Welcome

Presenter

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Objective: Overview of Smarter Balanced mathematics and ELA performance tasks with emphasis on the increased rigor, depth, and breadth relative to Oregon’s existing work sample tasks.
Overview

1. Welcome & Objectives
2. Implementation Timelines
3. Item Development
4. Item Types
5. Math Performance Tasks
6. ELA Performance Tasks/Rubrics
7. Wrap Up
Smarter Balanced Assessment Timeline

Key to Smarter Balanced Assessments:
- S = Summative
- I = Interim
- F = Formative
### OAKS-Smarter Balanced Assessment Transition Timeline

<table>
<thead>
<tr>
<th>Year</th>
<th>OAKS</th>
<th>OAKS</th>
<th>OAKS</th>
<th>Smarter</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011-2012</td>
<td>OAKS</td>
<td>OAKS</td>
<td>OAKS</td>
<td>Smarter</td>
</tr>
<tr>
<td>2012-2013</td>
<td>OAKS</td>
<td>OAKS</td>
<td>OAKS</td>
<td>Smarter</td>
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<tr>
<td>2013-2014</td>
<td>OAKS</td>
<td>OAKS</td>
<td>OAKS</td>
<td>Smarter</td>
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<tr>
<td>2014-2015</td>
<td>OAKS</td>
<td>OAKS</td>
<td>OAKS</td>
<td>Smarter</td>
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</tbody>
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### OAKS
- Reading based on 2002 ELA Content Standards
- Writing based on current scoring guide
- Mathematics based on 2007/2009 Math Content Standards

### Smarter Balanced Assessment
- Based on Common Core State Standards adopted by Oregon in 2010
Smarter Item Development

- Framework that helps clearly define the interpretations or “Claims” Smarter wants to make about students and their cognition
- Items and Performance Tasks elicit information about students’ learning
- Approach to item development defining “Claims” about students and their learning

**Evidence Based Design**

**Content Specifications**

- Define the domain: Common Core State Standards for Math and ELA/Literacy
  - Establish the “Claims”: Four “Claims” in Mathematics and four in ELA/Literacy
  - Provide and define the “Assessment Targets”

**Item Specifications**

- Guide item/task developers in developing items/tasks that meet the expectations of the CCSS according to the criteria (Claims and Targets) outlined by Smarter
- Describe the evidence required for each “Assessment Target”
- Include “Task Models” generally describing items or tasks

**Test Specifications**

- Number of items of different types and their distribution across content categories and Depth of Knowledge (DOK) levels
- Balance Content and (DOK)
- Result of human judgment
Smarter Item Types Overview

**Selected Response**
- Assess a broad range of content.
- Scoring is objective, fast, and inexpensive to score.
- Difficult to understand a student’s reasoning process and to assess higher-order thinking skills.

**Constructed Response**
- Require the student to generate a response as opposed to selecting a response.
- Include both short and extended responses.
- Allow students to demonstrate their use of complex thinking skills consistent with the expectations for college and career readiness.

**Performance Tasks**
- Require students to demonstrate ability to think and reason, and produce fully developed products.
- Measure complex “assessment targets.”
- Provide evidence of college and career readiness.
### Performance Tasks

- Extended projects demonstrate real-world writing and analytical skills
- May include online research, group projects, presentations
- Require 1-2 class periods to complete
- Included in both interim and summative assessments
- Applicable in all grades being assessed
- Evaluated by teachers using consistent scoring rubrics

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The use of performance measures has been found to increase the intellectual challenge in classrooms and to support higher-quality teaching.

- Linda Darling-Hammond and Frank Adamson, Stanford University
Performance tasks:

- should incorporate **real-world, college- and career-related skills** that require students to accomplish complex goals during multiple testing sessions.

- involve a significant interaction of students **with stimulus materials** leading to an exhibition of the students’ application of knowledge and skills, often in writing or spoken language.

- should be **multi-stepped and allow for reflection and revision**.

- are used because the ability to **integrate knowledge and skills across multiple content standards** is a critical skill that cannot be assessed with selected response or constructed response items.
Classroom Component

Purpose:
Give students exposure to context before they complete a related Performance Task, so that the information collected in the PT more likely reflects student knowledge of the construct (math or ELA), rather than the context (e.g. kayaking).

*Script
*~20-35 minutes
<table>
<thead>
<tr>
<th>Claim #1</th>
<th><strong>Concepts &amp; Procedures:</strong> “Students can explain and apply mathematical concepts and interpret and carry out mathematical procedures with precision and fluency.”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Claim #2</td>
<td><strong>Problem Solving:</strong> “Students can solve a range of complex well-posed problems in pure and applied mathematics, making productive use of knowledge and problem solving strategies.”</td>
</tr>
<tr>
<td>Claim #3</td>
<td><strong>Communicating Reasoning:</strong> “Students can clearly and precisely construct viable arguments to support their own reasoning and to critique the reasoning of others.”</td>
</tr>
<tr>
<td>Claim #4</td>
<td><strong>Modeling and Data Analysis:</strong> “Students can analyze complex, real-world scenarios and can construct and use mathematical models to interpret and solve problems.”</td>
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Math Performance Task Specifications

Task Types:

- **Plan and Design**
  - Constraints and Parameters

- **Evaluate and Recommend**
  - Authentic Data Sets
  - Audience and format of the recommendation is stated

Blueprint:

- 1 item (Claim 2: Problem Solving)
- 2 items (Claim 3: Communicating Reasoning)
- 3 items (Claim 4: Modeling and Data Analysis)
The initial 10MPH over the speed limit is assessed a $50 fine. In other words, there is a flat fee for the first 10MPH. Each MPH above the initial 10MPH is then calculated at $10 per MPH thereafter. In addition to the fines established relative to the speed traveled, there is a $50 assessment applied to the fine schedule which goes to a Head Injury Fund established by the state.

Example: 46MPH in a 30MPH zone = 16MPH over the speed limit
Fine = $50 Head Injury Fund assessment + $50 (first 10MPH over the speed limit) + $60 (next 6MPH) = $160

Table 3: Summary of New York Speeding Penalties

<table>
<thead>
<tr>
<th>Normal Circumstances</th>
<th>Minimum Fine</th>
<th>Maximum Fine</th>
<th>Imprisonment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 to 10 mph over limit</td>
<td>$45</td>
<td>$150</td>
<td>None</td>
</tr>
<tr>
<td>11 to 30 mph over the limit</td>
<td>$90</td>
<td>$300</td>
<td>Up to 15 days</td>
</tr>
<tr>
<td>More than 30 mph over the limit</td>
<td>$180</td>
<td>$600</td>
<td>Up to 30 days</td>
</tr>
</tbody>
</table>

The court determines the actual fine assessed within these ranges.
Scorable products that could result from task stimuli:

- Students create a table to show how different speeds result in different ticket values for MA.
- Students create a graph to show the speed vs. total ticket cost for MA.
- Students explain why the NY speeding penalties cannot be represented by a function.
- Students write one or more functions for the cost of a speeding ticket in a 60 mph zone in MA, based on the driver’s actual speed.
- Students respond to a task in writing, such as: Some people have complained that New York’s calculations are unfair. Create a more fair system for New York that (1) represents a one-to-one function and (2) would allow New York to collect about the same amount of money as it currently does. Explain all assumptions you make and mathematics used to support your work.
The function $f(x) = 5(x - 65) + 120$ is used to calculate a speeding ticket for a driver going $x$ mph in a 65 mph speed zone.

If the "5" in the function is changed to "4" and the "120" is changed to "180," for what values of $x$ would ticket costs be greater than before the change?
The function \( f(x) = 5(x - 65) + 120 \) is used to calculate a speeding ticket for a driver going \( x \) mph in a 65 mph speed zone.

Is the set of all positive integers a reasonable domain for this function in the context of the problem? Explain why or why not and provide specific examples to support your reasoning.
The graph shows the relationship between the number of miles over the speed limit a person is traveling and the cost of a speeding ticket.

Explain how the graph supports or refutes the statement below:

“As driving speeds become more reckless, the penalties are more severe.”
Sample Math Performance Tasks

- Ice cream (3rd Grade)
- Aquarium Trip (4th Grade)
- Storage Facility (5th Grade)

- **SBAC will release new math PTs on their Practice Test in mid-August**
- Bead Bracelet (6th Grade)
- School Fundraisers (7th Grade)
- Cost of a Pet (8th Grade)
- Crickets (11th Grade)
Think, Pair, Share

- Choose one of the sample Math Performance Tasks to Review with your partner
- Independent Review of Task First
- Discuss the task with your partner
- Brainstorm additional contexts that could be used for performance tasks in your classroom
- How could you incorporate technology (video, audio, websites) in a task?
- What skills do students need to have in order to be successful completing a math performance task?
Smarter ELA Claims

Claim 1
Reading
• Students can read closely and analytically to comprehend a range of increasingly complex literary and informational texts.

Claim 2
Writing
• Students can produce effective and well-grounded writing for a range of purposes and audiences.

Claim 3
Speaking & Listening
• Students can employ effective speaking and listening skills for a range of purposes and audiences.

Claim 4
Research
• Students can engage in research/inquiry to investigate topics, and to analyze, integrate, and present information.
Robot Pets

- **Session 1 (60 minutes)**
  - Read 1 article and watch 2 brief videos on robots as pets, taking notes
  - Respond to 3 constructed-response questions: 1 addressing reading comprehension, 2 addressing research skills

- **Session 2 (45 minutes)**
  - Read 1 article and watch 1 short video, taking notes
  - Small discussion group work

- **Session 3 (90 minutes)**
  - **Compose full-length argumentative essay on robots as pets**
  - May use notes and refer back to articles
  - Pre-writing, drafting, and revising will be involved
Robot Pets

- Video 1: Fujitsu’s cute teddy-bear robot shows what it can do, May 2010.
  http://www.youtube.com/watch?v=AwWeN1ARy74

- Video 2: Pleo: Robot, pet or both? December 2007
  http://www.youtube.com/watch?v=F6LCEFr8SxQ

- Video 3: Maya’s Human Interaction
  http://www.youtube.com/watch?v=9b4jx5RzqAk
Smarter Balanced Writing Rubrics

Five Attributes (4-point scale)

- Statement of Purpose/Focus
- Organization
- Elaboration of Evidence
- Language and Vocabulary
- Conventions

Rubric Genres:
- Argumentative
- Informative
- Narrative
- Opinion
- Research
Astronauts
Informational
(3rd Grade)

Animal Habitats
Informational
(4th Grade)

Service Animals Lend a Hand (5th Grade)

Robots Narrative
(6th Grade)

Napping
Argumentative
(7th Grade)

Penny
Argumentative
(8th Grade)

Public Art
Argumentative
(11th Grade)
Think, Pair, Share

- Choose one of the sample ELA Performance Tasks to Review with your partner
- Independent Review of Task First
- Discuss the task with your partner
- Who is the intended audience?
- Brainstorm additional topics that could be used for performance tasks in your classroom
- Select a Genre
- How could you incorporate technology (video, audio, websites) in a task?
Math & ELA Performance Task Planning Documents
Resources

- Smarter Balanced Website
  http://www.smarterbalanced.org/

- Smarter Sample Items and Performance Tasks
  http://www.smarterbalanced.org/smarterbalanced-assessments/#item

- Common Core State Standards Toolkit
  http://www.ode.state.or.us/search/page/?id=3430

- Common Core State Standards Assessment Resources
  http://www.ode.state.or.us/search/page/?id=3298
QUESTIONS............
THANK YOU!

Please send additional input, questions, or anecdotes to:

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