Comprehension”. The “Scoring Guide” tab explains what is meant by “Evidence of Full Comprehension” as well as the two lower levels of NAEP performance.

The “Student Responses” tab displays sample student responses at each score level, for questions such as this one, that require students to write a response. [Click tab]

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**Evidence of full comprehension - Student Response**  
 1. The Dargan Statement ads are divided into sections identified by the headings "25 and under" and "25 to \$100." Suggest another way that this information could be organized and what the advantages would be.  
*Another way this information can be organized is by 20 and 40 and 60 and 80 and 100 and 120 and 140 and 160 and 180 and 200 and 220 and 240 and 260 and 280 and 300 and 320 and 340 and 360 and 380 and 400 and 420 and 440 and 460 and 480 and 500 and 520 and 540 and 560 and 580 and 600 and 620 and 640 and 660 and 680 and 700 and 720 and 740 and 760 and 780 and 800 and 820 and 840 and 860 and 880 and 900 and 920 and 940 and 960 and 980 and 1000.*

**Scorer's Commentary**  
 Both responses suggest reorganizing the ads by the type of item being sold, because then it would be easier for readers to find what they want to buy.

**Evidence of partial or surface comprehension - Student Response**  
 1. The Dargan Statement ads are divided into sections identified by the headings "25 and under" and "25 to \$100." Suggest another way that this information could be organized and what the advantages would be.  
*Would you could find things easier.*

These sample responses serve as anchors when grading your own students. They can also provide models of test taking strategies for your students or staff development for beginning instructors.

[click Scorer's Commentary] There is even a "Scorer's Commentary" link that will provide a point-by-point explanation why this sample meets the scoring guide criteria.

The "More Data" tab provides all kinds of data related to subgroups, student achievement levels, gender, family background, etc.

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Item	Little or no comp.	Partial/surface comp.	Full comprehension	Unrated	Off task
	Avg. Score (S.E.)	Avg. Score (S.E.)	Avg. Score (S.E.)	Avg. Score (S.E.)	Avg. Score (S.E.)
All students	242 (13.6)	193 (14.6)	208 (13.7)	31 (10.5)	262 (10.5)
Gender					
Male	238 (13.6)	189 (14.6)	204 (13.6)	31 (10.5)	258 (10.5)
Female	246 (13.7)	197 (14.6)	212 (13.8)	30 (10.5)	264 (10.5)

This small sample of available data shows a comparison between male and female respondents.. Especially valuable from the perspective of the *No Child Left Behind* legislation is the advantage of displaying national subgroup performance.

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**Overall Performance**

Location	Little or no comp.	Partial/surface comp.	Full comprehension	Unrated	Off task				
	Avg. Score (S.E.)	Avg. Score (S.E.)	Avg. Score (S.E.)	Avg. Score (S.E.)	Avg. Score (S.E.)				
TOTAL - National Public	20830	240 (8.9)	20% 0.4	257 (8.7)	33% 0.5	280 (8.5)	43% 0.8	223 (2.5)	5% 0.2
Alabama	375	233 (8.8)	18% 2.1	251 (4.1)	45% 2.8	273 (3.0)	30% 2.4	---	7% 1.0
Alaska	362	---	18% 2.2	255 (4.5)	33% 2.4	279 (3.5)	40% 2.4	---	8% 1.5
Arizona	362	234 (4.3)	24% 1.7	254 (3.5)	33% 2.8	280 (2.7)	37% 2.7	---	8% 1.1
Arkansas	372	226 (5.1)	22% 2.1	252 (4.0)	29% 2.4	282 (3.2)	43% 2.8	---	5% 1.2
California	774	233 (3.9)	22% 2.0	249 (2.9)	31% 2.4	273 (3.0)	37% 2.7	210 (8.4)	8% 1.2
Colorado	368	---	12% 1.5	289 (3.9)	30% 2.6	287 (2.7)	51% 3.0	---	5% 1.1
Connecticut	382	---	14% 1.5	257 (3.5)	30% 2.3	284 (2.7)	51% 2.5	---	5% 1.2
Delaware	372	248 (4.5)	17% 2.2	264 (3.8)	29% 2.3	281 (2.7)	52% 2.3	---	5% 1.4
District of Columbia	281	229 (4.1)	20% 2.4	244 (3.2)	30% 2.4	---	20% 2.4	---	17% 2.4
Florida	333	223 (4.4)	22% 2.0	250 (3.2)	29% 2.0	279 (3.1)	42% 2.7	---	7% 1.4
Georgia	593	248 (4.2)	17% 2.0	253 (2.4)	36% 2.8	282 (3.0)	48% 2.4	---	8% 1.0
Hawaii	388	229 (4.3)	29% 2.6	248 (3.5)	31% 2.8	274 (3.4)	34% 2.2	---	5% 1.1
Illinois	389	254 (3.9)	21% 2.3	255 (3.3)	33% 2.4	280 (2.7)	48% 2.7	---	6% 1.3

We can view these data nationally or from a cross-state perspective by clicking on the link under the "More Data" tab.

In your classroom you might want to use items from the Questions Tool as bellringers and follow up by discussing the scoring guide, performance data, and your students' performance compared with students across the nation. I couldn't think of a better way to teach test taking strategies or to engage the competitive nature of students.



Slide 47

**Mathematics Subject Information**

- Overview of the National Assessment of Educational Progress (NAEP) Mathematics Assessment
- Framework for the Assessment
- Test Format
- Distribution of Mathematics Questions
- Development of the Mathematics Assessment Instruments
- Scoring Information
- Description of Student and Student Samples
- Reporting the Mathematics Assessment Results
- Viewing NAEP Results

**Overview of the National Assessment of Educational Progress (NAEP) Mathematics Assessment**

Authorized by Congress in 1990, NAEP's mission has been to collect, analyze, and present reliable and valid information about what the nation's students know and can do. Both public and nonpublic school students in grades 4, 8, and 12 were sampled and assessed on a regular basis in mathematics in 1990, 1992, 1996, 2000, and 2002. In 2005, only grades 4 and 8 were sampled and assessed in mathematics. All NAEP assessments are based on content frameworks, administered through a computerized national process that makes equal time for teachers, curriculum experts, parents, and the general public.

**Framework for the Assessment**

In 2000, the mathematics framework<sup>1</sup> was changed to give more emphasis to algebra and functions. Because of the changes, the new framework is not comparable to the previous framework. The new framework permitted items to be operational at grades 4 and 8 because the number of changes made to the assessment objectives was minimal at these grade levels; however, this was not the case with grade 12, where changes were more extensive. A full explanation of the new framework is available in the mathematics subject information area of the website under "What Does the NAEP Mathematics Assessment Measure?" The mathematics framework for the NAEP 1996, 2000, and 2002 assessments is an archived version of the one used for the 1990 and 1992 assessments.<sup>2</sup> Changes were made to the 1990 and 1992 version of the framework to better reflect recommendations in the National Council of Teachers of Mathematics (NCTM), Curriculum and Evaluation Standards for School Mathematics, and changes being made in school mathematics programs. The NAEP 1996 mathematics framework was revised so that it would more adequately reflect recent curricular emphases and objectives and, yet, maintain a connection with the 1990 and 1992 assessments to measure trends in student performance.

<sup>1</sup>The NAEP assessment measures for mathematical content areas:

Selecting *Subject Info* brings up the mathematics framework and other information related to the NAEP Mathematics Assessment. If you need to refresh your understanding of the framework, you can reach this information from just about any of the test item screens. If you would like to download any of the frameworks in their entirety, go to the National Assessment Governing Board (NAGB) website at <http://www.nagb.org/> and click on the "Publications" link.

Now let's get back to the test item we selected.

Slide 48

NAEP QUESTIONS | SUBJECT AREAS | NAEP DATA | STATE PROFILES | PUBLICATIONS

## NAEP Questions

The Nation's Report Card (Home)

NAEP Home | **Subject Math** | **Grade 4** | Block: 1996-489 | No. 6

Description: Count Cubes in Solid

Question | Performance Data | Content Classification | Scoring Guidelines | Student Resources | Item Data

Printable Version

6. In this figure, how many small cubes were put together to form the large cube?

A) 7  
B) 8  
C) 12  
D) 24

Just as in Reading, the first tab takes us to the item itself. Since this is a selected response, or multiple choice item, the options are shown with the stem, just as a student would encounter this item on an assessment.

Slide 49

NAEP Questions

The Nation's Report Card (Home)

NAEP Home | **Subject Math** | **Grade 4** | Block: 1996-489 | No. 6

Description: Count Cubes in Solid

Question | Performance Data | Content Classification | Scoring Guidelines | Student Resources | Item Data

Printable Version

1996 National Performance Results

Score	Percentage of Students
Correct	23%
Incorrect	66%
Omitted Item	1%
0	100

Note:

- These results are for public and nonpublic school students.
- Percentage may not add to 100 due to rounding.

Because of the item's level of difficulty, only 1/3 of the students answered it correctly.

Slide 50

The screenshot shows the 'Content Classification' tab for a specific NAEP question. At the top, there are navigation links: 'Question', 'Performance Data', 'Content Classification', 'Scoring Guide/Key', 'Student Responses', and 'More Data'. The 'Content Classification' link is highlighted. Below the navigation, the 'Mathematical Content Area' is listed as 'Measurement'. A paragraph explains that this question measures measurement, focusing on understanding the process of measurement and the use of numbers and measures to describe and compare mathematical objects. Below this, a sub-section for 'Mathematical Ability' is shown, with 'Conceptual understanding' selected. A paragraph explains that this question measures students' conceptual understanding in mathematics, requiring them to provide evidence of their ability to recognize, label, and generate examples of concepts, use and interpret models, diagrams, manipulatives, and varied representations of concepts, and apply principles, know and apply facts and definitions, compare, contrast, and integrate related concepts and principles, recognize, interpret, and apply the signs, symbols, and terms used to represent concepts. Conceptual understanding reflects a student's ability to reason in settings involving the careful application of concept definitions, relations, or representations of either

The Content Classification tab takes us to the areas of the framework assessed by this specific item and specified in our original search criteria.

Slide 51

The screenshot shows the 'Scoring Guide/Key' tab for a specific NAEP question. The navigation links at the top are: 'Question', 'Performance Data', 'Content Classification', 'Scoring Guide/Key', 'Student Responses', and 'More Data'. The 'Scoring Guide/Key' link is highlighted. Below the navigation, the 'Key' section is displayed. It contains the question text: '6. In this figure, how many small cubes were put together to form the large cube?' and four multiple-choice options: 'A) 7', 'B) 8', 'C) 12', and 'D) 24'. A blue arrow points to option B, indicating it is the correct answer. At the bottom, it says 'Last updated: 8 November 2001 (NY0)'.

The Scoring Guide/Key tab gives the correct response.

Slide 52

The screenshot shows the 'Student Responses' tab for a specific NAEP question. The navigation links at the top are: 'Question', 'Performance Data', 'Content Classification', 'Scoring Guide/Key', 'Student Responses', and 'More Data'. The 'Student Responses' link is highlighted. Below the navigation, a message states: 'Student responses are not available for multiple-choice questions. To see how many students selected each choice, go to the "More Data" tab.'

As you recall, the Student Responses tab for the reading item we reviewed offered sample student responses at each performance level. Since this is a selected response item (as opposed to constructed response), this tab does not offer any applicable information.

Slide 53

But if test item information is what you want, you'll find plenty under the *More Data* tab. This is just a sample of the data available for this particular test item disaggregated by race, public or private school type, socio-economic status as identified by the school lunch program, Title I participation, and much more.

Here is just one simple example of how these data can be used to improve instruction:

☞ The table shows that the incorrect options chosen most often were “c” and “d”, 12 and 24. Knowing that students who missed this item were probably confusing faces with cubes will probably result in more emphasis on this distinction the next time that this concept is taught. It is easy to see how, if this is an objective covered on the statewide assessment, a little data-driven focus can improve student performance.

And don't forget that we can also view these data organized by state performance. That would make it easy to challenge students confronted with this bellringer to outperform their peers across the state or in a rival state.

Slide 54

Now, in order to demonstrate the print function of this tool, let's do a new search using “Grade 4”, “all” content areas, “multiple choice” questions, “conceptual understanding”, and “hard” difficulty as our parameters.

Slide 55

Subject	Grade	Description	Year/Block	No.	In Folder
1 Math	4 (R,12)	Use algebra to determine a relationship	2003-4006	13	<input checked="" type="checkbox"/>
2 Math	4 (R,12)	Solve an inequality	2003-4006	20	<input checked="" type="checkbox"/>
3 Math	4	Identify faces of solids, given a situation	2002-4009	94	<input checked="" type="checkbox"/>
4 Math	4	Count Cubes in Solids	1996-4008	86	<input checked="" type="checkbox"/>
5 Math	4	Determine a Probability	1996-4009	99	<input type="checkbox"/>
6 Math	4 (R)	Find the Difference When Resolving a Disag	1992-4005	12	<input type="checkbox"/>
7 Math	4 (R)	Probability of What Color Marble Remains Drawn	1992-4005	16	<input type="checkbox"/>
8 Math	4	Acute Concept of Parallel Lines	1992-4009	86	<input type="checkbox"/>
9 Math	4	Select Appropriate Method of Solution	1992-4014	85	<input type="checkbox"/>
10 Math	4	Find an Even Number	1996-4007	12	<input type="checkbox"/>
11 Math	4	Why One Fraction is Greater Than Another	1996-4007	16	<input type="checkbox"/>

These are the items that meet our parameters. By checking the “In Folder” box, we'll add one to the Print Folder, which now indicates “2 items from Mathematics.” Clicking on the “To Print Folder” link shows us the items in the print folder.

Probably most important to the classroom teacher, however, is that any question that you add to the print folder on the “Search Results” screen can be printed or merged with another word processed document to construct a classroom assessment. This can be integrated very nicely with questions extracted from the WV “i-know” test item bank.

Slide 56



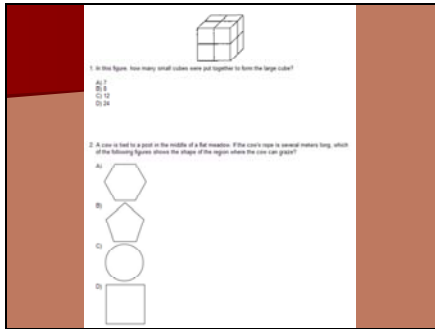
The options in the Print Folder allow us to print as much or as little as we want. We can choose to print all of the information on each of the tabs on the test item screen for each item selected.

A word of caution is in order. If you recall how much text is associated with each item on the More Data tab, you may want to think twice about printing these data.

For now, however, I want to show you how easy it is to construct a classroom assessment, so I'll check just the "Questions" option. At this point, I can also review or delete items, rearrange their order, or save these items and add more before printing.

After choosing my options, I click "Assemble Document".

Slide 57

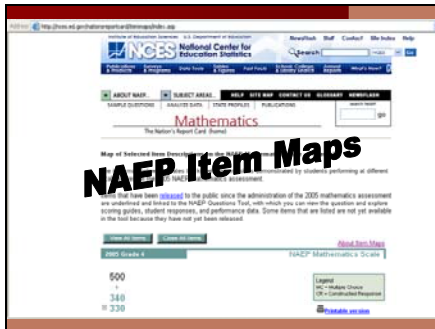


Here you can see what the practice test will look like. We can print it directly from here, or we can copy and paste the entire document into a word processor such as Microsoft Word.

This would allow us to insert the selected items into an existing document along with other items or to customize the test document to meet our needs.

Alternatively, we could select a single item and cut and paste it into a PowerPoint presentation to review test taking strategies.

Slide 58



Now I want to take a couple of minutes to introduce you to the third NAEP on-line tool – the NAEP Item Maps – and show how they can be used in conjunction with the Questions Tool.

The Item Maps simply list the NAEP items from most difficult to least difficult next to a scale representing NAEP Average Scale Scores.

The map location for each question represents the probability that, at any given score point, 65 percent of the students (for a constructed-response question) and 74 percent of the students (for a four-option multiple-choice question) answered that question successfully. For constructed-response questions, responses could be completely or partially correct and therefore a question can map to several points on the scale.

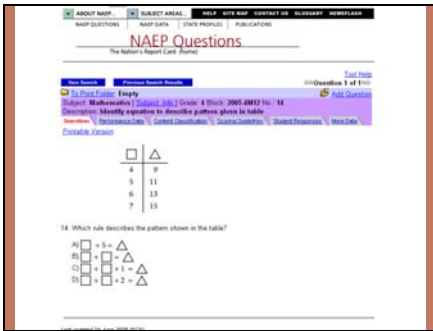
Slide 59



For example, in the case of the multiple-choice question that maps at 294 on the scale, fourth-grade students with a score of 294 have a 74 % chance of answering this question correctly. In other words, out of a sample of 100 students who scored 294, 74 would be expected to have answered this question correctly. Since the average scale score for 4<sup>th</sup> grade WV students was 231, this item should be well above the abilities of most of our 4<sup>th</sup> graders.

Because the item is formatted as a hyperlink, we know that it is a released item and is available in the Questions Tool. By clicking the hyperlink, we are taken directly to that item in the Questions Tool.

Slide 60



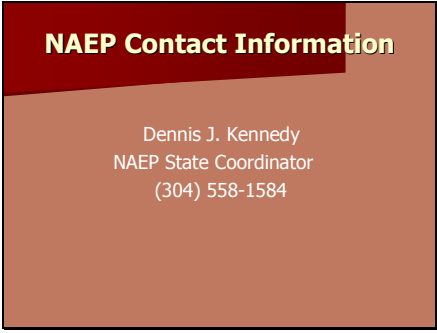
Here is the item. Now let's see how WV students actually did on this particular item. To do this we'll select the "More Data" tab.

Slide 61

State	A	B	C	D
	Score (S.E.)	Score (S.E.)	Score (S.E.)	Score (S.E.)
All Students	235 (1.0)	225 (1.0)	215 (1.0)	195 (1.0)
Alabama	228 (1.0)	212 (1.0)	205 (1.0)	185 (1.0)
Arizona	232 (1.0)	218 (1.0)	208 (1.0)	192 (1.0)
Arkansas	230 (1.0)	215 (1.0)	202 (1.0)	188 (1.0)
California	238 (1.0)	222 (1.0)	210 (1.0)	198 (1.0)
Colorado	237 (1.0)	220 (1.0)	208 (1.0)	190 (1.0)
Connecticut	242 (1.0)	225 (1.0)	212 (1.0)	195 (1.0)
Delaware	236 (1.0)	220 (1.0)	205 (1.0)	192 (1.0)
District of Columbia	245 (1.0)	228 (1.0)	215 (1.0)	198 (1.0)
Florida	234 (1.0)	218 (1.0)	205 (1.0)	188 (1.0)
Georgia	231 (1.0)	215 (1.0)	202 (1.0)	185 (1.0)
Idaho	233 (1.0)	218 (1.0)	205 (1.0)	190 (1.0)
Illinois	235 (1.0)	220 (1.0)	208 (1.0)	195 (1.0)
Indiana	232 (1.0)	215 (1.0)	202 (1.0)	188 (1.0)
Iowa	234 (1.0)	218 (1.0)	205 (1.0)	190 (1.0)
Kansas	231 (1.0)	215 (1.0)	202 (1.0)	185 (1.0)
Kentucky	230 (1.0)	212 (1.0)	200 (1.0)	182 (1.0)
Louisiana	228 (1.0)	210 (1.0)	198 (1.0)	180 (1.0)
Maine	236 (1.0)	220 (1.0)	208 (1.0)	195 (1.0)
Maryland	238 (1.0)	222 (1.0)	210 (1.0)	198 (1.0)
Massachusetts	240 (1.0)	225 (1.0)	212 (1.0)	195 (1.0)
Michigan	235 (1.0)	218 (1.0)	205 (1.0)	190 (1.0)
Minnesota	237 (1.0)	220 (1.0)	208 (1.0)	195 (1.0)
Mississippi	225 (1.0)	210 (1.0)	198 (1.0)	180 (1.0)
Missouri	233 (1.0)	218 (1.0)	205 (1.0)	190 (1.0)
Montana	231 (1.0)	215 (1.0)	202 (1.0)	185 (1.0)
Nebraska	232 (1.0)	218 (1.0)	205 (1.0)	190 (1.0)
Nevada	230 (1.0)	215 (1.0)	202 (1.0)	185 (1.0)
New Hampshire	238 (1.0)	222 (1.0)	210 (1.0)	198 (1.0)
New Jersey	240 (1.0)	225 (1.0)	212 (1.0)	195 (1.0)
New Mexico	234 (1.0)	218 (1.0)	205 (1.0)	190 (1.0)
New York	236 (1.0)	220 (1.0)	208 (1.0)	195 (1.0)
North Carolina	232 (1.0)	215 (1.0)	202 (1.0)	188 (1.0)
North Dakota	231 (1.0)	215 (1.0)	202 (1.0)	185 (1.0)
Ohio	233 (1.0)	218 (1.0)	205 (1.0)	190 (1.0)
Oklahoma	228 (1.0)	212 (1.0)	200 (1.0)	182 (1.0)
Oregon	235 (1.0)	218 (1.0)	205 (1.0)	190 (1.0)
Pennsylvania	237 (1.0)	220 (1.0)	208 (1.0)	195 (1.0)
Rhode Island	236 (1.0)	220 (1.0)	208 (1.0)	195 (1.0)
South Carolina	229 (1.0)	212 (1.0)	200 (1.0)	182 (1.0)
South Dakota	231 (1.0)	215 (1.0)	202 (1.0)	185 (1.0)
Tennessee	230 (1.0)	212 (1.0)	200 (1.0)	182 (1.0)
Texas	232 (1.0)	218 (1.0)	205 (1.0)	190 (1.0)
Utah	233 (1.0)	218 (1.0)	205 (1.0)	190 (1.0)
Vermont	238 (1.0)	222 (1.0)	210 (1.0)	198 (1.0)
Virginia	234 (1.0)	218 (1.0)	205 (1.0)	190 (1.0)
Washington	236 (1.0)	220 (1.0)	208 (1.0)	195 (1.0)
West Virginia	231 (1.0)	215 (1.0)	202 (1.0)	185 (1.0)
Wisconsin	235 (1.0)	218 (1.0)	205 (1.0)	190 (1.0)
Wyoming	231 (1.0)	215 (1.0)	202 (1.0)	185 (1.0)

Only 19% of WV students selected the correct answer. So what does this mean for the classroom teacher? If you wanted to challenge your students with an item that is beyond the ability of most of their 4<sup>th</sup> grade peers, you could use this item for formative assessment, practice, and/or discussion. There are many creative ways of using the NAEP Item Maps. This is only one possibility. The item maps are significant because they allow us to view released NAEP items in order of their difficulty while providing us with a perspective of where WV students perform on that continuum.

Slide 62



**NAEP Contact Information**

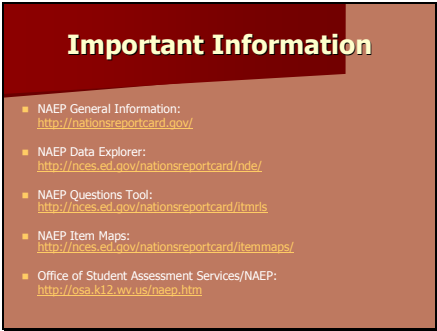
Dennis J. Kennedy  
NAEP State Coordinator  
(304) 558-1584

The use of NAEP data and resources is free and limited only by our imaginations as educators.

I invite you to check my availability to visit your school and devote an entire session to training and using the Questions Tool, the Data Tool, or any other NAEP resources. For the technologically adventurous, I am willing to present to one or more schools at once via a web conference.

Please feel free to contact me any time for additional NAEP information.

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**Important Information**

- NAEP General Information:  
<http://nationreportcard.gov/>
- NAEP Data Explorer:  
<http://nces.ed.gov/nationsreportcard/nde/>
- NAEP Questions Tool:  
<http://nces.ed.gov/nationsreportcard/tmrts>
- NAEP Item Maps:  
<http://nces.ed.gov/nationsreportcard/itemmaps/>
- Office of Student Assessment Services/NAEP:  
<http://osa.k12.wv.us/naep.htm>

Here are some web addresses you may find helpful. However, if you lose your notes and handouts from this presentation, please keep in mind that you only need to remember one word to access all of this information from anywhere in the world. Just type “NAEP” into your web browser and click on “The Nation’s Report Card.”

The last address is the WVDE/OSA website where you can find this scripted staff development presentation.

I hope that you will find interesting and practical uses for NAEP resources, and I thank you for your attention.