A New Vision of Assessment:
Texts Worth Reading
Problems Worth Solving
Tests Worth Taking

November, 2013
What Is PARCC?

The Partnership for Assessment of Readiness for College and Careers:

- Made up of 19 states + DC and US Virgin Islands
  - KY and PA are participating states
- Developing common, high-quality math and English language arts (ELA) tests for grades 3–11
  - Computer-based and linked to what students need to know for college and careers
  - For use starting in the 2014–15 school year
The Common Core State Standards are here and better standards require better tests.

Unlike many current tests, PARCC tests will be engaging and will test the critical-thinking and problem-solving skills students need to succeed in school and life.

Validity of interpretation for large-scale assessment data rests squarely on the close alignment of assessment items with curriculum.
Assessment Overview

2 Non-summative Optional Assessments/Flexible Administration

Diagnostic (2-8) and Formative (K-1) Assessment
- Early indicator of student knowledge and Non-summative

Mid-Year Assessment
- Performance-based
- Emphasis on hard-to-measure standards
- Potentially summative

Performance-Based Assessment (PBA)
- Extended tasks
- Applications of concepts and skills
- Required

End-of-Year Assessment
- Innovative, computer-based items
- Required

2 Non-summative Optional Assessments/Flexible Administration

Speaking And Listening Assessment
- Locally scored
- Non-summative, required

2 Summative Required Assessments
From these administrations, districts are provided, College and Career “On-Track” determination

PARCC Partnership for Assessment of Readiness for College and Careers
Performance Level Descriptors or PLDs describe what students at each performance level know and can do relative to grade-level or course content standards assessed.
Claims for ELA/Literacy

ELA/Literacy for Grades 3–11

“On Track” Master Claim/Reporting Category:
Students are “on track” to college and career readiness in ELA/Literacy.

Major Claim: Reading Complex Text
Students read and comprehend a range of sufficiently complex texts independently.

- SC: Vocabulary Interpretation and Use (RL/RI.X.4 and L.X.4-6)
  Students use context to determine the meaning of words and phrases.

- SC: Reading Literature (RL.X.1-10)
  Students demonstrate comprehension and draw evidence from readings of grade-level, complex literary text.

- SC: Reading Informational Text (RI.X.1-10)
  Students demonstrate comprehension and draw evidence from readings of grade-level, complex informational texts.

Major Claim: Writing
Students write effectively when using and/or analyzing sources.

- SC: Written Expression (W.X.1-10)
  Students produce clear and coherent writing in which the development, organization, and style are appropriate to the task, purpose, and audience.

- SC: Conventions and Knowledge of Language (L.X.1-3)
  Students demonstrate knowledge of conventions and other important elements of language.

- SC: Research (data taken from Research Simulation Task)
  Students build and present knowledge through integration, comparison, and synthesis of ideas.
Looking at the PLDs: Written Expression

| Writing Sub-Claim for Written Expression: Students produce clear and coherent writing in which the development, organization, and style are appropriate to the task, purpose, and audience. | See Writing Evidence Table http://www.parcconline.org/assessment-blueprints-test-specs |

| Evidence | Students are expected to produce responses that demonstrate the skills and content listed in the evidence tables at the accuracy level and with the quality of evidence as described for students at each level. |

<table>
<thead>
<tr>
<th><strong>Level 5</strong></th>
<th><strong>Level 4</strong></th>
<th><strong>Level 3</strong></th>
<th><strong>Level 2</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>A student who achieves at Level 5 demonstrates distinguished command of the grade-level standards.</td>
<td>A student who achieves at Level 4 demonstrates strong command of the grade-level standards.</td>
<td>A student who achieves at Level 3 demonstrates moderate command of the grade-level standards.</td>
<td>A student who achieves at Level 2 demonstrates partial command of the grade-level standards.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>The student:</th>
<th>The student:</th>
<th>The student:</th>
<th>The student:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provides effective and comprehensive development of the claim, topic, and/or narrative elements, using clear convincing reasoning, details, text-based evidence, and/or description.</td>
<td>Provides effective and comprehensive development of ideas, including when drawing evidence from multiple sources, while demonstrating effective coherence, clarity, and/or cohesion.</td>
<td>Provides adequate development of ideas, including when drawing evidence from multiple sources, while demonstrating coherence, clarity, and/or cohesion.</td>
<td>Provides partial development of ideas, including when drawing evidence from multiple sources, while minimally demonstrating limited coherence, clarity, and/or cohesion.</td>
</tr>
<tr>
<td>Develops claim, topic, and/or narrative elements consistently appropriate to the task, purpose, and audience.</td>
<td>Demonstrates purposeful coherence, clarity, and cohesion and includes a strong introduction, conclusion, and a logical, well-executed progression of ideas.</td>
<td>Demonstrates a great deal of coherence, clarity, and cohesion and includes an introduction, conclusion, and a logical progression of ideas.</td>
<td>Demonstrates limited coherence, clarity, and/or cohesion, making the writer’s progression of ideas somewhat unclear.</td>
</tr>
<tr>
<td>Demonstrates purposeful coherence, clarity, and cohesion and includes a strong introduction, conclusion, and a logical, well-executed progression of ideas.</td>
<td>Establishes and maintains an effective style, while attending to the norms and conventions of the discipline.</td>
<td>Establishes and maintains a mostly effective style, while attending to the norms and conventions of the discipline.</td>
<td>Has a style that has limited effectiveness, with limited awareness of the norms of the discipline.</td>
</tr>
<tr>
<td>Establishes and maintains an effective style, while attending to the norms and conventions of the discipline.</td>
<td>Effectively draws evidence from literary or informational texts to support analysis, reflection, and research.</td>
<td>Effectively draws evidence from literary or informational texts to support analysis, reflection, and research.</td>
<td>Draws minimal evidence from literary or informational texts to support analysis, reflection, and research.</td>
</tr>
<tr>
<td>Effectively draws evidence from literary or informational texts to support analysis, reflection, and research.</td>
<td>Includes mostly precise language including descriptive words and phrases, sensory details, linking and transitional words, words to indicate tone, and/or domain-specific vocabulary.</td>
<td>Includes mostly precise language including descriptive words and phrases, sensory details, linking and transitional words, words to indicate tone, and/or domain-specific vocabulary.</td>
<td>Includes limited descriptions, sensory details, linking or transitional words, words to indicate tone, or domain-specific vocabulary.</td>
</tr>
</tbody>
</table>

This row provides the sub-claim being viewed.

This row provides the level being described.

This row provides information about the patterns displayed by students in writing at this level.
Claims for Mathematics

Master Claim: Students are on-track or ready for college and careers

Sub-claim A: Students solve problems involving the **major content** for their grade level with connections to practices.

Sub-Claim B: Students solve problems involving the **additional and supporting content** for their grade level with connections to practices.

Sub-claim C: Students express mathematical reasoning by constructing mathematical arguments and critiques.

Sub-Claim D: Students solve real world problems engaging particularly in the **modeling practice**.

Sub-Claim E: Students demonstrate fluency in areas set forth in the Standards for Content in grades 3-6.
Factors Determining Performance Levels (Cognitive Complexity)

1. Mathematical Content
2. Mathematical Practices
3. Stimulus Material
4. Response Mode
5. Processing Demand

<table>
<thead>
<tr>
<th>Conceptual Concept the PLD is based on</th>
<th>Level 5: Distinguished Command</th>
<th>Level 4: Strong Command</th>
<th>Level 3: Moderate Command</th>
<th>Level 2: Partial Command</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equivalent Expressions</td>
<td>Uses the structure of polynomial, exponential and rational expressions to create equivalent expressions in solving mathematical problems with three or more steps required.</td>
<td>Uses the structure of polynomial, exponential and rational expressions to create equivalent expressions that aid in solving mathematical problems with two steps required.</td>
<td>Uses the structure of polynomial, exponential and rational expressions to create equivalent expressions.</td>
<td>Uses provided mathematical properties and relationships to reveal key features of polynomial and rational functions to sketch graphs.</td>
</tr>
<tr>
<td>A-SSE.2-5</td>
<td>Identifies how changing the parameters of the function impacts key features of the graph.</td>
<td>Identifies zeros and sketches graphs of quadratics and cubics, applying the remainder theorem where appropriate.</td>
<td>Identifies zeros and sketches graphs of easily factorable quadratics and cubics.</td>
<td>Identifies zeros of easily factorable quadratics and cubics.</td>
</tr>
<tr>
<td>A-SSE.2-6</td>
<td>A-APR.2</td>
<td>A-APR.3-1</td>
<td>F-IF.4-5</td>
<td>A-APR.2</td>
</tr>
<tr>
<td>Interpreting Functions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Math III: Sub-Claim A
The student solves problems involving the Major Content for the grade/course with connections to the Standards for Mathematical Practice.
A local mini-golf course charges $5 per person to play a round of golf, and the course sells 120 rounds of golf per week. The manager of the course studied the effect of raising the price to increase revenue and found the following data.

The table shows the price, number of rounds of golf, and weekly revenue for different numbers of $0.25 increases in price.

<table>
<thead>
<tr>
<th>Number of $0.25 price increases, $n$</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Price of a round of golf, $p(n)$</td>
<td>$5.00</td>
<td>$5.25</td>
<td>$5.50</td>
<td>$5.75</td>
<td>$6.00</td>
</tr>
<tr>
<td>Number of rounds of golf sold, $s(n)$</td>
<td>120</td>
<td>117</td>
<td>114</td>
<td>111</td>
<td>108</td>
</tr>
<tr>
<td>Weekly revenue, $r(n)$</td>
<td>$600</td>
<td>$614.25</td>
<td>$627</td>
<td>$638.25</td>
<td>$648</td>
</tr>
</tbody>
</table>

**Part A**

Based on the data, write a linear function to model the price of one round of golf, $p(n)$, in terms of $n$, the number of $0.25$ increases.

Based on the data, write a linear function to model the number of rounds of golf sold in a week, $s(n)$, in terms of $n$, the number of $0.25$ increases.

**Part B**

Based on the data, write a quadratic function for the weekly revenue in a week, $r(n)$, in terms of $n$, the number of $0.25$ increases.

Use your quadratic function to determine the weekly revenue in a week when tickets cost $6.25.

**Part C**

The maximum possible weekly revenue is what percent greater than the weekly revenue with no price increases? Justify your answer graphically or algebraically.
The functions \( f(x) = 1 - x \) and \( g(x) = \frac{0.11}{x^2} \) are defined for all values of \( x > 0 \). The graphs are shown in the coordinate plane.

**Part A**

Explain how you can use the graph to find the solution(s) of the equation \( f(x) = g(x) \). In your answer, provide the approximate value(s) of the solution(s).

**Part B**

Write the value(s) of \( f(x) \) when \( x \) equals the solution(s) from Part A.

**Part C**

Let the function \( h(x) \) be defined as \( h(x) = f(x) - g(x) \).

What are the coordinates of the point(s) on the graph of \( h(x) \) when \( x \) equals the solution(s) from Part A? Explain your reasoning.
### The Real Number System
- Extend the properties of exponents to rational exponents

### Quantities
- Reason quantitatively and use units to solve problems

### The Complex Number System
- Perform arithmetic operations with complex numbers
- Use complex numbers in polynomial identities and equations

### Seeing Structure in Expressions
- Interpret the structure of expressions
- Write expressions in equivalent forms to solve problems

<table>
<thead>
<tr>
<th>Major Content</th>
<th>Supporting Content</th>
<th>Additional Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>✅</td>
<td>🟦</td>
<td>🟪</td>
</tr>
<tr>
<td>🟬</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# Mathematics Performance-based Assessment and End-of-Year Assessment

<table>
<thead>
<tr>
<th>PARCC Subclaim</th>
<th>Percentage of Items on High School Assessments</th>
<th>Task Types</th>
</tr>
</thead>
<tbody>
<tr>
<td>A: Solve problems with major content</td>
<td>39%</td>
<td>• Balance of conceptual understanding, fluency, and application</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Can involve any or all mathematical practice standards</td>
</tr>
<tr>
<td>B: Solve problems with additional and supporting content</td>
<td>21%</td>
<td>• Balance of conceptual understanding, fluency, and application</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Can involve any or all mathematical practice standards</td>
</tr>
<tr>
<td>C: Express mathematical reasoning</td>
<td>17%</td>
<td>• Each task calls for written arguments / justifications, critique</td>
</tr>
<tr>
<td></td>
<td></td>
<td>of reasoning, or precision in mathematical statements</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Can involve other mathematical practice standards</td>
</tr>
<tr>
<td>D: Solve real-world problems engaging in modeling</td>
<td>22%</td>
<td>• Each task calls for modeling/application in a real-world context or</td>
</tr>
<tr>
<td></td>
<td></td>
<td>scenario</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Can involve other mathematical practice standards</td>
</tr>
</tbody>
</table>
Prairie State Achievement Exam

• Approximately 50% of the items on the ACT Mathematics Test involve knowledge and skills.
• Approximately 30% of items involve direct application.
• Approximately 20% of the items involve understanding concepts/integrated conceptual understanding.
<table>
<thead>
<tr>
<th>ILS Goal</th>
<th>Percentage of Items on PSAE</th>
<th>Percentage of Items from ACT</th>
<th>Percentage of Items on WorkKeys</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goal #6 – Number Sense</td>
<td>29%</td>
<td>18%</td>
<td>63%</td>
</tr>
<tr>
<td>Goal #7 - Measurement</td>
<td>18%</td>
<td>11%</td>
<td>37%</td>
</tr>
<tr>
<td>Goal #8 - Algebra</td>
<td>32%</td>
<td>40%</td>
<td>0%</td>
</tr>
<tr>
<td>Goal #9 - Geometry</td>
<td>19%</td>
<td>24%</td>
<td>0%</td>
</tr>
<tr>
<td>Goal #10 – Data Analysis, Statistics, and Probability</td>
<td>4%</td>
<td>7%</td>
<td>0%</td>
</tr>
</tbody>
</table>
Grade 10 ELA Sample Task

Ovid's Metamorphoses: Daedalus and Icarus

But Daedalus abhorred the Isle of Crete—
and his long exile on that sea-girt shore,
increased the love of his own native place.
"Though Minos blocks escape by sea and land."
He said, "The unconfined skies remain
though Minos may be lord of all the world
his sceptre is not regnant of the air,
and by that untried way is our escape."
This said, he turned his mind to arts unknown
and nature unrevealed. He fashioned quills
and feathers in due order -- deftly formed
from small to large, as any rustic pipe
from straws unequal slants. He bound with thread
the middle feathers, and the lower fixed
with pliant wax; till so, in gentle curves
arranged, he bent them to the shape of birds
While he was working, his son Icarus,
with smiling countenance and unaware
of danger to himself, perchance would chase
the feathers, ruffled by the shifting breeze,
or soften with his thumb the yellow wax,
and by his playfulness retard the work
his anxious father planned.
But when at last
the father finished it, he poised himself,
and lightly floating in the winnowed air
waved his great feathered wings with bird-like ease.
And, likewise he had fashioned for his son
such wings; before they ventured in the air
he said, "My son, I caution you to keep
the middle way, for if your pinions dip
too low the waters may impede your flight;
and if they soar too high the sun may scorch them
Grade 10 ELA Sample Task

Part A

Which of the following sentences best states an important theme about human behavior as described in Ovid’s “Daedalus and Icarus”?

a. Striving to achieve one’s dreams is a worthwhile endeavor.
b. The thoughtlessness of youth can have tragic results.
c. Imagination and creativity bring their own rewards
d. Everyone should learn from his or her mistakes.
Part B
Select three pieces of evidence from Ovid’s “Daedalus and Icarus” that support the answer to Part A.

a. "and by his playfulness retard the work/his anxious father planned" (lines 310-311)
b. "But when at last/the father finished it, he poised himself" (lines 312-313).
c. "he fitted on his son the plumed wings/ with trembling hands, while down his withered cheeks/the tears were falling" (lines 327-329).
d. "Proud of his success/the foolish Icarus forsook his guide” (lines 348-349).
e. "and, bold in vanity, began to soar/rising upon his wings to touch the skies"
f. "and as the years went by the gifted youth/began to rival his instructor's art "
g. "Wherefore Daedalus/enraged and envious, sought to slay the youth "
h. "The Partridge hides/in shaded places by the leafy trees? for it is mindful of its former fall "

Grade 10 ELA Sample Task
Students read extended literature text
Students respond to 1 item measuring reading subclaim for vocabulary
Students respond to 2 Evidence-based Selected Response (EBSR) or Technology-enhanced (TECR) items
Students read 1 additional literature text
Students respond to 1 item measuring reading subclaim for vocabulary
Students respond to 2 EBSR or TECR items
Students respond to 1 Prose Constructed Response (PCR)
ELA Content Frameworks

<table>
<thead>
<tr>
<th>Modules</th>
<th>Reading Complex Texts RL/RI.11.10</th>
<th>Writing to Texts W.11.1–6, 9–10, RL/RI.11.1–10</th>
<th>Research Project W.11.1, 2, 4–5, RL/RI.11.1–10</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>1 Extended Text</td>
<td>Routine Writing</td>
<td>1 Research Project</td>
</tr>
<tr>
<td></td>
<td>Literature</td>
<td>Develop &amp; convey understanding</td>
<td>Integrate knowledge from sources when composing</td>
</tr>
<tr>
<td></td>
<td>3–5 Short Texts</td>
<td>Focus on arguments</td>
<td>Integrate knowledge from sources when composing</td>
</tr>
<tr>
<td></td>
<td>Literature: 2–3</td>
<td></td>
<td>Integrate knowledge from sources when composing</td>
</tr>
<tr>
<td></td>
<td>Informational texts: 1–2</td>
<td></td>
<td>Integrate knowledge from sources when composing</td>
</tr>
<tr>
<td>B</td>
<td>U.S. foundational text</td>
<td>Develop &amp; convey understanding</td>
<td>Integrate knowledge from sources when composing</td>
</tr>
<tr>
<td></td>
<td>American literature: 2–3</td>
<td>Focus on informing &amp; explaining</td>
<td>Integrate knowledge from sources when composing</td>
</tr>
<tr>
<td></td>
<td>U.S. historical documents: 1–2</td>
<td>Convey experiences, events and/or procedures</td>
<td>Integrate knowledge from sources when composing</td>
</tr>
<tr>
<td>C</td>
<td>American literature</td>
<td>Develop &amp; convey understanding</td>
<td>Integrate knowledge from sources when composing</td>
</tr>
<tr>
<td></td>
<td>American literature: 2–3</td>
<td>Focus on informing &amp; explaining</td>
<td>Integrate knowledge from sources when composing</td>
</tr>
<tr>
<td></td>
<td>Informational texts: 1–2</td>
<td>Convey experiences, events and/or procedures</td>
<td>Integrate knowledge from sources when composing</td>
</tr>
<tr>
<td>D</td>
<td>Informational</td>
<td>Develop &amp; convey understanding</td>
<td>Integrate knowledge from sources when composing</td>
</tr>
<tr>
<td></td>
<td>Literature: 2–3</td>
<td>Focus on arguments</td>
<td>Integrate knowledge from sources when composing</td>
</tr>
<tr>
<td></td>
<td>U.S. historical documents: 1–2</td>
<td>Convey experiences, events and/or procedures</td>
<td>Integrate knowledge from sources when composing</td>
</tr>
</tbody>
</table>

For Reading and Writing in Each Module:
- Cite evidence RL/RI.11.1
- Analyze content RL/RI.11.2–9, SL.11.2–3
- Study & apply grammar L.11.1–3, SL.11.6
- Study & apply vocabulary L.11.4–6
- Conduct discussions SL.11.1
- Report findings SL.11.4–6

*After selecting the standards targeted for instruction, texts and writing tasks with clear opportunities for teaching these selected standards should be chosen.
ELA/Literacy End-of-Year Test Set

- 4 EBSR/TECR items tied to 1 short/medium literary text
- 6 EBSR/TECR items tied to 1 medium/long length literary text
- 5 EBSR/TECR items tied to 1 short/medium length informational text
- 5 EBSR/TECR items tied to 1 short/medium informational text
- 6 EBSR/TECR items tied to 1 medium/long information text
  - 1 informational text is literary nonfiction
  - 1 informational text is history/social science OR science/technical
  - 1 informational text is any one of the above
PARCC Comprehensive Accessibility Policies

- Embedded Supports
- Accessibility Features
- Accommodations
Accessibility Features for All Students

- Answer Masking
- Audio Amplification
- Background/Font Color (Color Contrast)
- Eliminate Answer Choices
- Flag Items for Review
- General Masking
- Highlight Tool
- Headphones or Noise Buffers
- Line Reader Tool
- Magnification/Enlargement Device
- NotePad
- Pop-up Glossary
- Text-to-Speech for the Mathematics Assessments
- Writing Tools
Accommodations

• Presentation accommodations
  – Assistive technology
  – Closed captioning of multimedia
  – Text to speech on ELA/literacy items

• Response accommodations
  – Braille note taker
  – Speech to text
  – Calculation device (outside the tools provided in technology platform)

• Timing and setting accommodations