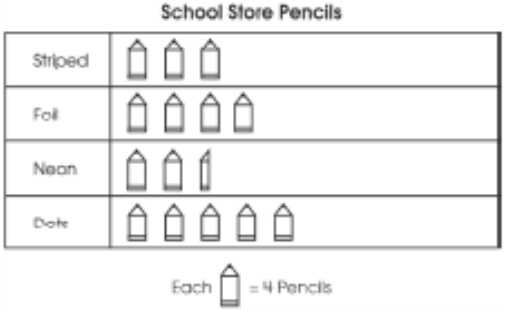
3rd Mathematics Achievement Test
Data Analysis and Probability Standard

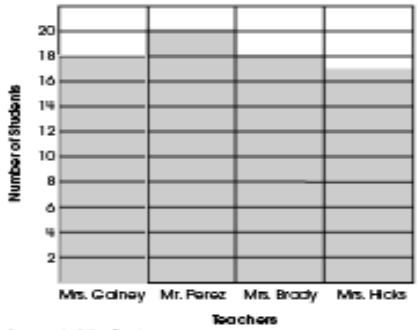
Benchmark B

Question 21	March 2008	C
Question 26	March 2005	B
Question 14	Fall 2005	B
Question 39	March 2006	A

Benchmark C

Question 3	Spring 2010	B
Question 14	May 2009	C
Question 4	Fall 2005	☑ Scoring Guidelines Points — Student Response 2 — The response includes a picture graph with correct numbers of pencil icons for each type of pencil. NOTE: Any reasonable attempt to divide the pencil icon in half to represent 2 pencils should be considered correct.  1 — The response provides evidence of partially correct use of the pencil icon to represent the number of pencils. The picture graph includes correct number(s) of pencil icons for one, two or three types of pencils. 0 — The response indicates inadequate or no understanding of the task. For example, the picture graph includes an incorrect number of pencil icons for all four types of pencils (e.g., uses 12 pencil icons to represent 12 pencils).
Question 44	March 2006	B

Benchmark D

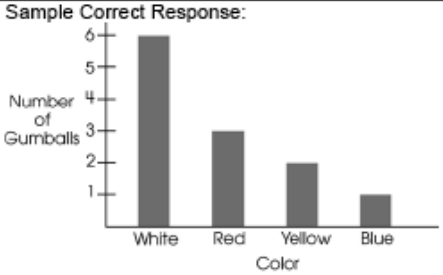
<table>
<tr><td>Question 17</td><td>Spring 2010</td><td>C</td></tr>
<tr><td>Question 18</td><td>May 2009</td><td>C</td></tr>
<tr><td>Question 5</td><td>March 2008</td><td>Scoring Guidelines
<table>
<tr><th>Points</th><th>Student Response</th></tr>
<tr><td>2 point</td><td>The response correctly completes the graph with 2 raindrops or marks for September.
Example: 2 = 4 rainy days</td></tr>
<tr><td>1 point</td><td>The response completes the graph with four raindrops or marks for September.</td></tr>
<tr><td>0 point</td><td>The response indicates anything other than 2 or 4 raindrops or marks.</td></tr>
</table></td></tr>
<tr><td>Question 30</td><td>March 2005</td><td>Scoring Guidelines
<table>
<tr><th>Points</th><th>Student Response</th></tr>
<tr><td>4</td><td>The response creates the bar graph with a correct scale and bar heights and writes two different, correct facts based on the table or graph.
For example:</td></tr>
<tr><td></td><td> 

Acceptable facts:
• Any reference to the bar heights or numbers used in the table are ok
• Repetition of the information in the table is not correct</td></tr>
<tr><td>3</td><td>The response creates the bar graph with a correct scale and bar heights and writes one correct fact based on the table or graph.
OR
The response creates the bar graph with no more than two errors (scale and/or bar height(s)), and writes two different, correct facts based on the table or graph.
NOTE:
Multiple unrelated bar height errors = # of errors
One error in bar heights that is consistently carried through = 1 error
Scale and bar height error = 2 errors</td></tr>
<tr><td>2</td><td>The response creates the bar graph with a correct scale and bar heights OR writes two different, correct facts based on the table or graph.
OR
The response creates the bar graph with no more than two errors (scale and/or bar heights) AND writes one correct fact based on the table or graph.</td></tr>
<tr><td>1</td><td>The response creates the bar graph with no more than two errors (scale and/or bar heights) OR writes one correct fact based on the table or graph.</td></tr>
<tr><td>0</td><td>The response indicates no understanding of the task or the underlying skills, concepts or processes.</td></tr>
</table></td></tr>
<tr><td>Question 41</td><td>Spring 2007</td><td>C</td></tr>
</table>

Benchmark E

Question 35	Spring 2010	B
Question 3	March 2005	A
Question 7	Fall 2005	A
Question 24	March 2006	B

Benchmark F

<table>
<tr><td>Question 39</td><td>Spring 2010</td><td>B</td></tr>
<tr><td>Question 29</td><td>May 2009</td><td>
Scoring Guidelines
<table>
<tr><th>Points</th><th>Student Response</th></tr>
<tr><td>4 point</td><td>Sample Correct Response:
 

Megan is most likely to get a white gumball. White is most likely because she got white gumballs more times than the other colors.
The focus of this task is recording the results of a simple experiment in a graph and using the results to draw conclusions about the likelihood of possible outcomes. The response provides a correct bar graph that measures the lengths of the bars (not the number of blocks in each bar), labels all parts, and explains why white is the most likely color.
Note: Bar graphs that are oriented horizontally are also acceptable.</td></tr>
<tr><td>3 point</td><td>The response provides evidence of recording the results of a simple experiment in a graph and using the results to draw conclusions about the likelihood of possible outcomes; however, the solution may contain a slight error, a flaw or a vague explanation.
Sample answer:
• Provide a bar graph that has a minor error, such as missing a label or drawing one of the bars incorrectly, but identify white as the most likely color with an adequate explanation.
• Provide a correct bar graph and state white as most likely but provide an inadequate explanation.</td></tr>
<tr><td>2 point</td><td>The response provides partial evidence of recording the results of a simple experiment in a graph and using the results to draw conclusions about the likelihood of possible outcomes; however, the solution is incomplete and/or contains minor flaws.
Sample answer:
• Provide a correct bar graph but fail to identify white as the most likely color and to provide an explanation.
• Provide a bar graph with a conceptual error, state that white is the most likely color, but fail to explain why.
• Fail to provide a bar graph but state that white is the most likely and provide an appropriate explanation.</td></tr>
<tr><td>1 point</td><td>The response provides minimal evidence of recording the results of a simple experiment in a graph and using the results to draw conclusions about the likelihood of possible outcomes. The response has major flaws and errors in reasoning.
Sample answer:
• Provide an incomplete or flawed bar graph and fail to state a likely color and provide an explanation.
• State white as the most likely color, but give an inadequate explanation.</td></tr>
<tr><td>0 point</td><td>The response provides inadequate evidence of recording the results of a simple experiment in a graph and using the results to draw conclusions about the likelihood of possible outcomes.
Sample answer:
• Only state that white is the most likely without an explanation.
• State that blue is the most likely color without an explanation or a bar graph.
• Restate the information provided in the item.
• Be blank or state irrelevant information.</td></tr>
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<tr><td></td><td></td><td></td></tr>
<tr><td>Question 11</td><td>March 2008</td><td>B</td></tr>
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Question 12	March 2005	B
Question 21	March 2006	B

Benchmark G

<table>
<tr>
<td>Question 20</td>
<td>March 2005</td>
<td>
Scoring Guidelines
<table>
<tr><th>Points</th><th>Student Response</th></tr>
<tr><td>2</td><td>The response shows six different combinations of shirts and hats using pictures or words.
Examples of correct responses:
red shirt - orange hat G and W
red shirt - green hat G and R
blue shirt - orange hatOR G and B
blue shirt - green hat O and W
white shirt - orange hat O and R
white shirt - green hat O and B</td></tr>
<tr><td>1</td><td>The response shows one to five correct combinations of shirts and hats.</td></tr>
<tr><td>0</td><td>The response indicates no understanding of the task or the underlying skills, concepts tasks or processes.</td></tr>
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<tr>
<td>Question 19</td>
<td>Fall 2005</td>
<td>C</td>
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Benchmark H

Question 13	Spring 2010	A
Question 36	Spring 2007	A