Pennsylvania Department of Education
Grade 4 Mathematics Performance Level Descriptors

A fourth-grade student performing at the Below Basic Level demonstrates limited understanding of the concepts and ineffective application of the mathematical skills in the five Pennsylvania Mathematics Reporting Categories.	A fourth-grade student performing at the Basic Level solves simple or routine problems by applying skills and procedures in the five Pennsylvania Mathematics Reporting Categories. A student performing at the Basic Level: A. matches word forms of numbers and drawings of simple decimals or fractions with like denominators to numbers; identifies factors and multiples of simple numbers. B. matches digital and analog time; calculates elapsed time without crossing hours; uses a ruler to measure segments to the nearest $\frac{1}{4}$ inch or centimeter. C. identifies basic properties of geometric figures in two- and three-dimensions; recognizes symmetry in figures; matches ordered pairs with points on a simple grid. D. extends or completes a numerical or geometrical pattern; completes simple number sentences with a missing element. E. completes a display of data; answers basic questions about displayed data; recognizes equivalent displays of information.	A fourth-grade student performing at the Proficient Level solves practical and real-world problems. A student performing at the Proficient Level: A. locates fractions and decimals on a number line; solves problems involving whole numbers, fractions and decimals; adds/subtracts fractions with like denominators; uses estimation and rounding in problems. B. uses elapsed time to determine beginning or ending time; estimates measurements of familiar objects. C. uses mathematical names to classify basic one-, two- and three-dimensional geometric figures; describes the symmetry in figures; plots ordered pairs on a simple grid. D. identifies rule for numeric or geometric patterns; applies function rules to complete tables or lists; uses informal methods to solve number sentences; matches story situations to expressions or number sentences. E. describes data shown in displays; translates information from one type of display to another; makes predictions, including chance, based on data.	A fourth-grade student performing at the Advanced Level solves complex problems and demonstrates in-depth understanding of the skills, concepts and procedures in the five Pennsylvania Mathematics Reporting Categories. A student performing at the Advanced Level: A. creates models to represent decimals and fractions with like denominators; translates among decimals, fractions with like denominators and different forms of a number; explains and justifies solution strategies involving whole numbers and decimals. B. explains and justifies a process used to determine time; communicates descriptions of familiar objects using reasonable estimates of measurement. C. compares properties of basic geometric figures; uses properties of points, lines, line segments, rays or parallel and perpendicular lines to solve problems; describes coordinates of a point on a simple grid. D. creates, replicates, or describes the rule for a numeric or geometric pattern; uses mathematical notation to write or generalize pattern rules; solves for a missing number in a number sentence. E. creates a display from information provided in context; makes and justifies predictions based on displays of data.