How Do My Students Compare?

Exploring National Assessment Tools

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University of Southern Indiana

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Indiana University - Bloomington

This presentation is archived at http://ceep.indiana.edu/ImplicationsFromNAEP
NAEP – National Assessment of Educational Progress

http://nces.ed.gov/nationsreportcard/
NAEP Programs

- **Main NAEP** – results are representative of the entire US population

- **State NAEP** – same items and testing format, reports achievement for fourth and eighth grade students on a state-by-state basis

- **Long-Term Trend** – uses different items, national sample, and testing schedule.
NAEP Content Strands in Mathematics

- Number sense, properties, and operations
- Measurement
- Geometry and spatial sense
- Data analysis, statistics, and probability
- Algebra and functions
NAEP Item Formats

- **Multiple choice format**
  - 4th grade – four choices
  - 8th & 12th grades – five choices

- **Short constructed-response**
  - Two types
    1. Students write answer in space provided.
    2. Multiple questions or a brief rationale.

- **Extended constructed-response**
  - Scored with focused, holistic rubrics
Reporting Results: Scale Score and Achievement Levels

- **Scale scores**
  - Range from 0 to 500
  - Available by content strand
  - Available by demographic characteristics
  - Designed to get a sense of performance of the nation as a whole, not performance of individual students

- **Achievement levels**
  - Basic, proficient, and advanced
  - Setting of achievement levels is controversial
    - (proficient level is very ambitious)
Questionnaires

- **Student Questionnaire**
  
  All students complete two five-minute questionnaires before the cognitive items and one five-minute questionnaire after completing the items

  #1 focuses on demographics
  
  #2 focuses on mathematics background & courses
  
  #3 focuses on how hard the students tried and the difficulty of the assessment

- **Teacher Questionnaire**

- **School Administrator Questionnaire**
NAEP Online Tools
Learn More About the Tools Available Online

http://nces.ed.gov/nationsreportcard/about/naeptools.asp
Main NAEP Question Tool
Accessing the Questions

Click on “Questions Tool” from the tools and applications page........
Accessing the Questions

Or click on “Sample Questions” from the left navigation bar on the homepage
NAEP Questions Tool

Explore NAEP Questions

After each assessment, NAEP releases dozens of sample questions to the public—more than 2,000 questions are currently available. The tools featured here can be used to supplement classroom instruction, provide additional insight into the content of the assessment, and show what students nationally or in your state or district know and can do. Explore the tools or print a quick reference guide to find out more about NAEP.

What's New?

- Results of the 2009 mathematics, reading, and science assessments.
- 32 multiple-choice and 28 constructed-response questions from the 2009 reading assessment.
- 54 multiple-choice and 29 constructed-response questions from the 2009 science assessment.

NAEP Questions Tool >>
Item Maps >>
Test Yourself >>
Scoring >>

Explore a database of released NAEP questions.
See what students at each achievement level are likely to know and can do.
Try out actual questions administered to students in the NAEP assessments.
Learn how NAEP questions are scored.

NI CES Headlines

- Projections of Education Statistics to 2019
- NAEP Science 2009 District Snapshot Reports
- NCES Releases Elementary/Secondary Information System (ELSI)
- Nation's Report Card: Science 2008 Trial Urban District Assessment

Pubs/Products | Surveys/Programs | DataTools | Tables/Figures | FastFacts | Institute of Education Sciences | School/LibrarySearch | Annuals | What's New | Kids Zone | NCER | NCES | NCESER

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1996 K Street, NW
Washington, DC 20006, USA
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Statistical Standards | FedState.gov
Main NAEP Mathematics Questions Search

Main NAEP Mathematics Questions Search

NAEP Questions Tool

What can I do here?

Refine Search

Select Grade, Type, Difficulty

Select Content Classifications

Year
Grade
Block
#
Type
Difficulty
Description

2008
4
M5
1
MC
Easy
Determine how many given pieces cover a shape

2008
4
M5
2
MC
Easy
Recognize type of transformation from picture

2008
4
M5
3
BCR
Easy
Arrange given pieces to cover a figure

2008
4
M6
4
BCR
Medium
Use given pieces to make shape with certain properties

2008
4
M5
5
MC
Medium
Identify given piece with angle greater than 90 degrees

2008
4
M5
6
BCR
Hard
Make a design using given shapes and solve problem

2008
4
M6
7
BCR
Easy
Determine value of unknown in a number sentence

2008
4
M6
8
BCR
Easy
Use place value to write a number

2008
4
M6
9
MC
Medium
Use estimation to find a difference

2008
4
M5
10
MC
Hard
Determine the probability of a particular outcome

To preview a question here, click on a row above.

Main NAEP Mathematics Questions Search

Search for Questions >> Mathematics Search Results
What can I do here? ☰

Refine Search
Select Grade, Type, Difficulty
Select Content Classifications
Select Years

Search Results (952 of 852)
Add All Questions ▼ Remove All Questions ▼ Print/Save List ▼ Show/Hide ▼

<table>
<thead>
<tr>
<th>Year</th>
<th>Grade</th>
<th>Block</th>
<th>#</th>
<th>Type</th>
<th>Difficulty</th>
<th>Description</th>
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<td>Use given pieces to make shape with certain properties</td>
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<td>ECR</td>
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<td>SCR</td>
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<td>Hard</td>
<td>Determine the probability of a particular outcome</td>
</tr>
</tbody>
</table>

View Question Detail

To preview a question here, click on a row above.

### Main NAEP Mathematics Search Results

#### NAEP Questions Tool

**Search Results**

- **Grade**: Select Grade, Type, Difficulty
- **Type**: Multiple Choice, Short Constructed Response, Extended Constructed Response
- **Difficulty**: Easy, Medium, Hard

<table>
<thead>
<tr>
<th>Year</th>
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<td>M6</td>
<td>4</td>
<td>SCR</td>
<td>Medium</td>
<td>Use given piece to make shape with certain properties</td>
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<tr>
<td>2009</td>
<td>4</td>
<td>M6</td>
<td>12</td>
<td>SCR</td>
<td>Medium</td>
<td>Extend a number pattern and write rule</td>
</tr>
<tr>
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<td>4</td>
<td>M5</td>
<td>15</td>
<td>SCR</td>
<td>Medium</td>
<td>Determine missing numbers on a number line</td>
</tr>
<tr>
<td>2009</td>
<td>4</td>
<td>M10</td>
<td>11</td>
<td>SCR</td>
<td>Medium</td>
<td>Reason about odd and even numbers</td>
</tr>
<tr>
<td>2009</td>
<td>4</td>
<td>M9</td>
<td>13</td>
<td>SCR</td>
<td>Medium</td>
<td>Outline different squares in a figure</td>
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<tr>
<td>2009</td>
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<td>Medium</td>
<td>Compare unit fractions to solve a problem</td>
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<td>Medium</td>
<td>Add data to a bar graph</td>
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<tr>
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<td>Medium</td>
<td>Explain how to find perimeter of a given shape</td>
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<td>Medium</td>
<td>Complete a bar graph from a description of data</td>
</tr>
</tbody>
</table>

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**To preview a question here, click on a row above.**

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### Item Preview

#### NAEP Questions Tool

**Analyze Data | Sample Questions | State Comparisons | State Profiles | District Profiles**

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**Item Preview**

**Search for Questions**

**Mathematics Search Results**

**What can I do here?**

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**Search Results (27 of 852)**

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<td>4</td>
<td>M4</td>
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<td>Medium</td>
<td>Identify color with highest chance of being chosen</td>
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<td>M4</td>
<td>7 SCR</td>
<td>Medium</td>
<td>Complete a bar graph from a description of data</td>
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</tbody>
</table>

---

**Questions 1-6 refer to pieces R, T and X.**

You will need two pieces labeled X to answer this question.

4. Use the pieces to make a shape that has these properties.
Questions 1-6 refer to pieces R, 7, and X.

You will need two pieces labeled X to answer this question.

4. Use the pieces to make a shape that has these properties.

- It has four sides.
- No pieces overlap.
- No two sides are parallel.

In the space below, trace the shape.

Draw the line to show where the two pieces meet.
Question Information
- **Description:** Use given pieces to make a shape with certain properties
- **Grade:** 4
- **Year:** 2009
- **Block & Number:** Block M5 Question #4
- **Type of Question:** Short Constructed Response
- **Difficulty:** Medium (43.7% Correct)
- **Content Classification:**
  - **Content Area:** Geometry
  - **Complexity (2005 and on):** Moderate
**Question Information**

- **Description:** Use given pieces to make shape with certain properties.
- **Grade:** 4
- **Year:** 2009
- **Block & Number:** Block M5 Question #4
- **Type of Question:** Short Constructed Response
- **Difficulty:** Medium (43.7% Correct)

**Content Classification:**
- **Content Area:** Geometry
- **Complexity (2005 and on):** Moderate

**Score & Description**

**Correct**

Correct response

**Partial**

A four-sided figure with parallel sides with meeting lines drawn.
OR
A correct shape but meeting line is incorrect.
OR
A 3-sided figure or a figure with more than four sides, and the sides are not parallel with meeting lines drawn.
OR
Either of the correct shapes is drawn without the line where the pieces meet.

**Incorrect**

Incorrect response
4. Use the pieces to make a shape that has these properties:
   - It has four sides.
   - No pieces overlap.
   - No two sides are parallel.

   In the space below, trace the shape.

   Draw the line to show where the two pieces meet.
National Performance Summary

NAEP Questions Tool

Analyze Data | Sample Questions | State Comparisons | State Profiles | District Profiles

What can I do here?

Question Information
- Description: Use given pieces to make shapes with certain properties
- Grade: 4
- Year: 2009
- Block & Number: Block 16, Question #4
- Type of Question: Short Constructed Response
- Difficulty: Medium (43.7% Correct)
- Content Classification: Content Area: Geometry
- Complexity (2005 and 2009): Moderate

NAEP national performance results in Mathematics at grade 4: 2009
Use given pieces to make shapes with certain properties

Score
- Incorrect: 29%
- Partial: 45%
- Correct: 21%
- Omitted: 5%
- Off Task: 0%

Percentage of Students: 0 to 100

NOTE: These results are for public and nonpublic school students. Percentages may not add to 100 due to rounding.
### National "More Data"

#### NAEP Questions Tool

**National Data**

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<td>(S)</td>
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</table>

- **Grade 4**:
  - **Year**: 2009
  - **Block & Number**: Block MS Question #4
  - **Type of Question**: Short Constructed Response
  - **Difficulty**: Medium (43.7% Correct)

**Content Classification**:
- **Content Area**: Geometry
- **Complexity (2005 and on)**: Moderate

---

**Note**: The NAEP Mathematics scale ranges from 0 to 500. Some apparent differences between estimates may not be statistically significant.

**Source**: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Mathematics Assessment.
### Jurisdiction Data

#### NAEP Questions Tool

**Analyse Data** | **Sample Questions** | **State Comparisons** | **State Profiles** | **District Profiles**

**What can I do here?**

#### Question Information

**Description:** Use given pieces to make shape with certain properties

**Grade:** 4

**Year:** 2000

**Block & Number:** Block MC Question #4

**Type of Question:** Short Constructed Response

**Difficulty:** Medium (43.7% Correct)

**Content Classification:**
- **Content Area:** Geometry
- **Complexity:** (2005 and old) Moderate

#### Jurisdiction Data

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Adding Items to Workspace

### Search Results (27 of 852)

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<th>Year</th>
<th>Grade</th>
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<th>#</th>
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<td>BCR</td>
<td>Medium</td>
<td>Build a number pattern and write rule</td>
</tr>
<tr>
<td>2009</td>
<td>4</td>
<td>M3</td>
<td>15</td>
<td>BCR</td>
<td>Medium</td>
<td>Determine missing numbers on a number line</td>
</tr>
<tr>
<td>2009</td>
<td>4</td>
<td>M10</td>
<td>11</td>
<td>BCR</td>
<td>Medium</td>
<td>Reason about odd and even numbers</td>
</tr>
<tr>
<td>2007</td>
<td>4</td>
<td>M9</td>
<td>13</td>
<td>BCR</td>
<td>Medium</td>
<td>Outline different squares in a figure</td>
</tr>
<tr>
<td>2007</td>
<td>4</td>
<td>M8</td>
<td>16</td>
<td>BCR</td>
<td>Medium</td>
<td>Compare unit fractions to solve a problem</td>
</tr>
<tr>
<td>2007</td>
<td>4</td>
<td>M11</td>
<td>14</td>
<td>BCR</td>
<td>Medium</td>
<td>Add data to a bar graph</td>
</tr>
<tr>
<td>2007</td>
<td>4</td>
<td>M11</td>
<td>16</td>
<td>BCR</td>
<td>Medium</td>
<td>Explain how to find perimeter of a given shape</td>
</tr>
<tr>
<td>2005</td>
<td>4</td>
<td>M4</td>
<td>7</td>
<td>BCR</td>
<td>Medium</td>
<td>Identify color with highest chance of being chosen</td>
</tr>
<tr>
<td>2005</td>
<td>4</td>
<td>M4</td>
<td>8</td>
<td>BCR</td>
<td>Medium</td>
<td>Complete a bar graph from a description of data</td>
</tr>
<tr>
<td>2005</td>
<td>4</td>
<td>M4</td>
<td>12</td>
<td>BCR</td>
<td>Medium</td>
<td>Solve a multi-step story problem</td>
</tr>
<tr>
<td>2003</td>
<td>4</td>
<td>M10</td>
<td>10</td>
<td>BCR</td>
<td>Medium</td>
<td>Determine missing numbers in number sentence</td>
</tr>
<tr>
<td>2003</td>
<td>4</td>
<td>M10</td>
<td>13</td>
<td>BCR</td>
<td>Medium</td>
<td>Complete a letter pattern</td>
</tr>
<tr>
<td>1996</td>
<td>4</td>
<td>M10</td>
<td>2</td>
<td>BCR</td>
<td>Medium</td>
<td>Assemble Pieces to Form Shape</td>
</tr>
</tbody>
</table>

To preview a question here, click on a row above.
Adding Items to Workspace
Using Workspace

### NAEP Questions Tool

#### Mathematics My Workspace

**What can I do here?**

1. **Select Content:** Choose one or more:
   - Questions
   - Answering (marking responses)
   - Student Responses
   - Performance Summary Data

2. **Select Format:** Choose one:
   - HTML
   - Word

**My Workspace (27)**

<table>
<thead>
<tr>
<th>Year</th>
<th>Grade</th>
<th>Block</th>
<th>#</th>
<th>Type</th>
<th>Difficulty</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>4</td>
<td>M5</td>
<td>4</td>
<td>SCR</td>
<td>Medium</td>
<td>Use given pieces to make shapes with certain properties</td>
</tr>
<tr>
<td>2000</td>
<td>4</td>
<td>M5</td>
<td>12</td>
<td>SCR</td>
<td>Medium</td>
<td>Extend a number pattern and write rule</td>
</tr>
<tr>
<td>2000</td>
<td>4</td>
<td>M5</td>
<td>15</td>
<td>SCR</td>
<td>Medium</td>
<td>Determine missing numbers on a number line</td>
</tr>
<tr>
<td>2000</td>
<td>4</td>
<td>M10</td>
<td>11</td>
<td>SCR</td>
<td>Medium</td>
<td>Reason about odd and even numbers</td>
</tr>
<tr>
<td>2000</td>
<td>4</td>
<td>M9</td>
<td>13</td>
<td>SCR</td>
<td>Medium</td>
<td>Outline different squares in a figure</td>
</tr>
<tr>
<td>2000</td>
<td>4</td>
<td>M9</td>
<td>18</td>
<td>SCR</td>
<td>Medium</td>
<td>Compare unit fractions to solve a problem</td>
</tr>
<tr>
<td>2000</td>
<td>4</td>
<td>M11</td>
<td>3</td>
<td>SCR</td>
<td>Medium</td>
<td>Add data to a bar graph</td>
</tr>
<tr>
<td>2000</td>
<td>4</td>
<td>M11</td>
<td>14</td>
<td>SCR</td>
<td>Medium</td>
<td>Explain how to find perimeter of a given shape</td>
</tr>
<tr>
<td>2000</td>
<td>4</td>
<td>M11</td>
<td>15</td>
<td>SCR</td>
<td>Medium</td>
<td>Identify color with highest chance of being chosen</td>
</tr>
<tr>
<td>2000</td>
<td>4</td>
<td>M4</td>
<td>7</td>
<td>SCR</td>
<td>Medium</td>
<td>Complete a bar graph from a description of data</td>
</tr>
<tr>
<td>2000</td>
<td>4</td>
<td>M4</td>
<td>8</td>
<td>SCR</td>
<td>Medium</td>
<td>Solve a multi-step story problem</td>
</tr>
<tr>
<td>2000</td>
<td>4</td>
<td>M4</td>
<td>12</td>
<td>SCR</td>
<td>Medium</td>
<td>Determine missing numbers in number sentence</td>
</tr>
<tr>
<td>2000</td>
<td>4</td>
<td>M5</td>
<td>3</td>
<td>SCR</td>
<td>Medium</td>
<td>Complete a letter pattern</td>
</tr>
<tr>
<td>2000</td>
<td>4</td>
<td>M10</td>
<td>10</td>
<td>SCR</td>
<td>Medium</td>
<td>Locate two points on a grid, given coordinates</td>
</tr>
<tr>
<td>2000</td>
<td>4</td>
<td>M10</td>
<td>13</td>
<td>SCR</td>
<td>Medium</td>
<td>Read the temperature shown on a thermometer</td>
</tr>
<tr>
<td>1996</td>
<td>4</td>
<td>M3</td>
<td>1</td>
<td>SCR</td>
<td>Medium</td>
<td>Relate a Fraction to 1</td>
</tr>
<tr>
<td>1996</td>
<td>4</td>
<td>M10</td>
<td>2</td>
<td>SCR</td>
<td>Medium</td>
<td>Assemble pieces to form shape</td>
</tr>
</tbody>
</table>

To preview a question, click on a row above.
1. In each figure below, outline a square. The squares must *not* be the same size.

![Square Figures]

2. Mark says $\frac{1}{4}$ of his candy bar is smaller than $\frac{1}{5}$ of the same candy bar.

Is Mark right?  ○ Yes  ○ No

Draw a picture or use words to explain why you think Mark is right or wrong.

3. The students in a class each counted the number of letters in their first names. The class made the graph below of the results.

![Frequency Bar Graph]

A new student, Victor, joined the class. Draw on the graph to include the data for Victor.
Example of Multiple-choice item

9. A loaded trailer truck weighs 20,545 kilograms. When the trailer truck is empty, it weighs 10,547 kilograms. About how much does the load weigh?

A. 14,000 kilograms  
B. 18,000 kilograms  
C. 18,000 kilograms  
D. 35,000 kilograms

<table>
<thead>
<tr>
<th>Year</th>
<th>Grade</th>
<th>Block</th>
<th>#</th>
<th>Type</th>
<th>Difficulty</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>0</td>
<td>W5</td>
<td>3</td>
<td>MC</td>
<td>Easy</td>
<td>Identify given angle with measure greater than 90 degrees</td>
</tr>
<tr>
<td>2006</td>
<td>0</td>
<td>W5</td>
<td>4</td>
<td>MC</td>
<td>Medium</td>
<td>Identify figures with equivalent areas</td>
</tr>
<tr>
<td>2006</td>
<td>0</td>
<td>W5</td>
<td>5</td>
<td>MC</td>
<td>Easy</td>
<td>Identify steps in a transformation</td>
</tr>
<tr>
<td>2006</td>
<td>0</td>
<td>W5</td>
<td>8</td>
<td>MC</td>
<td>Easy</td>
<td>Use estimation to find a difference</td>
</tr>
<tr>
<td>2006</td>
<td>0</td>
<td>W5</td>
<td>9</td>
<td>MC</td>
<td>Easy</td>
<td>Determine the probability of a particular outcome</td>
</tr>
<tr>
<td>2006</td>
<td>0</td>
<td>W5</td>
<td>10</td>
<td>MC</td>
<td>Medium</td>
<td>Identify pictorial representation of equivalent fractions</td>
</tr>
<tr>
<td>2006</td>
<td>0</td>
<td>W5</td>
<td>12</td>
<td>MC</td>
<td>Medium</td>
<td>Solve arithmetic problem involving time</td>
</tr>
<tr>
<td>2006</td>
<td>0</td>
<td>W5</td>
<td>15</td>
<td>MC</td>
<td>Medium</td>
<td>Find length of hypotenuse</td>
</tr>
<tr>
<td>2006</td>
<td>0</td>
<td>W5</td>
<td>17</td>
<td>MC</td>
<td>Hard</td>
<td>Identify operation resulting in odd integer</td>
</tr>
<tr>
<td>2006</td>
<td>0</td>
<td>M1D</td>
<td>1</td>
<td>MC</td>
<td>Easy</td>
<td>Identify equation equivalent to given equation</td>
</tr>
<tr>
<td>2006</td>
<td>0</td>
<td>M1D</td>
<td>2</td>
<td>MC</td>
<td>Easy</td>
<td>Determine possible dimensions of rectangle, given area</td>
</tr>
<tr>
<td>2006</td>
<td>0</td>
<td>M1D</td>
<td>3</td>
<td>MC</td>
<td>Easy</td>
<td>Identify side with same length in congruent figures</td>
</tr>
<tr>
<td>2006</td>
<td>0</td>
<td>M1D</td>
<td>4</td>
<td>MC</td>
<td>Easy</td>
<td>Identify numerator with digit in hundredths place</td>
</tr>
<tr>
<td>2006</td>
<td>0</td>
<td>M1D</td>
<td>5</td>
<td>MC</td>
<td>Easy</td>
<td>Determine a quantity based on given percent</td>
</tr>
<tr>
<td>2006</td>
<td>0</td>
<td>M1D</td>
<td>6</td>
<td>MC</td>
<td>Hard</td>
<td>Determine area of a right trapezoid</td>
</tr>
<tr>
<td>2006</td>
<td>0</td>
<td>M1D</td>
<td>7</td>
<td>MC</td>
<td>Easy</td>
<td>Identify solution from graph of linear equations</td>
</tr>
<tr>
<td>2006</td>
<td>0</td>
<td>M1D</td>
<td>8</td>
<td>MC</td>
<td>Medium</td>
<td>Represent length of rectangle in terms of width</td>
</tr>
</tbody>
</table>

Select Content Classifications  
Select Years  
Perform Keyword Search
Example of Extended Constructed Response Item

1. The graph below and written summary on the next page present information about the sleep habits of newborn babies, one year olds, four year olds, and ten year olds. Each solid bar represents a period of sleep.

Some of the information presented in the summary does not agree with the information in the graph.

For example, there is an error in sentence 1 that has already been identified and corrected for you.

- Newborn
- One Year
- Four Years
- Ten Years

SLEEP HABITS OF YOUNG CHILDREN

Time of Day

- 6 P.M.
- 12 A.M.
- 6 A.M.
- 12 P.M.
- 6 P.M.

- In sentences 2 and 3 below, underline the information that is not correct based on the graph. There is an error in each statement.
- Then, write the correct information above the errors in sentences 2 and 3.

(1) According to research that has been done on sleep habits and patterns of
sleep in children, the number of hours that a newborn baby sleeps in a 24-hour
period of time is less than that of a ten year old.

(2) From the time a child is born until it reaches age ten, the number of
different time periods of sleep increases as the child grows older.

(3) Newborns need 2 more hours of sleep than ten year olds between 6 a.m.
and 6 p.m.

Did you use the calculator on this question?

- Yes
- No
Long-term Trend Item Tool
Long-term Trend Item Search

Long-term Trend Item Search

**Long-term Trend MC Items**

**From Age 9 Assessment**

4. Which of the following is the largest unit of measurement?
   A. Centiliter
   B. Kiloliter
   C. Liter
   D. Milliliter

**From Age 13 Assessment**

23. What can be said about the sum of three odd numbers?
   A. It is always an odd number.
   B. It is always an even number.
   C. It is always a prime number.
   D. It is sometimes an even number and sometimes an odd number.

**From Age 17 Assessment**

3. The perimeter of a square is 36 centimeters. What is the area of the square?
   A. 6 square cm
   B. 9 square cm
   C. 18 square cm
   D. 81 square cm
Long-term Trend SCR Item

38
74
66
+75

ANSWER: ____________

From Age 9 Assessment

28. Write the addition sentence shown by the arrows on the number line above.

ANSWER: ____________ + ____________ = ____________

From Age 13 Assessment

Questions 9-11. Find the products.

9. $12 \times \frac{3}{4} =$

From Age 17 Assessment
Long-term Trend Question Detail & Workspace

Questions 9-11. Find the products.

9. \( 12 \times \frac{3}{4} = \)
NAEP Online Data Explorer
Learn More About the Tools Available Online

http://nces.ed.gov/nationsreportcard/about/naeptools.asp
Do you have questions about what the nation's students know and can do?

With the NAEP Data Explorer (NDE) you can create statistical tables, charts, and maps to help you find answers. Explore the results of decades of assessment of students' academic performance, as well as information about factors that may be related to their learning.

For help using NDE, view the tutorial, visit the Quick Reference Guide (609K PDF) or use the NDE help button available at the top of every page.

System Requirements:
- Target screen resolution is 1024x768.
- Internet Explorer 6 or Higher, (IE7 recommended).
- Firefox 2.0 or higher, (FF 3.0 or higher recommended).
- Enable JavaScript and pop-ups in your browser.
- Adobe Flash Player 9.0.123 or higher, (download).

Accessible version: ON OFF

http://nces.ed.gov/nationsreportcard/naepdata
Main NAEP Data Explorer

### Average scale scores for mathematics, grade 4, by year, jurisdiction, and Natl School Lunch Prog eligibility (3 categories) [SLUNCH3]: 2009

<table>
<thead>
<tr>
<th>Year</th>
<th>Jurisdiction</th>
<th>Eligible</th>
<th>Not eligible</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Average scale score</td>
<td>Standard error</td>
<td>Average scale score</td>
</tr>
<tr>
<td>2009</td>
<td>National</td>
<td>227</td>
<td>(0.2)</td>
</tr>
<tr>
<td></td>
<td>National Public</td>
<td>230</td>
<td>(0.2)</td>
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<tr>
<td></td>
<td>National Private</td>
<td>223</td>
<td>(3.2)</td>
</tr>
<tr>
<td></td>
<td>Large City</td>
<td>225</td>
<td>(0.4)</td>
</tr>
</tbody>
</table>

**NOTE:** The NAEP Mathematics scale ranges from 0 to 500. Some apparent differences between estimates may not be statistically significant.

**SOURCE:** U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Mathematics Assessment.
NCES Kids’ Zone

National Assessment of Educational Progress (NAEP)

What is NAEP?
The National Assessment of Educational Progress (NAEP) is the largest nationally representative and continuing assessment of what America’s students know and can do in various subject areas. Learn more...

In the Spotlight

2011 AERA Conference: April 7-12, 2011
AERA conference attendees, don't miss out on the great NAEP paper sessions or training opportunities using the latest NAEP data.

recent publications
February 24, 2011:
The Nation's Report Card: Science 2009 Trial Urban District Assessment (TUDA) has been released.
The Nation's Report Card: Science 2009 District Snapshot Reports

January 25, 2011:
The Nation's Report Card: Science 2009

November 18, 2010:
The Nation's Report Card: Grade 12 Reading and Mathematics 2009 National and Pilot State Results
The Nation's Report Card: Grade 12 Reading and Mathematics State Snapshot Reports 2009
The NCES Kids’ Zone provides information to help you learn about schools; decide on a college; find a public library; engage in several games, quizzes and skill building about math, probability, graphing, and mathematicians; and to learn many interesting facts about education.

DID YOU KNOW?
Black students at grade 4 in Boston and Charlotte had higher scores on the 2009 NAEP science assessment than Black students nationally. (more info)

THE WORD OF THE DAY
oxymoron - (n.) A figure of speech in which antithetical incongruous terms are combined, as in a deafening silence.

THE QUOTE OF THE DAY
"You have learned something. That always feels at first as if you had lost something." - H.G. Wells

SEEKING YOUR SUGGESTIONS
Calling All Kids! We would like to hear from you to find out what other types of activities you would like to see on the NCES Kids’ Zone! Please send your comments or suggestions to kidszone@ed.gov
NCES Kids’ Zone Tools

Choose Your Search

FIND A SCHOOL
If you want to find some information about your school, or any school then you’ve come to the right place!
- Public School Only
- Private School Only
- Public and Private Schools

FIND A LIBRARY
Get an address, learn how many books it has, and discover other cool things for public libraries and branches.
- Find A Library

COLLEGE SEARCH
Find enrollment numbers, what programs are offered and other info for all of the nearly 7,000 colleges and universities across the nation.
- Search by State
- Search by Region

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Here you will find five different graphs and charts for you to consider. Not sure about which graph to use? Confused between bar graphs and pie charts? Read our:

Create A Graph Tutorial

New to creating graphs? Then try...

24,061,575
Graphs Created Since 2005

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NCES Kids’ Zone Graph

Help
Graphs and charts are great because they communicate information visually. For this reason, graphs are often used in newspapers, magazines, and businesses around the world.

NCES constantly uses graphs and charts in our publications and on the web. Sometimes, complicated information is difficult to understand and needs an illustration. Graphs or charts can help impress people by getting your point across quickly and visually.

Here you will find five different graphs and charts for you to consider. Not sure about which graph to use? Confused between bar graphs and pie charts? Read our:

Create A Graph Tutorial

Design
Bar
Line
Area
Pie
XY

Direction:
- Vertical
- Horizontal
- True 3D
- Stacked
- Stacked

Shape:
- Rectangle
- Cylinder
- Triangle
- Rhombus
- Pattern

Style:
Background Color:
Grid Color:
Grid Lines:
Appearence:
Legends: position right

Start Over
Update

If you wish to revisit this graph, you will need to bookmark this page, or email yourself this graph.

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This site uses Macromedia Flash Player to provide a more rich web experience. Download a free copy now.
Dare to Compare

So, how do you compare with students nationally and from around the world?

Pick a subject, a grade and how many questions you want to see (600+ currently in database), then click the **Show Questions** button below.

**Where did these questions come from?**

**What's New**
We recently added new questions for 4th grade Math and 8th grade Science! Check back often if you Dare to Compare!
NCES Kids’ Zone
Dare to Compare

Answer the questions by clicking on any of the available buttons below each question. When you are finished, click the Show Answers button at the bottom of the page.

1. Here is the beginning of a pattern of tiles. If the pattern continues, how many tiles will be in Figure 6?
   - 12
   - 15
   - 18
   - 21

2. What number equals 3 ones + 5 tens + 4 hundreds + 60 thousands?
   - 6,453
   - 650
   - 354,000
   - 604,530

3. Which of these could be the weight (mass) of an adult?
   - 1 kg
   - 6 kg
   - 80 kg
   - 100 kg

4. 64 + 5 = ?

Mathematics, 4th grade

Figure 1
Figure 2
Figure 3
NCES Kids’ Zone
Dare to Compare

Dare to Compare

For more fun information about each question, click on the Results Around the World or National Performance Results icons.

1. Here is the beginning of a pattern of tiles. If the pattern continues, how many tiles will be in Figure 6?
   (Correct Answer) 18

2. What number equals 3 ones + 5 tens + 4 hundreds + 60 thousands?
   (Correct Answer) 453
NCES Kids’ Zone
Dare to Compare

World Data - Did You Know - Links - Source

United States

Percent Correct
National Average 59%
International Average 63%

More Information

World Data - Did You Know - Links - Source

United States

Percent Correct
National Average 68%
International Average 63%

More Information

Did You Know?

Have you ever looked closely at your classroom wall or the ceiling in your living room and seen a pattern? Have you ever seen patterns in a carpet or the eyes of a fly? Patterns can be found everywhere in the world. If you train your eyes to see them, you can find them in places you'd never think to look.

Click on the globes below to visit these additional resources

Finding Patterns Can Be Fun! Play the Fruit Game!

Fun with Shapes and Patterns

Try Another Fun Pattern Problem

The links provided on this page will redirect you away from the Students’ Classroom. To return to Test Your Knowledge, use your web browser’s Back button.
NCES Kids’ Zone
Grab Bag

MASCOT MATCHING
Play the Mascot Matching game and match the mascot to the proper University.

MATHEMATICS QUIZ
Complete this profile and learn which famous mathematician shares your interests.

NCES REPORTS
We always have a current NCES report summarized and with highlights.

MATH TEASER
This is a great way to test your math/statistics skills with some fun and interesting questions.

MULTIMEDIA
Watch short videos and try to identify the location of the sculptures.

NEW EDUCATION DATA
A list of recent NCES publications with links taking you to where they can be found on the NCES website.

EDUCATION QUIZ
Test your smarts about education in the U.S. and the world by taking an interesting quiz.

WORD SEARCH
Good at word search puzzles? Find educational and statistical terms in this word search.
"The probable is what usually happens." — Aristotle.

What many people refer to as 'good luck' can actually be explained by a little knowledge about probability and statistics. Our dice game allows you to see how increasing or decreasing the number of dice rolls affects an outcome. So give it a try, choose the number of rolls you would like to make...

...and roll the dice!

Number of Rolls: [ ] Roll Dice!

"It is a truth very certain that when it is not in our power to determine what is true we ought to follow what is most probable." — Descartes
NCES Kids’ Zone

Chances

Are these the results you expected? Look below for a detailed list of how this graph was constructed and for more details on how and why probability works.

Rolls of the Dice

What's up with probability?

Click on this link for an explanation of how probability works.
The “What Mathematics Do Students Know” project is supported by the REESE Program of the National Science Foundation (grant number DRL-1008438). Opinions, findings, conclusions, and recommendations are those of the presenters and do not necessarily reflect the views of the National Science Foundation.