3rd Grade Math
Claim, Target, Standard Matrix (31 CAT & 6 PT Items)
Compiled by Sandy Sanford 10-18-14

This Matrix Covers ALL Claims, Targets, & Standards taught in 3rd Gd Math
that are shown as "Tested" on Smarter Balanced Item Specifications (2-4-14) & the Blueprint (4-21-14)
The 3rd Grade Summative Assessment has 31 CAT & 6 PT Items

Background: Smarter Balanced publishes mountains of specification information regarding Summative Assessment (SA) Claims, Targets, Standards, DOK, & Item Types/Numbers. The problem is that no published document welds together all this information in a format friendly to educators. The CTS Matrix solves that problem by populating the rows and columns in a table that emulates the design configuration of the SA.

Matrix Guide: Use the Matrix as a resource document to acquire greater understanding of the organization and composition of the Summative Assessment (SA), which is more complicated in design than previous high-stakes assessments. The four Claims are general descriptions regarding learning expectations for each grade level. In the Matrix, each Claim is displayed in a separate table with a description in the top row followed by multiple Targets underneath the parent Claim. The Targets are more specific with regard to expected learning and usually vary in description at each grade level. The SA will report results overall and for each of the four Claims.

For any Claim/Target combination, cells to the right show the tested standards, the assessed DOK level(s), the number of items tested (both Computer Adaptive Test (CAT) & Performance Task (PT)), and the Item Types that may be used. Note that each Target will normally involve testing multiple standards, and any particular standard may be tested in multiple Claims and/or Targets. A section titled "Valuable Facts" follows the conclusion of the Matrix with additional pertinent information about the SA. The final pages of this document contain examples of the different Item Types.

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I have tried hard to make this Matrix as accurate as possible, but I'm not infallible and the information is complicated and constantly changing. I will continuously review the available sources and make corrections/updates as required and distribute the corrected Matrices with new dates. If you notice errors, please report them to me at sandy@youasksandy.com.

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3^r Grade Math Standards Domain Abbreviations

Operations & Algebraic Thinking = OA
Number & Operations in Base Ten = NBT
Number & Operations—Fractions = NF
Measurement & Data = MD
Geometry = G

Item Response Type Abbreviations
(Many examples of each Item Response Type are included in the Item Specifications)

MC = multiple-choice, single correct response
MS = multiple-choice, multiple choice responses
EQ = equation/numeric
TM = matching tables
TI = fill-in table
DD = drag & drop
HS = hot spot
GR = graphing
ST = short text
PT = performance task

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Claim 1: CONCEPTS and PROCEDURES—Students can explain and apply mathematical concepts and carry out mathematical procedures with precision and fluency (20 CAT Items)

Claim 1 PRIORITY CLUSTER Targets (15 CAT Items)	Standards Addressed	DOK	CAT Items	Item Types
Target B— Understand properties of multiplication and the relationship between multiplication and division	3.OA.5, 3.OA.6	1	6	MC, MT, EQ
Target C—Multiple and divide by 100	3.OA.7	1		MC, EQ
Target I—Geometric measurement: understand concepts of area and relate area to multiplication and division	3.MD.5, 3.MD.6, 3.MD.7, 3.OA.5, 3.G.2	1, 2		MC, EQ
Target G—Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects	3.MD.1, 3.MD.2	1, 2		MC, EQ
Target D—Solve problems involving the four operations, and identify and explain patterns in arithmetic.	3.OA.8, 3.OA.9	2	6	MC, EQ, TI
Target F—Develop understanding of fractions as numbers	3.NF.1, 3.NF.2, 3.NF.3	1, 2		MC, MS, EQ, HS, DD, MT, GR
Target A—Represent and solve problems involving multiplication and division	3.OA.1, 3.OA.2, 3.OA.3, 3.OA.4	1, 2	3	EQ
Claim 1 Supporting CLUSTER Targets (5 CAT Items)	**Standards Addressed**	**DOK**	**CAT Items**	Item Types
Target E—Use place value understanding and properties of operations to perform multi-digit arithmetic	3.NBT.1, 3.NBT.2, 3.NBT.3	1	4	EQ
Target J—Geometric Measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures	3.MD.8	1		EQ
Target K—Reason with shapes and their attributes	3.G.1, 3.G.2	1, 2		MT, HS, DD, GR, EQ
Target H—Represent and interpret data	3.MD.3, 3.MD.4	2	1	HS, EQ

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Claim 2: PROBLEM SOLVING—Students can solve a range of well-posed problems in pure and applied mathematics, making productive use of knowledge and problem-solving strategies.
Claim 4: MODELING AND DATA ANALYSIS—Students can analyze complex, real-world scenarios and can construct and use mathematical models to interpret and solve problems.
CLAIMS 2 & 4 are combined for reporting purposes

Claim 2: PROBLEM SOLVING (2 CAT & 1-2 PT Items)	Standards Addressed	DOK	CAT Items	PT Items	Item Types
Target A—Apply mathematics to solve well-posed problems arising in everyday life, society, and the workplace.	3.OA.1, 2, 3, 4, 8, 9 3.NBT.1, 2, 3 3.MD.1, 2, 3, 4, 5, 6, 7, 8	2, 3	1	1-2 **ST (PT only)**	MC, MS, EQ, DD, HS, GR, MT, TI
Target B—Select and use appropriate tools strategically					
Target C—Interpret results in the context of a situation		1, 2, 3	1		
Target D—Identify important quantities in a practical situation and map their relationships (e.g., using diagrams, two-way tables, graphs, flow charts, or formulas).					

Claim 4: MODELING AND DATA ANALYSIS (3 CAT & 2-3 PT Items)	Standards Addressed	DOK	CAT Items	PT Items	Item Types
Target A—Apply mathematics to solve problems arising in everyday life, society, and the workplace. Target D—Interpret results in the context of a situation	3.OA.1, 2, 3, 4, 8, 9 3.MD.1, 2, 5, 6, 7, 8	2, 3	1	2-3 **ST (PT only)**	MC, MS, EQ, DD, HS, GR, MT, TI
Target B— Construct, autonomously, chains of reasoning to justify mathematical models used, interpretations made, and solutions proposed for a complex problem. Target E—Analyze the adequacy of, and make improvements to, an existing model or develop a mathematical model of a real phenomenon.		2, 3, 4	1		
Target C—State logical assumptions being used Target F—Identify important quantities in a practical situation and map their relationships (e.g., using diagrams, two-way tables, graphs, flow charts, or formulas).		1, 2	1		
Target G—Identify, analyze and synthesize relevant external resources to pose or solve problems. **(PT ONLY)**		3, 4	0		

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Claim 3—COMMUNICATING REASONING—Students can clearly and precisely construct viable arguments to support their own reasoning and to critique the reasoning of others					
Claim 3: COMMUNICATING REASONING (6 CAT & 2 PT Items)	**Standards Addressed**	**DOK**	**CAT Items**	**PT Items**	**Item Types**
Target A—Test propositions or conjectures with specific examples Target D—Use the technique of breaking an argument into cases	3.OA.5, 6 3.NF.1, 2, 3 3.MD.1, 2, 7	2,3	2	2	MC, MS, EQ, DD, HS, GR, MT, TI **ST (PT & Tgt E only)**
Target B— Construct, autonomously, chains of reasoning that will justify or refute propositions or conjectures. Target E—Distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in the argument—explain what it is.		2, 3, 4	2		
Target C—State logical assumptions being used Target F—Base arguments on concrete referents such as objects, drawings, diagrams, and actions		2, 3	2		

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Valuable Facts
(From SBAC Blueprint dtd 4-21-14)

1. Number of items per Claim is not necessarily proportional to Claim weight for scoring
2. All CAT Item in grades 3-5 are designed to be machine scored (i.e., NO ST Items for grades 3-5 on CAT portion)
3. Claim 2 (Problem Solving) and Claim 4 (Modeling & Data Analysis) have been combined for reporting purposes
4. On the **CAT** portion of the test…
     - For Claim 1, each student will receive at least 7 items at DOK 2 or higher.
     - For combined Claims 2 & 4, each student will receive at least 2 items at DOK 3 or higher
     - For Claim 3, a student will receive a least 2 items at DOK 3 or higher

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All Example Items are from 3rd grade Smarter Balanced Practice Test (unless otherwise noted)

MC (Multiple Choice Item)

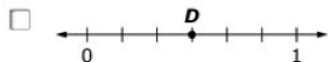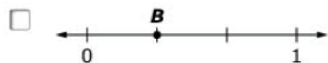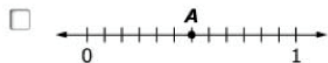Select the statement that explains how the values of the numbers 420 and 4200 are different.

Ⓐ 4200 is 1000 times as large as 420

Ⓑ 4200 is 100 times as large as 420

Ⓒ 4200 is 10 times as large as 420

Ⓓ 4200 is 1 time as large as 420

MS (Multiple Select Item)

Use this number line to solve the problem.
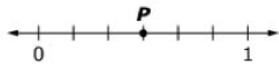
Choose **all** the number lines that show a number equal to the number shown by point P.

☐

☐

☐

☐

☐

EQ (Equation-Numeric)

This figure is made by joining two rectangles.

Enter the area, in square feet, of the figure.

DD (Drag & Drop)

2017

Christy has $60 to spend on plants.

She buys a peach tree for $23 and a plum tree for $19.

She wants to buy one more plant.

- Drag the numbers to the boxes and the symbols to the circles to create an equation to show how much money Christy has left to spend.

- Select one plant she **could** buy with the money she has left.

Symbols: +, −, ×, ÷

Numbers: 18, 19, 23, 37, 41, 60, 102

Delete

□ ○ □ ○ □ = □

○ Grapevines, $16
○ Apple tree, $18
○ Pear tree, $20
○ Cherry tree, $22

HS (Hot Spot)

2003

Click **all** of the shapes that are quadrilaterals.
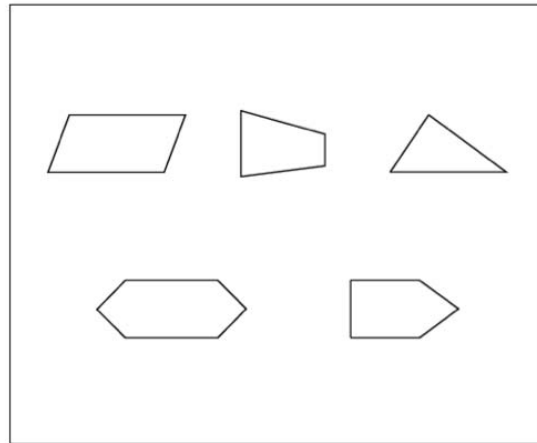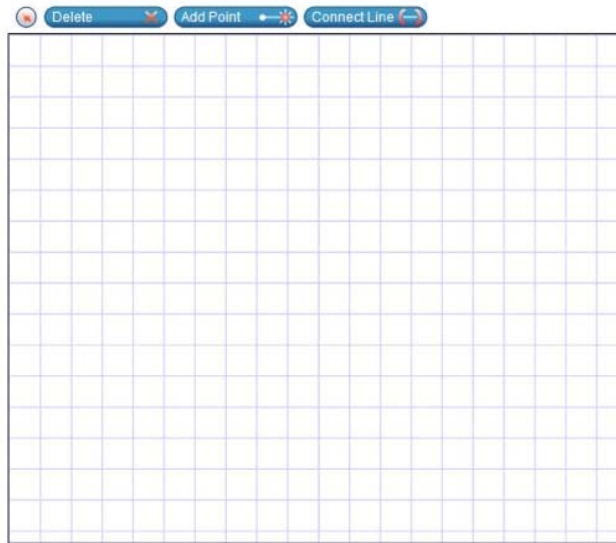
GR (Graphing)

1966

Maya says that a rhombus cannot also be a rectangle.

Show Maya that her statement is **not** true.

Use the Connect Line tool to draw a rhombus that is also a rectangle.

Delete   Add Point   Connect Line

MT (Matching Tables)

Does replacing the unknown number with 7 make each equation true?

Select Yes or No for each equation.

	Yes	No
$6 \times \square = 36$	☐	☐
$8 \times \square = 64$	☐	☐
$49 \div \square = 7$	☐	☐
$54 \div \square = 6$	☐	☐

TI (Insert Table) 4th Gd Level

A pattern is generated using this rule:

Start with the number 7 as the first term and add 5.

Enter numbers into the boxes to complete the table.

Term	Number
First	7
Second	
Third	
Fourth	
Fifth	

ST (Short Text) 6th Grade Level—for grades 3-5 ST can only occur on the PT

The company proposes a new cereal box with dimensions 10.5 inches high, 7.5 inches wide, and 4 inches deep. The new cereal box is a rectangular prism. Determine if this new box meets each of the requirements. Explain why or why not.