Claims, Performance Tasks, and implications for Instruction

Objectives:

UNDERSTANDING THE SMARTER BALANCED MATH SUMMATIVE ASSESSMENT

What Are Claims?

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- Created by SBAC to assess both the content standards and the math practices
- 4 Claims
- Scores will be reported by Claims
- Claims are broken down into Targets
- Think of targets as “I can statements”

OVERALL CLAIM for SBAC

"Students can demonstrate college and career readiness in mathematics."

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Claim 1	• Concepts & Procedures
Claim 2	• Problem Solving
Claim 3	• Communicating Reasoning
Claim 4	• Modeling & Data Analysis

Claim 1 - Concepts & Procedures

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- “Students can explain and apply mathematical concepts and interpret and carry out mathematical procedures with precision and fluency.”
- Targets broken down by grade level content clusters

Claim 2 – Problem Solving

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- “Students can solve a range of well posed problems in pure and applied mathematics, making productive use of knowledge and problem solving strategies.”
- Targets align with MP1, MP5, MP7, and MP8

Targets for Claim 2 – Problem Solving

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- A – Apply math to solve well posed problems in pure and applied math, and those arising in every day life, society, and the workplace
- B – Select and use appropriate tools strategically
- C- Interpret results in the context of a situation
- D – Identify important quantities

Claim 3 – Communicating Reasoning

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- "Students can clearly and precisely construct viable arguments to support their own reasoning and critique the reasoning of others."
- Targets align to MP3 & MP6

Targets for Claim 3 – Communicating Reasoning

- A – Test propositions or conjectures with specific examples.
- B – Construct, autonomously, chains of reasoning that will justify or refute propositions or conjectures.
- C – State logical assumptions
- D – Use the technique of breaking an argument into cases
- E – Distinguish correct logic or reasoning from that which is flawed and if there is a flaw in the argument explain what it is.
- F – Base arguments on concrete referents such as drawings, diagrams, objects and actions
- G – At later grades, determine conditions under which an argument does and doesn't apply.

Claim 4 – Modeling and Data Analysis

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- "Students can analyze complex, real world scenarios and can construct and use mathematical models to interpret and solve problems."
- Targets align to MP2, MP4 & MP5

Targets for Claim 4 – Modeling and Data Analysis

- A – Apply math to solve problems arising in everyday life, society, and the workplace.
- B - Construct, autonomously, chains of reasoning to justify mathematical models used, interpretations made, and solutions proposed for a complex problem.
- C - State logical assumptions being used.
- D – Interpret results in the context of a situation.
- E – Analyze the adequacy of and make improvements to an existing model or develop a mathematical model of a real phenomenon.
- F – Identify important quantities in a practical situation and map their relationships.
- G – Identify, analyze, and synthesize relevant external resources to pose or solve problems.

SBAC Blueprint

Smarter Balanced Assessment Consortium

Mathematics Summative Assessment Blueprint

As of 11/10/16

Blueprint Table Mathematics Grade 11 Estimated Total Testing Time: 3:30[1]						
Claim/Score Reporting Category	Content Category[2]	Stimuli		Items		Total Items by Claim[3]
		CAT	PT	CAT[4]	PT[5]	
1. Concepts and Procedures	Priority Cluster	0	0	14-16	0	19-22
	Supporting Cluster	0		5-6		
2. Problem Solving 4. Modeling and Data Analysis[5]	Problem Solving	0	1	6	2-4	8-10
	Modeling and Data Analysis	0				
3. Communicating Reasoning	Communicating Reasoning	0		8	0-2	8-10

Performance Tasks

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- Assess claims 2, 3, and 4 (claim 1 is embedded)
- Include a pre-teaching activity or stimulus to be given 1-3 days prior to the task
- 6 parts to each task
- Exactly 2 parts assess claim 3
- At least 1 part assesses claim 2
- At least 2 parts assess claim 4
- An overall score is not given – just scores for each part / claim

Dependent parts of performance tasks

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- In order to answer the later parts of the performance task students have to use the answers from previous parts.
- If an error is made on the previous part the student is not repeatedly penalized.
- As long as valid arguments and calculations are made based on the previous answer, credit will be given

Stimulus or Pre-teaching Activity

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- To provide front-loading of the CONTEXT not the mathematics
- Purpose is to engage students with the task
- Provide necessary background for students who are unfamiliar with the context
- Clarify vocabulary
- Provide for collaboration and discussion
- You can use strategies you have used throughout the year.

Multiple Performance Tasks

- The stimulus is connected to several different performance tasks. Students in your class might have different tasks that are based on the same pre-teaching activity.
- Be thorough in going over the stimulus, but don't try to predict the math.
- Carefully follow guidelines about resources you can use
- Positive Correlation between student performance and the pre-teaching

Implications for Instruction

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- Heavy emphasis on data and statistics
- Teach students to read questions and given information carefully
- Students should be given opportunities to make decisions and justify them
- Students should be comfortable with data presented in different representations (tables, graphs, etc)
- Students need to answer the question asked, and explain precisely, clearly, and concisely.

Implications for Instruction

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- Use student work exemplars and student errors to improve the quality of your students' work
- Students need to practice with technology
- Give your student the practice tests for SBAC and PARCC so they get used to the online tools and format.
- Use SBAC calculator and other resources like Desmos, Illuminations,

Key Messages

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- SBAC assesses claims – which are a combination of content standards and practices.
- Importance of having a balanced curriculum with tasks that address different claims.
- Importance of incorporating math practices into instruction.