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Grade 5: 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 three critical areas: (1) developing fluency with addition and subtraction of fractions, and developing understanding of the multiplication of fractions and of division of fractions in limited cases (unit fractions divided by whole numbers and whole numbers divided by unit fractions); (2) extending division to 2-digit divisors, integrating decimal fractions into the place value system and developing understanding of operations with decimals to hundredths, and developing fluency with whole number and decimal operations; and (3) developing understanding of volume.

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
M5.A Numbers and Operations	**M05.A-T Number and Operations in Base Ten** **M05.A-F Number and Operations – Fractions**	
M5.A.1.1.1 Use expanded notation to represent whole numbers or decimals (whole numbers less than 10,000,000 and decimals through hundredths).	Intentionally Blank	Not specifically addressed in PACCS Eligible Content
M5.A.1.2.1 Match the standard form to the word form of decimal numbers through the hundredths.	Intentionally Blank	Not specifically addressed in PACCS Eligible Content
M5.A.1.2.2 Identify the place value of a digit (from millions through hundredths).	**M05.A-T.2.1.1** Multiply multi-digit whole numbers (not to exceed 3-digit by 3-digit).	PACCS goes beyond identify whole numbers
M5.A.1.3.1 Compare whole numbers through 9 digits using the words more, less, equal, least, most, greater than, less than or the symbols <, >, =.	**M05.A-T.1.1.4** Compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols.	Same eligible content
M5.A.1.3.2 Compare and/or order decimals through the hundredths. (Limit sets for ordering to no more than 4 numbers).	**M05.A-T.1.1.3** Read and write decimals to thousandths using base-ten numerals, word form, and expanded form. Example: 347.392 = 300 + 40 + 7 + 0.3 + 0.09 + 0.002 = 3 × 100 + 4 × 10 + 7 × 1 + 3 × (0.1) + 9 × (0.01) + 2 × (0.001).	PACCS expands numbers to the thousandths
M5.A.1.3.3 Compare proper fractions through 16ths with like and unlike denominators.	**M05.A-T.1.1.1** Demonstrate an understanding that in a multi-digit number, a digit in one place represents 1/10 of what it represents in the place to its left. Example: Recognize that in the number 770, the 7 in the tens place is 1/10 the 7 in the hundreds place. **M05.A-T.1.1.2** Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10. Example 1: 4 × 102 = 400 Example 2: 0.05 ÷ 103 = 0.00005.	PACCS emphasizes thorough understanding of place value, which can be partially accomplished through looking at patterns.
M5.A.1.4.1 Locate/Identify integers on a number line (greater than or equal to -20).	Intentionally Blank	Not specifically addressed in PACCS Eligible Content
M5.A.1.4.2 Identify negative temperatures on a thermometer (through -20□C or □F).	Intentionally Blank	Not specifically addressed in PACCS Eligible Content
M5.A.1.5.1 Use or develop regions and/or sets (e.g., circle graph, base ten blocks) to	Intentionally Blank	Not specifically addressed in PACCS Eligible Content

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model fractions and mixed numbers through hundredths (may include reducing the fractions).		
M5.A.1.6.1 Define/list/identify prime and composite numbers less than or equal to 100.	**M05.A-T.1.1.1** Demonstrate an understanding that in a multi-digit number, a digit in one place represents 1/10 of what it represents in the place to its left. Example: Recognize that in the number 770, the 7 in the tens place is 1/10 the 7 in the hundreds place.	PACCS addresses place values
M5.A.1.6.2 Define/list/identify factors and/or multiples of a given whole number less than or equal to 50.	**M05.A-T.1.1.1** Demonstrate an understanding that in a multi-digit number, a digit in one place represents 1/10 of what it represents in the place to its left. Example: Recognize that in the number 770, the 7 in the tens place is 1/10 the 7 in the hundreds place.	PACCS addresses place values
M5.A.2.1.1 Solve problems involving addition, subtraction, multiplication and division of whole numbers (multipliers up to 2 digits – divisors one digit) and decimals include money (answer through hundredths – no divisors with decimals).	**M05.A-F.2.1.4** Divide unit fractions by whole numbers and whole numbers by unit fractions. **M05.A-F.2.1.2** Multiply a fraction (including mixed numbers) by a fraction. **M05.A-T.2.1.2** Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors. **M05.A-F.2.1.1** Solve word problems involving division of whole numbers leading to answers in the form of fractions (including mixed numbers).	PACCS solves problems with fractions
M5.A.2.1.2 Solve problems involving addition and subtraction of fractions (through 16ths – like and unlike denominators – for unlike denominators, the LCD must be one of the given denominators).	**M05.A-F.2.1.1** Solve word problems involving division of whole numbers leading to answers in the form of fractions (including mixed numbers).	PACCS expands rounding to mixed numbers
M5.A.2.1.3 Choose the correct operation(s) to solve a problem (no more than 2 operations).	Intentionally Blank	Not specifically addressed in PACCS Eligible Content
M5.A.3.1.1 Round whole numbers through millions and decimals through hundredths.	**M05.A-T.1.1.5** Round decimals to any place (limit rounding to ones, tenths, hundredths, or thousandths place).	PACCS expands to rounding decimals
M5.A.3.1.2 Use estimation to solve problems involving whole numbers and/or	**M05.A-F.1.1.1** Add and subtract fractions (including mixed numbers) with unlike	PACCS addresses mixed numbers

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decimals (up to 2-digit multipliers, single-digit divisors or multiples of 10; whole numbers through thousands and decimals through hundredths).	denominators. (May include multiple methods and representations.) Example: 2/3 + 5/4 = 8/12 + 15/12 = 23/12.	
M5.A.3.2.1 Use addition, subtraction, multiplication and division to compute accurately without a calculator (multipliers up to 2 digits, single-digit divisors or multiples of 10 – whole numbers through thousands and decimals through hundredths - no divisors with decimals).	**M05.A-T.2.1.1** Multiply multi-digit whole numbers (not to exceed 3-digit by 3-digit). **M05.A-F.1.1.1** Add and subtract fractions (including mixed numbers) with unlike denominators. (May include multiple methods and representations.) Example: 2/3 + 5/4 = 8/12 + 15/12 = 23/12.	PACCS expands to 3 digit numbers
Intentionally Blank	**M05.A-F.2.1.3** Demonstrate an understanding of multiplication as scaling (resizing). Example 1: Comparing the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication. Example 2: Explaining why multiplying a given number by a fraction greater than 1 results in a product greater than the given number (recognizing multiplication by whole numbers greater than 1 as a familiar case); explaining why multiplying a given number by a fraction less than1 results in a product smaller than the given number.	Not Specifically Addressed in PA Academic Standard Eligible Content. In transitioning to PACCS, these specific statements will be assessed and should be explicitly addressed.
M5.B Measurement	**M05.D-M Measurement and Data**	
M5.B.1.1.1 Select the appropriate unit for measuring weight (mass), capacity, length, perimeter and area.	Intentionally Blank	Not specifically addressed in PACCS Eligible Content
M5.B.1.2.1 Convert using linear measurements, capacity, and weight (mass) within the same system to the unit immediately above or below the given unit (using only the units below – use a conversion chart or a "hint" with problems e.g., hint: 16oz = 1lb). • Metric using mm, cm, m and km; mL and L; g and kg • Customary using cup, pint, quart, gallon; in, ft., yd.; oz., lb.	**M05.D-M.1.1.1** Convert among different-sized measurement units within a given measurement system. A table of equivalencies will be provided. Example: Convert 5 cm to meters.	Similar eligible content.

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M5.B.1.2.2 Add or subtract linear measurements, (feet and inches) or units of time (hours and minutes), without having to regroup with subtraction (answer should be in simplest form).	Intentionally Blank	Not specifically addressed in PACCS Eligible Content
M5.B.1.3.1 Estimate which polygon (shown on a grid) has a greater perimeter or area (compare either area to area or perimeter to perimeter).	Intentionally Blank	Not specifically addressed in PACCS Eligible Content
M5.B.1.3.2 Estimate the area of an irregular figure shown on a grid.	Intentionally Blank	Not specifically addressed in PACCS Eligible Content
M5.B.2.1.1 Use a ruler to measure to the nearest 1/8 inch or centimeter.	Intentionally Blank	Not specifically addressed in PACCS Eligible Content
M5.B.2.2.1 Find the perimeter of a figure drawn and labeled (with the same units throughout).	Intentionally Blank	Not specifically addressed in PACCS Eligible Content
M5.B.2.2.2 Find the area of a square or rectangle (with the same units throughout - whole numbers only).	**M05.D-M.3.1.1** Apply the formulas V = l × w × h and V = b × h for rectangular prisms to find volumes of right rectangular prisms with whole-number edge lengths in the context of solving real-world and mathematical problems. The formulas will be provided.	PACCS addresses volume
M5.B.2.2.3 Solve problems involving weight, time, temperature, length and capacity (with the same units throughout - limited to 3 digits).	**M05.D-M.3.1.2** Find volumes of solid figures composed of two no overlapping right rectangular prisms.	PACCS addresses volume
M5.C Geometry	**M05.C-G Geometry**	
M5.C.1.1.1 Identify, and/or classify cubes, rectangular prisms or pyramids using faces, vertices and edges.	**M05.C-G.2.1.1** Classify two-dimensional figures in a hierarchy based on properties. Example 1: All polygons have at least 3 sides and pentagons are polygons, so all pentagons have at least 3 sides. Example 2: A rectangle is a parallelogram, which is a quadrilateral, which is a polygon; so, a rectangle can be classified as a parallelogram, as a quadrilateral, and as a polygon.	PACCS expands to address all polygons
M5.C.1.1.2 Identify and/or describe properties of all types of quadrilaterals (parallelogram, rectangle, rhombus, square, trapezoid).	**M05.C-G.2.1.1** Classify two-dimensional figures in a hierarchy based on properties. Example 1: All polygons have at least 3 sides and pentagons are polygons, so all pentagons have at least 3 sides. Example 2: A rectangle is a parallelogram,	PACCS expands to address all polygons

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	which is a quadrilateral, which is a polygon; so, a rectangle can be classified as a parallelogram, as a quadrilateral, and as a polygon.	
M5.C.1.2.1 Identify, draw and/or label points, lines, line segments and rays.	Intentionally Blank	Not specifically addressed in PACCS Eligible Content.
M5.C.2.1.1 Draw or identify a translation (slide), reflection (flip) or rotation (turn) of a 2-dimensional shape.	Intentionally Blank	Not specifically addressed in PACCS Eligible Content.
M5.C.2.1.2 Identify the number of lines of symmetry and/or draw all lines of symmetry in a two-dimensional polygon.	Intentionally Blank	Not specifically addressed in PACCS Eligible Content.
Intentionally Blank	**M05.C-G.1.1.1** Identify parts of the coordinate plane (x-axis, y-axis, and the origin) and the ordered pair (x-coordinate and y-coordinate). Limit the coordinate plane to quadrant I.	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	**M05.C-G.1.1.2** Represent real-world and mathematical problems by plotting points in quadrant I of the coordinate plane, and interpret coordinate values of points in the context of the situation.	Not Specifically Addressed in PA Academic Standard Eligible Content. In transitioning to PACCS, these specific statements will be assessed and should be explicitly addressed.
M5.D Algebraic Concepts	**M05.B-O Operations and Algebraic Thinking**	
M5.D.1.1.1 Extend or find a missing element in a numerical or simple geometric pattern (+, -, x or □ of whole numbers). Pattern must show 3 repetitions.	**M05.B-O.1.1.2** Write simple expressions that model calculations with numbers, and interpret numerical expressions without evaluating them. Example 1: Express the calculation "add 8 and 7, then multiply by 2" as 2 × (8 + 7). Example 2: Recognize that 3 × (18,932 + 921) is three times as large as 18,932 + 921, without having to calculate the indicated sum or product.	PACCS extends to expressions
M5.D.1.1.2 Create or replicate a numerical or geometric pattern showing 3 repetitions of that pattern (+, -, x or □ of whole numbers may be used).	**M05.B-O.2.1.2** Identify apparent relationships between corresponding terms of two patterns with the same starting numbers that follow different rules. Example: Given two patterns in which the first pattern follows the rule "add 8" and the second pattern follows the rule "add 2",	PACCS expands to corresponding terms of two patterns

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	observe that the terms in the first pattern are 4 times the size of the terms in the second pattern.	
M5.D.1.2.1 Form a rule based on a given pattern, or illustrate a pattern based on a given rule (+, -, x or □ of whole numbers may be used). Patterns must show 3 repetitions.	**M05.B-O.2.1.1** Generate two numerical patterns using two given rules. Example: Given the rule "Add 3" and the starting number 0, and given the rule "Add 6" and the starting number 0, generate terms in the resulting sequences.	PACCS expands to two rules
M5.D.2.1.1 Solve for a missing number (blank, question mark, variable) in an equation involving a single operation whole numbers only.	**M05.B-O.1.1.1** Use multiple grouping symbols (parentheses, brackets, or braces) in numerical expressions, and evaluate expressions containing these symbols.	PACCS addresses grouping
M5.D.2.1.2 Match a realistic situation to an equation, expression, inequality (<, >, =), table or graph (variable must be isolated, e.g., 17 + 39 = n).	**M05.B-O.1.1.1** Use multiple grouping symbols (parentheses, brackets, or braces) in numerical expressions, and evaluate expressions containing these symbols.	PACCS expands to multiple grouping
M5.E Data Analysis and Probability	**M05.D-M Measurement and Data**	
M5.E.1.1.1 Display and/or interpret data shown in tallies, tables, charts, pictographs, bar graphs, line graphs and using a title, appropriate scale, and labels. A grid will be provided to display data on bar graphs or line graphs.	**M05.D-M.2.1.2** Display and/or interpret data shown in tallies, tables, charts, pictographs, bar graphs and, line graphs, and using a title, appropriate scale, and labels. A grid will be provided to display data on bar graphs or line graphs.	Same eligible content
M5.E.2.1.1 Determine the mean/average (answer is a whole number), median (answer is a whole number or average of 2 numbers) and range of data (up to 10 numbers).	**M05.D-M.2.1.1** Solve problems involving computation of fractions by using information presented in line plots.	PACCS goes beyond average problem
M5.E.2.1.2 Identify the mode in a set of data (up to 10 numbers).	Intentionally Blank	Not specifically addressed in PACCS Eligible Content.
M5.E.3.1.1 Predict or determine whether some outcomes are certain, more likely, less likely, equally likely, or impossible (information could be represented by pictographs, bar graphs, charts, tables and/or spinners).	**M05.D-M.2.1.2** Display and/or interpret data shown in tallies, tables, charts, pictographs, bar graphs and, line graphs, and using a title, appropriate scale, and labels. A grid will be provided to display data on bar graphs or line graphs.	PACCS develops interpretation of data
M5.E.3.1.2 Determine the probability of an outcome (e.g., a coin toss, a roll of a number cube) and express as a fraction without reduction.	**M05.D-M.2.1.1** Solve problems involving computation of fractions by using information presented in line plots.	PACCS uses line plots

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