Universal Tools, Designated Supports, and Accommodations

Universal Tools
- Example Embedded: zoom
- Example Non-Embedded: Scratch Paper

Designated Supports
- Example Embedded: TTS test questions
- Example Non-embedded: Read aloud items

Accommodations
- Example Embedded: TTS reading passages
- Example Non-Embedded: Read Aloud Passages

Available to All Students
Available to 504, IEP, ELL Students and others*
*Identified by educators according to state guidelines
Available to IEP and 504 Students

Unique Accessibility Features –
Example: Pop Up Glossary

George earns $455 per week. He receives a 20% raise.

How can George calculate his new weekly pay rate?

Select all calculations that will result in George's new weekly pay rate.

- divide $455 by 0.20
- divide $455 by 1.20
- multiply $455 by 0.20
- multiply $455 by 1.20
- solve for x: \( \frac{x}{455} = \frac{120}{100} \)
- solve for x: \( \frac{455}{x} = \frac{20}{100} \)
Teacher-Led Classroom Activity
Individually administered, computer-generated task
One per content area – for math, each PT has a set of 4-6 questions
Hand-scored by trained scorers using rubrics.
Performance Task Demo: Gr 8

- chicken, dog, horse, rat
Performance Task Demo: Gr 8

- Count the number of beats in 20 seconds.
- How many beats per minute?
A study states that the relationship between an animal’s pulse rate and body weight is approximately linear. The study data are below.

Table 1. Average Body Weight and Average Pulse Rate of Seven Animals

<table>
<thead>
<tr>
<th>Animal</th>
<th>Average Body Weight (in kilograms)</th>
<th>Average Pulse Rate (in beats per minute)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cat</td>
<td>3</td>
<td>130</td>
</tr>
<tr>
<td>Goat</td>
<td>28</td>
<td>75</td>
</tr>
<tr>
<td>Sheep</td>
<td>56</td>
<td>75</td>
</tr>
<tr>
<td>Pig</td>
<td>192</td>
<td>95</td>
</tr>
<tr>
<td>Ox</td>
<td>362</td>
<td>48</td>
</tr>
<tr>
<td>Cow</td>
<td>465</td>
<td>66</td>
</tr>
<tr>
<td>Horse</td>
<td>521</td>
<td>34</td>
</tr>
</tbody>
</table>
The data from Table 1 are plotted below. Use the Connect Line tool to create a linear model of these data.

2.

What is the equation of the line you drew in Item 1?
Scoring Written Performance Task Responses

Trends that appeared for mathematics items:

1. Human agreement was highest for the Use and Apply item type.
2. Human agreement was higher when the rubric contained an exhaustive list of correct responses.
3. Human agreement was higher when precise scoring rules were given for each score point.

Who Is Scoring SBAC Exams?

KCRA News Story about SBAC Scoring
Are College Graduates Ready for Scoring?

Dear Jack

427 - 316 = 111
Are College Graduates Ready for Scoring?

Dear Jack,

Don't feel bad. I have a Bachelor of Science Degree in Electronics Engineering which included extensive study in differential equations and other higher math applications. Even I cannot explain the Common Core Mathematics approach, nor get the answer correct. In

The answer is solved in under 5 seconds - III. The process used is ridiculous and would result in termination if used.

Sincerely,
Frustrated Parent

COMMON CORE......
Making parents feel stupid all over the state...as if Algebra didn't suck enough!!
Mathematics: Threshold Scale Scores

Adopted November 14, 2014
Score Report (Grade 4 Math)

Note the choice of language. There are no judgements or claims of potential.
What do the Scores Mean?

- Achievement Level Descriptors
  - Grade level and Domain specific indicators
  - See pp. 1-61 of the Math ALD document
- Example Grade 6, Ratio and Proportion

<table>
<thead>
<tr>
<th>The student who just enters Level 3 should be able to:</th>
<th>The student who just enters Level 4 should be able to:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Solve unit rate problems.</td>
<td>• Solve unfamiliar or multi-step problems by finding the whole, given a part and the percent.</td>
</tr>
<tr>
<td>• Solve percent problems by finding the whole, given a part and the percent.</td>
<td>• Understand and explain ratio relationships between any two number quantities.</td>
</tr>
<tr>
<td>• Describe a ratio relationship between any two number quantities and understand the concept of unit rate in problems (denominators less than or equal to 12).</td>
<td>• Identify relationships between models or representations.</td>
</tr>
</tbody>
</table>
Grade 11 Score Interpretation

“At the high school level, a score at or above Level 3 in 11th grade is meant to suggest conditional evidence of readiness for entry-level, transferable, credit-bearing college courses, assuming the successful completion of senior year coursework” (Darling-Hammond et al., 2015, p. 12)
# Target Standards Report (Gr 5)

<table>
<thead>
<tr>
<th>Target</th>
<th>Performance Level</th>
</tr>
</thead>
</table>

## Concepts and Procedures

- Write and interpret numerical expressions.
- Analyze patterns and relationships.
- Understand the place value system.
- Perform operations with multi-digit whole numbers and with decimals to thousandths.
- Use equivalent fractions as a strategy to add and subtract fractions.
- Apply and extend previous understandings of multiplication and division to multiply and divide fractions.
- Convert like measurement units within a given measurement system.
- Represent and interpret data.
- Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.
- Graph points on the coordinate plane to solve real-world and mathematical problems.
- Classify two-dimensional figures into categories based on their properties.

[http://www.ode.state.or.us/wma/teachlearn/testing/oaks/oaks_reports_userguide.pdf](http://www.ode.state.or.us/wma/teachlearn/testing/oaks/oaks_reports_userguide.pdf)
### Summative Results 2015

#### CAASPP Test Results

<table>
<thead>
<tr>
<th></th>
<th>Percent Standard Met or Exceeded</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>English Language Arts/Literacy</strong></td>
<td></td>
</tr>
<tr>
<td>Orange County</td>
<td>45%</td>
</tr>
<tr>
<td>Los Angeles</td>
<td>31%</td>
</tr>
<tr>
<td>Riverside</td>
<td>28%</td>
</tr>
<tr>
<td>San Bernadino</td>
<td>25%</td>
</tr>
<tr>
<td>San Diego</td>
<td>40%</td>
</tr>
<tr>
<td><strong>Mathematics</strong></td>
<td></td>
</tr>
<tr>
<td>Orange County</td>
<td>53%</td>
</tr>
<tr>
<td>Los Angeles</td>
<td>42%</td>
</tr>
<tr>
<td>Riverside</td>
<td>41%</td>
</tr>
<tr>
<td>San Bernadino</td>
<td>37%</td>
</tr>
<tr>
<td>San Diego</td>
<td>51%</td>
</tr>
</tbody>
</table>

[Link to article](http://newsroom.ocde.us/2015/09/09/orange-county-students-outpace-the-rest-of-california-on-new-standards-aligned-assessments/)
FIRST DROP IN MATH

In 2015, average NAEP math scores for fourth- and eighth-grade students dropped for the first time ever.

Grade 4 | Grade 8

- 2000: 224 | 285
- 2003: 270 | 282
- 2005: 242 | 240
- 2007: 242 | 240
- 2009: 242 | 240
- 2011: 242 | 240
- 2013: 242 | 240
- 2015: 242 | 240

NAEP and CCSS Math

- 79 percent of NAEP items in 4th grade math assessed content included in the CCSS at grade 4 or below.
- But by domain:
  - Measurement  95%
  - Number and Operations  90%
  - Geometry  68%
  - Algebra  62%
  - Data and Statistics  47%

NAEP Grade 4 by Domain

NAEP Grade 4 Math declines are largest in Geometry and Data Analysis. Number Properties and Operations show gains.

Andrew Ho @AndrewDeanHo · Oct 28
NAEP Math scores drop in Data Analysis and Geometry :-( Kids got better at number operations. #s61edmeas @NAEP_NCES
SBAC Math vs. EAP HS Math

What does this tell you about EAP and SBA scores?

Figure B.3 Scatterplot of the EAP-HSM Scale Scores with the Smarter Balanced FT Scale Scores
“The Smarter Balanced assessments were not designed or validated for purposes such as assessing whether students should be promoted to the next grade or whether a student has demonstrated the competencies needed to graduate from high school.” (Darling-Hammond, et al., 2015, p. 13)
“Yawning Achievement Gap”

“In the last year of the STAR tests, more than half of all students met the math standards and just over 56 percent met English standards. In addition, the achievement gap appeared to be narrowing over time.”

“In SBAC math, scores were lower and the gaps wider: 69 percent of Asians, 49 percent of whites, 21 percent of Latinos and 16 percent of African-Americans met or exceeded standards.”

http://www.mercurynews.com/california/ci_28782503/califs-test-scores-reveal-yawning-achievement-gap
How Might SBA Contribute to (In)equality in Math Education?

- **Standardization amidst variation**
  - Reduces “diversity” to a set of “accommodations”
  - Ignores issues of access…
    - to well-prepared teachers
    - to well-written curriculum materials
    - to out-of-classroom resources

- **Lack of expert knowledge of hand-scorers**
  - Reduces content to bullets on a rubric
  - Devalues student thinking/reasoning

- **Time spent on test prep and testing**
Purposes for Assessment

- Monitor student progress
- Inform instructional decisions
- Evaluate student achievement
- Evaluate programs

NCTM, 1995
What are the Opportunities Afforded to Address Equity Concerns?

1. How is the Smarter Balanced Assessment system being used to inform:
   - Your instructional decisions and practices?
   - Your department’s/team’s decisions and practices?
   - Your school’s structures/strategies?
   - Your district’s policies and practices?

2. Is it worth the time??
“Ability grouping in the school's classrooms is fluid and temporary”

“Any students who master concepts can move upward between groups and student clusters might look different from subject to subject and unit to unit.”

We Must (Continue To)...

- Recognize mathematics “learning” (and failure) as a product of our unique historical practices.
- Demand and lead efforts to reevaluate the design and use of assessment.
- Expect students can learn to make sense of mathematics and change our teaching and/or schooling practices when this is not happening.

Interrupt, Resist, Redefine Practices
Thank You! Questions?

