

**Virginia Standards of Learning Assessments  
Grade 8 Mathematics Performance Level Descriptors  
Detailed**

<b>Performance Level</b>	<b>Descriptor</b>
<b>Pass/Advanced</b>	The student demonstrates exceptional and consistent attainment of the knowledge and skills necessary to apply key curriculum concepts such as: understanding the relationships among real numbers expressed in a variety of ways including scientific notation; applying the order and properties of operations to evaluate algebraic expressions; solving real-life problems with a calculator involving rational numbers, percents, ratios, and proportions; demonstrating an understanding of plane and solid figures, including volume and surface area, angle relationships, transformations, modeling, and the Pythagorean Theorem; organizing data to make comparisons and predictions using the knowledge of probability and information displayed in a variety of ways, including graphs and matrices; and describing and representing relations, functions, and two-step equations and inequalities using tables, graphs, rules, proportions, and formulas to solve problems in real-world situations.
<b>Pass/Proficient</b>	The student demonstrates satisfactory attainment of the knowledge and skills necessary to apply key curriculum concepts such as: understanding the relationships among real numbers expressed in a variety of ways including scientific notation; applying the order and properties of operations to evaluate algebraic expressions; solving real-life problems with a calculator involving rational numbers, percents, ratios, and proportions; demonstrating an understanding of plane and solid figures, including volume and surface area, angle relationships, transformations, modeling, and the Pythagorean Theorem; organizing data to make comparisons and predictions using the knowledge of probability and information displayed in a variety of ways, including graphs and matrices; and describing and representing relations, functions, and two-step equations and inequalities using tables, graphs, rules, proportions, and formulas to solve problems in real-world situations.
<b>Fail/Basic</b>	The student demonstrates inconsistent attainment of the fundamental knowledge and skills necessary to apply key curriculum concepts such as: understanding the relationships among real numbers expressed in a variety of ways including scientific notation; applying the order and properties of operations to evaluate algebraic expressions; solving real-life problems with a calculator involving rational numbers, percents, ratios, and proportions; demonstrating an understanding of plane and solid figures, including volume and surface area, angle relationships, transformations, modeling, and the Pythagorean Theorem; organizing data to make comparisons and predictions using the knowledge of probability and information displayed in a variety of ways, including graphs and matrices; and describing and representing relations, functions, and two-step equations and inequalities using tables, graphs, rules, proportions, and formulas to solve problems in real-world situations.
<b>Fail/Below Basic</b>	The student demonstrates little if any attainment of the fundamental knowledge and skills necessary to apply key curriculum concepts such as: understanding the relationships among real numbers expressed in a variety of ways including scientific notation; applying the order and properties of operations to evaluate algebraic expressions; solving real-life problems with a calculator involving rational numbers, percents, ratios, and proportions; demonstrating an understanding of plane and solid figures, including volume and surface area, angle relationships, transformations, modeling, and the Pythagorean Theorem; organizing data to make comparisons and predictions using the knowledge of probability and information displayed in a variety of ways, including graphs and matrices; and describing and representing relations, functions, and two-step equations and inequalities using tables, graphs, rules, proportions, and formulas to solve problems in real-world situations.