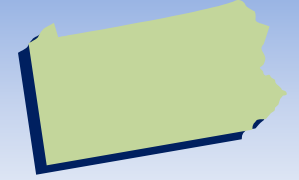


Unpacking a CCR Math Standard

Lynda Ginsburg

Chart for Unpacking a Standard



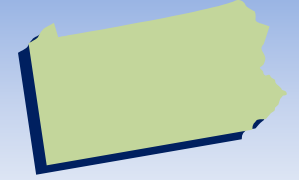
1 Standard	2 Skills included in Standard	3 Concepts included in Standard	4 Through a Particular Context	5 Cog.Dem (DOK Level)	6 Sample Activity



A “Level C” Standard:

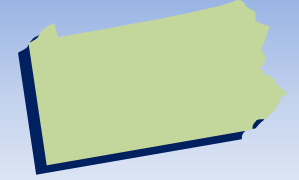
Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems. (6.G.1)

Unpacking Math Standards



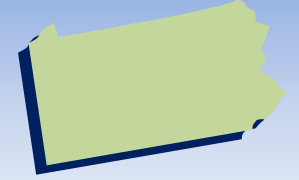
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Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems. (6.G.1)					

Skills Included in the Standard



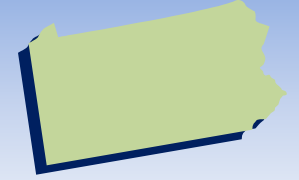
Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems. (6.G.1)

Skills included – the verbs



Find the area of right triangles, other triangles, special quadrilaterals, and polygons by **composing** into rectangles or **decomposing** into triangles and other shapes; **apply** these techniques in the context of solving real-world and mathematical problems. (6.G.1)

Unpacking Math Standards



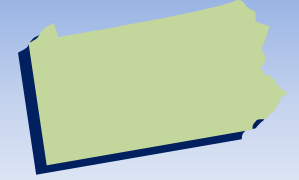
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Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems. (6.G.1)	find composing decomposing apply				

Concepts Included – the nouns



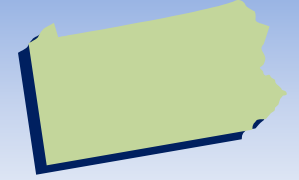
Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems.
(6.G.1)

Concepts Included – the nouns



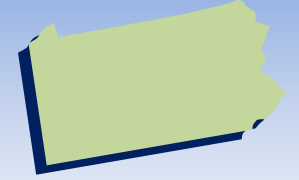
Find the **area** of right **triangles**, other **triangles**, special **quadrilaterals**, and **polygons** by composing into **rectangles** or decomposing into **triangles** and other **shapes**; apply these **techniques** in the **context** of solving real-world and mathematical **problems**. (6.G.1)

Unpacking Math Standards



1 Standard	2 Skills included in Standard	3 Concepts included in Standard	4 Through a Particular Context	5 Cog.Dem (DOK Level)	6 Sample Activity
Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems. (6.G.1)	find composing decomposing apply	area triangles quadrilaterals polygons rectangles shapes techniques	problems		

Unpacking Math Standards



1 Standard	2 Skills included in Standard	3 Concepts included in Standard	4 Through a Particular Context	5 Cog.De m. (DOK Level)	6 Sample Activity
<p>Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems. (6.G.1)</p>	<p>find composing decomposing apply *****</p> <p>Find the area of triangles, squares, rectangles</p>	<p>area triangles quadrilaterals polygons rectangles shapes techniques ***** --</p> <p>Properties of triangles, squares, rectangles --Additive properties of area</p>	<p>Problems *****</p> <p>--Drawing shapes using graph paper and/or geoboard/dot paper --Packaging of odd shapes</p>		

Sample Activities



Draw a number of regular and irregular polygons. Find areas by decomposing the shapes into rectangles and triangles. Talk about alternative ways of decomposition and whether or not they would lead to the same area.

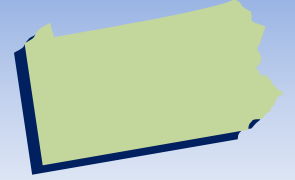
Design a package for a bottle of wine, with a polygon base and lid and rectangles for sides. Create a net for the packaging. Figure out the area of of the paper needed for the packaging and propose the dimensions of a rectangular piece of paper that could be used to create the packaging.

Final Unpack of Math Standard



1 Standard	2 Skills included in Standard	3 Concepts included in Standard	4 Through a Particular Context	5 Cog.De m. (DOK Level)	6 Sample Activity
<p>Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems. (6.G.1)</p>	<p>find composing decomposing apply *****</p> <p>Find the area of triangles, squares, rectangles</p>	<p>area triangles quadrilaterals polygons rectangles shapes techniques ***** --</p> <p>Properties of triangles, squares, rectangles --Additive properties of area</p>	<p>Problems *****</p> <p>--Drawing shapes using graph paper and/or geoboard/dot paper --Packaging of odd shapes</p>	<p>2</p> <p>3</p>	<p>Decomposing problem*</p> <p>Creating packages problem*</p>

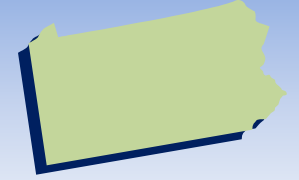
Now it's your turn



An algebra standard from Level B:

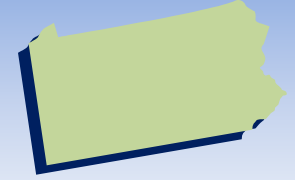
Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. *For example, observe that 4 times a number is always even, and explain why 4 times a number can be decomposed into two equal addends. (3.OA.9)*

Sample 1: Unpacking 3.OA.9

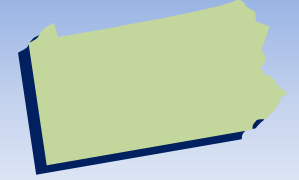


1 Standard	2 Skills included in Standard	3 Concepts included in Standard	4 Through a Particular Context	5 Cog.Dem (DOK Level)	6 Sample Activity
<p>Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. <i>For example, observe that 4 times a number is always even, and explain why 4 times a number can be decomposed into two equal addends.</i> (3.OA.9)</p>	<p>Identify explain ***** --Define pattern --Extend pattern</p>	<p>patterns table properties operations *****</p>	<p>Including Add & Mult tables ***** --given a series, find a pattern --find missing info -- missing sequence of operations</p>	<p>1 2</p>	<p>Find the next 5 numbers in a pattern -- Fill in missing numbers in a pattern and explain</p>

Sample 2: Unpacking 3.OA.9



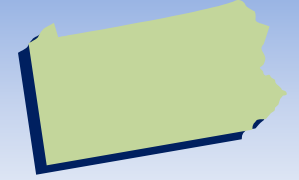
1 Standard	2 Skills included in Standard	3 Concepts included in Standard	4 Through a Particular Context	5 Cog.Dem (DOK Level)	6 Sample Activity
<p>Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. <i>For example, observe that 4 times a number is always even, and explain why 4 times a number can be decomposed into two equal addends.</i> (3.OA.9)</p>	<p>Identify explain ***** --Solve problems</p>	<p>patterns table properties operations ***** Four operations (+ , - , × , ÷)</p>	<p>Including Add & Mult tables ***** Minecraft® or any other relevant video/comp uter game</p>	<p>2-3 depends on the com- plexity of the goal chosen</p>	<p>(see next slide)</p>



- Students will create a strategy in the game to reach a predetermined goal (i.e., 100 gold coins) in the least amount of time using arithmetical patterns

For example, 10 bricks=1 gold coin, so how many bricks do you need to obtain 100 gold coins?

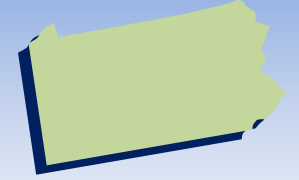
Now try a Geometry Standard



A Geometry Standard from Level D:

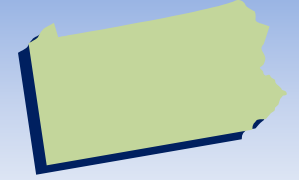
Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale. (7.G.1) [also see 7.RP.3]

Sample 1: Unpacking 7.G.1



1 Standard	2 Skills included in Standard	3 Concepts included in Standard	4 Through a Particular Context	5 D O K	6 Sample Activity
Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale. (7.G.1) [also see 7.RP.3]	Solve Computing Reproducing ***** --Under- standing and identifying geometric shapes --Construct geometric figures	Problems drawings figures Lengths areas Scale ***** proportion scaling equivalence similarity	Scale Drawings ***** Maps blueprints	2 3	--Read a blueprint to determine area and scale to determine materials needed (i.e., carpeting) --Have students construct a scale drawing of their home or classroom

Sample 2: Unpacking 7.G.1



1 Standard	2 Skills included in Standard	3 Concepts included in Standard	4 Through a Particular Context	5 D O K	6 Sample Activity
<p>Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale. (7.G.1) [also see 7.RP.3]</p>	<p>Solve Computing Reproducing ***** calculate proportions</p>	<p>problems drawings figures Lengths areas Scale ***** -measure- ment -Proportion -Dimension -construction</p>	<p>Geometric figures ***** -construct, within dimen- sional space</p>	<p>3</p>	<p>Given a bridge diagram with specific measurements (drawn to scale), students are required to build a replica bridge to scale using manipulatives (popsicle sticks)</p>