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Grade 6: PA Academic Eligible Content and PA Common Core Crosswalk

Alignment of Eligible Content: More than Just Content

The crosswalk below is designed to show the alignment between the PA Academic Standard Eligible Content and the PA Common Core Eligible Content. While content is in many cases similar, the **key message is that PA Common Core focused instruction is more rigorous and will prepare students for upcoming PSSAs and future PA Common Core aligned PSSAs.**

The defining element of the PA Common Core Standards is one of rigor. Barbara Blackburn elaborates on the concept of rigor when she states: "True rigor is creating an environment in which each student is expected to learn at high levels, each student is supported so he or she can learn at high levels, and each student demonstrates learning at high levels.[1]"

Focus on PA Common Core

As instruction segues from the PA Academic Standards to the PA Common Core Standards, it is important to understand the need to prepare students for the current and upcoming PA CC-aligned PSSAs and to consider not only the content but the degree of rigor embraced by the new standards. Instructional time should focus on four critical areas: (1) connecting ratio and rate to whole number multiplication and division and using concepts of ratio and rate to solve problems; (2) completing understanding of division of fractions and extending the notion of number to the system of rational numbers, which includes negative numbers; (3) writing, interpreting, and using expressions and equations; and (4) developing understanding of statistical thinking.

PA Common Core – Raising the Bar

Educators will note that the items developed to measure the new Assessment Anchors and Eligible Content (Common Core aligned AA/EC) will differ from the current PSSA items in both rigor and difficulty. This will be a direct result of the rigor of the new Assessment Anchors and Eligible Content where the average Depth of Knowledge (DOK) will be higher than the DOK of the existing PSSA Assessment Anchors and Eligible Content. As a result, educators should see items written at the higher cognitive levels (e.g., level 2 and level 3). However, that does not mean that a DOK level 1 item will not be found on the transitioned PSSA. For example, an item measuring math fluency is typically written at DOK level 1. For reading, there may be a vocabulary AA/EC that allows for an item to be written at DOK 1.

Regardless of the increased rigor of the items measuring the new Assessment Anchors and Eligible Content (Common Core aligned AA/EC), educators will also perceive the difficulty of the assessment to have increased.

Eye on the Standards

It is important to remember that while Assessment Anchors and Eligible Content provide the blueprint for the PSSA assessments, they are a reflection only of what can be assessed in large scale testing and do not reflect all of classroom instruction.

[1] Barbara Blackburn, *Rigor and the Common Core State Standards*, mailto:http://www.educationworld.com/a_admin/rigor-and-common-core-state-standards.shtml (January 2013)

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PA Academic Standards Eligible Content ----------	PA Common Core Standards Eligible Content ----------	Comment
M6.A Numbers and Operations	**M06.A-N The Number System** **M06.A-R Ratios and Proportional Relationships**	
M6.A.1.1.1 Represent common percent's as fractions and/or decimals (e.g., 25% = ¼ = .25) – common percent's are 1%, 10%, 25%, 50%, 75%, 100%.	Intentionally Blank	Not specifically addressed in PACCS Eligible Content
M6.A.1.1.2 Convert between fractions and decimals and/or differentiate between a terminating decimal and a repeating decimal.	Intentionally Blank	Not specifically addressed in PACCS Eligible Content
M6.A.1.1.3 Represent a number in exponential form (e.g., 10x10x10=103).	Intentionally Blank	Not specifically addressed in PACCS Eligible Content
M6.A.1.1.4 Represent a mixed number as an improper fraction.	Intentionally Blank	Not specifically addressed in PACCS Eligible Content
M6.A.1.2.1 Compare and/or order whole numbers, mixed numbers, fractions and/or decimals (do not mix fractions and decimals – decimals through thousandths).	Intentionally Blank	Not specifically addressed in PACCS Eligible Content
M6.A.1.3.1 Find the Greatest Common Factor (GCF) of two numbers (through 50) and/or use the GCF to simplify fractions.	**M06.A-N.2.2.1** Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12.	PACCS look for greatest common factor up to 100
M6.A.1.3.2 Find the Least Common Multiple (LCM) of two numbers (through 50) and/or use the LCM to find the common denominator of two fractions.	**M06.A-N.2.2.1** Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12.	PACCS look for greatest common factor up to 100
M6.A.1.3.3 Use divisibility rules for 2, 3, 5 and/or 10 to draw conclusions and/or solve problems.	**M06.A-N.1.1.1** Interpret and compute quotients of fractions (including mixed numbers), and solve word problems involving division of fractions by fractions. Example 1: Given a story context for (2/3) ÷ (3/4), explain that (2/3) ÷ (3/4) = 8/9 because 3/4 of 8/9 is 2/3. (In general, (a/b) ÷ (c/d) = (a/b) × (d/c) = ad/bc.) Example 2: How wide is a rectangular strip of land with length 3/4 mi and area 1/2 square mi? Example 3: How many 2 1/4-foot pieces can be cut from a 15 1/2-foot board?	PACCS moves towards mixed numbers
M6.A.1.4.1 Model percent's (through 100%) using drawings, graphs and/or sets	Intentionally Blank	Not specifically addressed in PACCS Eligible Content.

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(e.g., circle graph, base ten blocks, etc.).		
M6.A.2.1.1 Complete equations by using the following properties: associative, commutative, distributive and identity.	**M06.A-N.2.2.2** Apply the distributive property to express a sum of two whole numbers, 1 through 100, with a common factor as a multiple of a sum of two whole numbers with no common factor. Example: Express 36 + 8 as 4(9 + 2). M06.B-E.1.1.5 Apply the properties of operations to generate equivalent expressions. Example 1: Apply the distributive property to the expression 3 (2 + x) to produce the equivalent expression 6 + 3x. Example 2: Apply the distributive property to the expression 24x + 18y to produce the equivalent expression 6(4x + 3y). Example 3: Apply properties of operations to y + y + y to produce the equivalent expression 3y.	PACCS very descriptive of the distributive property
M6.A.3.1.1 Use estimation to solve problems involving whole numbers and decimals (up to 2-digit divisors and 4 operations).	Intentionally Blank	Not specifically addressed in PACCS Eligible Content
M6.A.3.2.1 Solve problems involving operations (+, -, x,) with whole numbers, decimals (through thousandths) and fractions (avoid complicated LCDs) - straight computation or word problems.	**M06.A-N.2.1.1** Solve problems involving operations (+, –, ×, ÷) with whole numbers, decimals (through thousandths), straight computation or word problems.	Very similar eligible content
Intentionally Blank	**M06.A-R.1.1.1** Use ratio language and notation (such as 3 to 4, 3:4, 3/4) to describe a ratio relationship between two quantities. Example 1: "The ratio of girls to boys in a math class is 2:3, because for every 2 girls there are 3 boys." Example 2: "For every five vote's candidate A received, candidate B received four votes."	Not specifically addressed in PA Academic Standard Eligible Content. In transitioning to PACCS, these specific statements will be assessed and should be addressed.
Intentionally Blank	**M06.A-R.1.1.2** Find the unit rate a/b associated with a ratio a: b (with b ≠ 0), and use rate language in the context of a ratio relationship. Example 1: "This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is 3/4 cup of flour for each cup of sugar." Example 2: "We paid $75 for 15 hamburgers, which is a rate of $5 per hamburger."	Not specifically addressed in PA Academic Standard Eligible Content. In transitioning to PACCS, these specific statements will be assessed and should be explicitly addressed.
Intentionally Blank	**M06.A-R.1.1.3** Construct tables of equivalent	Not specifically addressed in

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	ratios relating quantities with whole-number measurements, find missing values in the tables, and/or plot the pairs of values on the coordinate plane. Use tables to compare ratios.	PA Academic Standard Eligible Content. In transitioning to PACCS, these specific statements will be assessed and should be explicitly addressed.
Intentionally Blank	**M06.A-R.1.1.4** Solve unit rate problems including those involving unit pricing and constant speed. Example: If it took 7 hours to mow 4 lawns, then at that rate, how many lawns could be mowed in 35 hours? At what rate were lawns being mowed?	Not specifically addressed in PA Academic Standard Eligible Content. In transitioning to PACCS, these specific statements will be assessed and should be explicitly addressed.
Intentionally Blank	**M06.A-R.1.1.5** Find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means 30/100 times the quantity); solve problems involving finding the whole, given a part and the percent.	Not specifically addressed in PA Academic Standard Eligible Content. In transitioning to PACCS, these specific statements will be assessed and should be explicitly addressed.
Intentionally Blank	**M06.A-N.3.1.1** Represent quantities in real-world contexts using positive and negative numbers, explaining the meaning of 0 in each situation (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge).	Not specifically addressed in PA Academic Standard Eligible Content. In transitioning to PACCS, these specific statements will be assessed and should be explicitly addressed.
Intentionally Blank	**M06.A-N.3.1.2** Determine the opposite of a number and recognize that the opposite of the opposite of a number is the number itself (e.g., –(–3) = 3, and that 0 is its own opposite).	Not specifically addressed in PA Academic Standard Eligible Content. In transitioning to PACCS, these specific statements will be assessed and should be explicitly addressed.
Intentionally Blank	**M06.A-N.3.1.3** Locate and plot integers and other rational numbers on a horizontal or vertical number line; locate and plot pairs of integers and other rational numbers on a coordinate plane.	Not specifically addressed in PA Academic Standard Eligible Content. In transitioning to PACCS, these specific statements will be assessed and should be

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		explicitly addressed.
Intentionally Blank	**M06.A-N.3.2.1** Write, interprets, and explains statements of order for rational numbers in real-world contexts. Example: Write -3°C > -7°C to express the fact that -3°C is warmer than -7°C.	Not specifically addressed in PA Academic Standard Eligible Content. In transitioning to PACCS, these specific statements will be assessed and should be explicitly addressed.
Intentionally Blank	**M06.A-N.3.2.2** Interpret the absolute value of a rational number as its distance from 0 on the number line and as a magnitude for a positive or negative quantity in a real-world situation. Example: For an account balance of –30 dollars, write |–30| = 30 to describe the size of the debt in dollars, and recognize that an account balance less than –30 dollars represents a debt greater than 30 dollars.	Not specifically addressed in PA Academic Standard Eligible Content. In transitioning to PACCS, these specific statements will be assessed and should be explicitly addressed.
Intentionally Blank	**M06.A-N.3.2.3** Solve real-world and mathematical problems by plotting points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.	Not specifically addressed in PA Academic Standard Eligible Content. In transitioning to PACCS, these specific statements will be assessed and should be explicitly addressed.
M6.B Measurement		
M6.B.1.1.1 Determine and/or compare elapsed time to the minute (time may cross AM to PM or more than one day).	Intentionally Blank	Not specifically addressed in PACCS Eligible Content
M6.B.2.1.1 Use or read a ruler to measure to the nearest 1/16 inch or millimeter.	Intentionally Blank	Not specifically addressed in PACCS Eligible Content
M6.B.2.1.2 Choose the more precise measurement of a given object (e.g., smaller measurements are more precise).	Intentionally Blank	Not specifically addressed in PACCS Eligible Content
M6.B.2.1.3 Measure angles using a protractor up to 180□ - protractor must be drawn - one side of the angle to be measured should line up with the straight edge of the protractor.	Intentionally Blank	Not specifically addressed in PACCS Eligible Content
M6.B.2.2.1 Find the perimeter of any polygon (may include regular polygons	Intentionally Blank	Not specifically addressed in PACCS Eligible Content

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where only the measure of one side is given – same units throughout).		
M6.B.2.3.1 Define, label and/or identify right, straight, acute and obtuse angles.	Intentionally Blank	Not specifically addressed in PACCS Eligible Content
M6.C Geometry	**M06.C-G Geometry**	
M6.C.1.1.1 Identify, classify and/or compare polygons (up to ten sides).	Intentionally Blank	Not specifically addressed in PACCS Eligible Content
M6.C.1.1.2 Identify and/or describe properties of all types of triangles (scalene, equilateral, isosceles, right, acute, obtuse).	Intentionally Blank	Not specifically addressed in PACCS Eligible Content.
M6.C.1.1.3 Identify and/or determine the measure of the diameter and/or radius of a circle (when one or the other is given).	Intentionally Blank	Not specifically addressed in PACCS Eligible Content
M6.C.1.1.4 Identify and/or use the total number of degrees in a triangle, quadrilateral and/or circle.	Intentionally Blank	Not specifically addressed in PACCS Eligible Content
M6.C.1.2.1 Identify, describe and/or label parallel, perpendicular or intersecting lines.	Intentionally Blank	Not specifically addressed in PACCS Eligible Content
M6.C.1.2.2 Identify, draw and/or label points, planes, lines, line segments, rays, angles and vertices.	Intentionally Blank	Not specifically addressed in PACCS Eligible Content
M6.C.3.1.1 Plot, locate or identify points in Quadrant I and/or on the x and y axes with intervals of 1, 2, 5 or 10 units - up to a 200 by 200 grid. Points may be in-between lines.	Intentionally Blank	Not specifically addressed in PACCS Eligible Content
Intentionally Blank	**M06.C-G.1.1.1** Determine the area of triangles and special quadrilaterals (i.e., square, rectangle, parallelogram, rhombus, and trapezoid). Formulas will be provided.	Not specifically addressed in PA Academic Standard Eligible Content In transitioning to PACCS, these specific statements will be assessed and should be explicitly addressed
Intentionally Blank	**M06.C-G.1.1.2** Find the area of irregular or compound polygons. Example: Find the area of a room in the shape of an irregular polygon by composing and/or decomposing.	Not specifically addressed in PA Academic Standard Eligible Content. In transitioning to PACCS, these specific statements will

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		be assessed and should be explicitly addressed.
Intentionally Blank	**M06.C-G.1.1.3** Determine the volume of right rectangular prisms with fractional edge lengths. Formulas will be provided.	Not specifically addressed in PA Academic Standard Eligible Content. In transitioning to PACCS, these specific statements will be assessed and should be explicitly addressed.
Intentionally Blank	**M06.C-G.1.1.4** Given coordinates for the vertices of a polygon in the plane, use the coordinates to find side lengths and area of the polygon (limited to triangles and special quadrilaterals). Formulas will be provided.	Not specifically addressed in PA Academic Standard Eligible Content. In transitioning to PACCS, these specific statements will be assessed and should be explicitly addressed.
Intentionally Blank	**M06.C-G.1.1.5** Represent three-dimensional figures using nets made up of rectangles and triangles.	Not specifically addressed in PA Academic Standard Eligible Content. In transitioning to PACCS, these specific statements will be assessed and should be explicitly addressed.
Intentionally Blank	**M06.C-G.1.1.6** Determine the surface area of triangular and rectangular prisms (including cubes). Formulas will be provided.	Not specifically addressed in PA Academic Standard Eligible Content. In transitioning to PACCS, these specific statements will be assessed and should be explicitly addressed.
M6.D Algebraic Concepts	**M06.B-E Expressions and Equations**	
M6.D.1.1.1 Create, extend or find a missing element in a pattern displayed in a table, chart or graph (pattern must show at least 3 repetitions - may use up to 2 operations with whole numbers).	**M06.D-S.1.1.3** Describe any overall pattern and any deviations from the overall pattern with reference to the context in which the data were gathered.	PACCS describes pattern and context
M6.D.1.2.1 Determine a rule based on a pattern or illustrate a pattern based on a given rule (displayed on a table, chart or graph; pattern must show at least 3	**M06.D-S.1.1.3** Describe any overall pattern and any deviations from the overall pattern with reference to the context in which the data were gathered.	PACCS describes pattern and context

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repetitions).		
M6.D.2.1.1 Identify the inverse operation needed to solve a one-step equation.	Intentionally Blank	Not specifically addressed in PACCS Eligible Content
M6.D.2.1.2 Solve a one-step equation (i.e., using the inverse operation-whole numbers only).	**M06.B-E.1.1.5** Apply the properties of operations to generate equivalent expressions. Example 1: Apply the distributive property to the expression 3 (2 + x) to produce the equivalent expression 6 + 3x. Example 2: Apply the distributive property to the expression 24x + 18y to produce the equivalent expression 6(4x + 3y). Example 3: Apply properties of operations to y + y + y to produce the equivalent expression 3y.	PACCS discusses distributive property
M6.D.2.2.1 Match an equation or expression involving one variable, to a verbal math situation (one operation only).	**M06.B-E.1.1.1** Write and evaluate numerical expressions involving whole-number exponents. **M06.B-E.1.1.2** Write algebraic expressions from verbal descriptions. Example: Express the description "five less than twice a number" as 2y – 5. **M06.B-E.1.1.3** Identify parts of an expression using mathematical terms (e.g., sum, term, product, factor, quotient, coefficient, quantity). Example: Describe the expression 2 (8 + 7) as a product of two factors. M06.B-E.1.1.4 Evaluate expressions at specific values of their variables, including expressions that arise from formulas used in real-world problems. Example: Evaluate the expression b2 – 5 when b = 4. **M06.B-E.2.1.1** Use substitution to determine whether a given number in a specified set makes an equation or inequality true. **M06.B-E.2.1.2** Write algebraic expressions to represent real-world or mathematical problems. **M06.B-E.2.1.3** Solve real-world and mathematical problems by writing and solving equations of the form x + p = q and px = q for cases in which p, q and x are all non-negative rational numbers.	PACCS evaluate & identify parts of an expression solve equations & inequalities PA also interprets the results

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Intentionally Blank	**M06.B-E.2.1.4** Write an inequality of the form x > c or x < c to represent a constraint or condition in a real-world or mathematical problem and/or represent solutions of such inequalities on number lines.	Not specifically addressed in PA Academic Standard Eligible Content. In transitioning to PACCS, these specific statements will be assessed and should be explicitly addressed.
Intentionally Blank	**M06.B-E.3.1.1** Write an equation to express the relationship between the dependent and independent variables. Example: In a problem involving motion at constant speed, write the equation d = 65t to represent the relationship between distance and time.	Not specifically addressed in PA Academic Standard Eligible Content. In transitioning to PACCS, these specific statements will be assessed and should be explicitly addressed.
Intentionally Blank	**M06.B-E.3.1.2** Analyze the relationship between the dependent and independent variables using graphs and tables, and/or relate these to an equation.	Not specifically addressed in PA Academic Standard Eligible Content. In transitioning to PACCS, these specific statements will be assessed and should be explicitly addressed.
M6.E Data Analysis and Probability	**M06.D-S Statistics and Probability**	
M6.E.1.1.1 Analyze data and/or answer questions pertaining to data represented in frequency tables, circle graphs, double bar graphs, double line graphs or line plots (for circle graphs, no computation with percent's).	**M06.D-S.1.1.1** Display numerical data in plots on a number line, including dot plots, histograms, and box-and-whisker plots. **M06.B-E.3.1.2** Analyze the relationship between the dependent and independent variables using graphs and tables, and/or relate these to an equation.	PACCS addresses display for this eligible content and addresses the variables
M6.E.1.1.2 Choose the appropriate representation for a specific set of data (choices should be the same type of graph).	**M06.D-S.1.1.3** Describe any overall pattern and any deviations from the overall pattern with reference to the context in which the data were gathered.	PACCS addresses patterns and data
M6.E.1.1.3 Display data in frequency tables, circle graphs, double-bar graphs, double line graphs or line plots using a title, appropriate scale, labels and a key when needed. Circle graphs for open-ended items must show a center point and tic marks.	**M06.D-S.1.1.4** Relate the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.	PACCS extends to the context of the data

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M6.E.2.1.1 Determine/calculate the mean, median, mode and/or range of displayed data (data can be displayed in a table or line plot – use whole numbers only up to 2 digits).	**M06.D-S.1.1.2** Determine quantitative measures of center (e.g., median, mean, and/or mode) and variability (e.g., range, interquartile range and/or mean absolute deviation).	PACCS extends to variability of data
M6.E.3.1.1 Define and/or find the probability of a simple event (express as a fraction in lowest terms).	Intentionally Blank	Not specifically addressed in PACCS Eligible Content
M6.E.3.1.2 Determine/show all possible combinations involving no more than 20 total arrangements (e.g., tree diagram, table, grid).	Intentionally Blank	Not specifically addressed in PACCS Eligible Content