



PERFORMANCE LEVEL DESCRIPTORS

Introduction to the DCAS-Alt1 Performance Level Descriptors in Mathematics

The Mathematics portion of the Delaware Comprehensive Assessment System – Alt1 (DCAS-Alt1) is designed to measure how well students meet the grade band level–expectations as delineated in the Delaware Grade Band Extensions for mathematics. The Standards articulate the expectations that students will need to meet by the end of the grade band in order to advance and accumulate more content specifics for the next grade band. The expectations of the Standards increase in complexity and require higher levels of thinking as students progress through the grade bands. The role of the DCAS-Alt1 Mathematics test is to provide evidence that students can take what they have learned in the classroom and *demonstrate* their knowledge and understanding to a new context presented on the assessment.

The Mathematics Performance Level Descriptors are aligned to the mathematics Standards and the DCAS-Alt1. They are designed to identify and define what students know and can do at a specific grade band and to assist parents and educators in understanding the performance level scores that students receive on the DCAS-Alt1.



PERFORMANCE LEVEL DESCRIPTORS

MATHEMATICS – GRADE BAND 3–5

Performance Level 4 – Advanced	Performance Level 3 – Meets Standard	Performance Level 2 – Below Standard	Performance Level 1 – Well-Below Standard
Students at this level, when using grade-band mathematics content, consistently use the knowledge and skills articulated in the Delaware Grade Band Extensions for mathematics.	Students at this level, when using grade-band mathematics content, frequently use the knowledge and skills articulated in the Delaware Grade Band Extensions for mathematics.	Students at this level, when using grade-band mathematics content, partially use the knowledge and skills articulated in the Delaware Grade Band Extensions for mathematics.	Students at this level, when using grade-band mathematics content, minimally use the knowledge and skills articulated in the Delaware Grade Band Extensions for mathematics.

Content Summary Expectations

- Solve problems involving telling time and using money
- Use grouping symbols to write and evaluate numerical expressions
- Analyze patterns and relationships
- Understand the differences in size between different place values
- Compare and round decimals
- Multiply and divide whole numbers
- Add and subtract decimals
- Understand equivalent measurements
- Understand properties of measurement
- Measure volume
- Understand that categories of shapes have similar attributes
- Understand that shapes can be classified in multiple categories
- Understand that a fraction is a division problem
- Demonstrate that multiplying by a whole number produces a bigger product and that multiplying by a fraction produces a smaller product



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MATHEMATICS – GRADE BAND 6–8

Performance Level 4 – Advanced	Performance Level 3 – Meets Standard	Performance Level 2 – Below Standard	Performance Level 1 – Well-Below Standard
Students at this level, when using grade-band mathematics content, consistently use the knowledge and skills articulated in the Delaware Grade Band Extensions for mathematics.	Students at this level, when using grade-band mathematics content, frequently use the knowledge and skills articulated in the Delaware Grade Band Extensions for mathematics.	Students at this level, when using grade-band mathematics content, partially use the knowledge and skills articulated in the Delaware Grade Band Extensions for mathematics.	Students at this level, when using grade-band mathematics content, minimally use the knowledge and skills articulated in the Delaware Grade Band Extensions for mathematics.

Content Summary Expectations

- Create and solve ratios
- Represent proportional relationships
- Understand that properties of shapes stay the same regardless of orientation
- Apply the Pythagorean Theorem to determine unknown side lengths in right triangles
- Understand the powers of 10 and know how to evaluate numerical expressions that contain exponents
- Evaluate square root and cube root of perfect squares and cubes
- Graph and compare slope in different representations
- Define slope and y-intercept
- Solve linear equations and pairs of linear equations
- Describe patterns on a graph, using a line of best fit
- Describe patterns on a graph, using slope and intercepts
- Construct a two-way table and interpret associations between the two variables
- Understand that a specific input will yield a specific output
- Understand that equations may define linear and nonlinear functions
- Construct a linear graph, using a table or equations



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MATHEMATICS – GRADE BAND High School

Performance Level 4 – Advanced	Performance Level 3 – Meets Standard	Performance Level 2 – Below Standard	Performance Level 1 – Well-Below Standard
Students at this level, when using grade-band mathematics content, consistently use the knowledge and skills articulated in the Delaware Grade Band Extensions for mathematics.	Students at this level, when using grade-band mathematics content, frequently use the knowledge and skills articulated in the Delaware Grade Band Extensions for mathematics.	Students at this level, when using grade-band mathematics content, partially use the knowledge and skills articulated in the Delaware Grade Band Extensions for mathematics.	Students at this level, when using grade-band mathematics content, minimally use the knowledge and skills articulated in the Delaware Grade Band Extensions for mathematics.

Content Summary Expectations

- Interpret the parts of an equation
- Use factoring to create equivalent expressions
- Create equations and inequalities to solve problems with one variable
- Create equations and graph them on coordinate axes
- Understand that extraneous solutions arise when solving simple equations
- Solve linear equations with coefficients represented by letters
- Demonstrate rotations, reflections, and translations
- Identify similar figures
- Understand that the Pythagorean Theorem is a formula that applies only to right triangles
- Identify the properties of circles
- Identify geometric shapes in the real world
- Represent data with plots
- Use measures of center to compare data
- Interpret the slope and the intercept on a graph
- Evaluate whether data are consistent with a data-generating process