VSC - Mathematics

Print pages on legal paper, landscape mode.

Grade PK	Grade K	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8
Standard 3.0 Knowledge of Measurement: Students will identify attributes, units, or systems of measurements or apply a variety of techniques, formulas, tools or technology for determining measurements.	**Standard 3.0** Knowledge of Measurement: Students will identify attributes, units, or systems of measurements or apply a variety of techniques, formulas, tools or technology for determining measurements.	**Standard 3.0** Knowledge of Measurement: Students will identify attributes, units, or systems of measurements or apply a variety of techniques, formulas, tools or technology for determining measurements.	**Standard 3.0** Knowledge of Measurement: Students will identify attributes, units, or systems of measurements or apply a variety of techniques, formulas, tools or technology for determining measurements.	**Standard 3.0** Knowledge of Measurement: Students will identify attributes, units, or systems of measurements or apply a variety of techniques, formulas, tools or technology for determining measurements.	**Standard 3.0** Knowledge of Measurement: Students will identify attributes, units, or systems of measurements or apply a variety of techniques, formulas, tools or technology for determining measurements.	**Standard 3.0** Knowledge of Measurement: Students will identify attributes, units, or systems of measurements or apply a variety of techniques, formulas, tools or technology for determining measurements.	**Standard 3.0** Knowledge of Measurement: Students will identify attributes, units, or systems of measurements or apply a variety of techniques, formulas, tools or technology for determining measurements.	**Standard 3.0** Knowledge of Measurement: Students will identify attributes, units, or systems of measurements or apply a variety of techniques, formulas, tools or technology for determining measurements.	**Standard 3.0** Knowledge of Measurement: Students will identify attributes, units, or systems of measurements or apply a variety of techniques, formulas, tools or technology for determining measurements.
A. Measurement Units	**A**. Measurement Units	**A**. Measurement Units	**A**. Measurement Units	**A**. Measurement Units	**A**. Measurement Units	**A**. Measurement Units	**A**. Measurement Units	**A**. Measurement Units	**A**. Measurement Units
1. Recognize and use measurement attributes	**1.** Explore measurement units	**1.** Read measurement units	**1.** Read customary and metric measurement units	**1.** Read customary and metric measurement units	**1.** Read customary and metric measurement units	**1.** Read customary and metric measurement units			
a. Demonstrate an understanding of comparative attributes such as: bigger, smaller, longer, shorter, lighter, heavier, shorter, taller, hotter, colder ***67. How Big is Your Tree? Variation***	**a.** Order, compare, and describe objects by attributes such as: length/height, weight, capacity ***41. How Plants Grow, Variation*** ***65. Bursting Buds*** ***67. How Big is Your Tree? Variation***	**a.** Read a calendar to identify days of the week and months of the year	**a.** Read the scale on a ruler to identify length, in inches ***41. How Plants Grow, Variation*** ***65. Bursting Buds*** ***67. How Big is Your Tree? Variation***	**a.** Estimate and determine length **Assessment limit:** • Use the nearest centimeter or ½ inch ***65. Bursting Buds*** ***67. How Big is Your Tree? Variation***	**a.** Estimate and determine length and height **Assessment limit:** • Use the nearest millimeter or ¼ inch ***21. Adopt a Tree, Enrichment*** ***27. Every Tree for Itself, Enrichment*** ***41. How Plants Grow, Part A*** ***41. How Plants Grow, Enrichment*** ***65. Bursting Buds*** ***66. Germinating***	**a.** Estimate and determine weight or mass **Assessment limit:** • Use the nearest ounce for weight and the nearest gram for mass ***37. Reduce, Reuse, Recycle, Part A*** ***66. Germinating Giants***			

					Giants ***67. How Big is Your Tree?*** ***77. Trees in Trouble, Part B*** ***80. Nothing Succeeds Like Succession***				
b. Compare and describe objects according to a single attribute ***67. How Big is Your Tree? Variation***	**b.** Recognize time by identifying days of the week and by using terms such as: yesterday, today, tomorrow, morning, afternoon, night, before, after	**b.** Tell time in intervals of hours and half-hours using an analog clock	**b.** Tell time in intervals of 5 minutes using an analog clock	**b.** Tell time in days, hours, minutes, and seconds **Assessment limit:** • Use the nearest minute using an analog clock	**b.** Estimate and determine weight or mass ***66. Germinating Giants***	**b.** Estimate and determine capacity **Assessment limit:** • Use the nearest ounce ***38. Every Drop Counts, Part A***			
	c. Compare and describe temperature such as: temperature in January as compared to temperature in July	**c.** Compare the same time on analog and digital clocks	**c.** Compare the same time on analog and digital clocks	**c.** Estimate and read temperature **Assessment limit:** • Use the nearest degree (°F or °C)	**c.** Estimate and determine capacity				
		d. Read a thermometer to tell temperature to the nearest 10° F	**d.** Read a thermometer to the nearest 5° (°F and °C) on a thermometer with a scale of 10° intervals	**d.** Estimate and determine weight of objects **Assessment limit:** • Use the nearest pound or					

				ounce					
		e. Compare and order objects by weight in pounds using a spring scale and a bathroom scale	**e.** Identify and compare the weight of objects to the nearest pound						
B. Measurement Tools	**B**. Measurement Tools	**B**. Measurement Tools	**B**. Measurement Tools	**B**. Measurement Tools	**B**. Measurement Tools	**B**. Measurement Tools	**B**. Measurement Tools	**B**. Measurement Tools	**B**. Measurement Tools
1. Measure in non-standard units	**1.** Measure in non-standard units	**1.** Measure in customary units	**1.** Measure in customary and metric units	**1.** Measure in customary and metric units	**1.** Measure in customary and metric units	**1.** Measure in customary and metric units	**1.** Measure in customary and metric units		
a. Measure length of objects ***67. How Big is Your Tree? Variation***	**a.** Measure length of objects and pictures of objects ***41. How Plants Grow, Variation*** ***67. How Big is Your Tree? Variation***	**a.** Measure length of objects and pictures of objects to the nearest inch using a ruler ***41. How Plants Grow, Variation*** ***67. How Big is Your Tree? Variation***	**a.** Measure length of objects and pictures of objects using a ruler or tape measure to the nearest inch, centimeter, and foot ***41. How Plants Grow, Variation*** ***67. How Big is Your Tree? Variation***	**a.** Measure length of objects and pictures of objects using a ruler, a tape measure, a yardstick, or a meter stick **Assessment limit:** • Use a ruler and the nearest centimeter or ½ inch ***67. How Big is Your Tree? Variation***	**a.** Select and use appropriate tools and units **Assessment limit:** • Use the nearest millimeter or ¼ inch with a ruler ***21. Adopt a Tree, Enrichment*** ***41. How Plants Grow, Part A*** ***66. Germinating Giants*** ***67. How Big is Your Tree?*** ***70. Soil Stories, Enrichment*** ***77. Trees in Trouble, Part B*** ***80. Nothing Succeeds Like Succession, Part C***	**a.** Select and use appropriate tools and units **Assessment limit:** • Measure length to 1/8 inch with a ruler ***21. Adopt a Tree, Enrichment*** ***37. Reduce, reuse, Recycle, Part A*** ***41. How Plants Grow, Part A*** ***66. Germinating Giants*** ***67. How Big is Your Tree?*** ***70. Soil Stories, Enrichment*** ***77. Trees in Trouble, Part B*** ***80. Nothing Succeeds Like Succession, Part C***	**a.** Select and use appropriate tools and units **Assessment limit:** • Measure length to the nearest 1/16 inch with a ruler ***4. Sounds around*** ***21. Adopt a Tree, Enrichment*** ***29. Rain Reasons, Part A*** ***37. Reduce, reuse, Recycle, Part A*** ***41. How Plants Grow, Part A*** ***66. Germinating Giants*** ***67. How Big is Your Tree?*** ***70. Soil Stories, Enrichment*** ***77. Trees in***		

							Trouble, Part B 80. Nothing Succeeds Like Succession, Part C		
b. Explore the capacity of containers	**b.** Explore and compare the capacity of containers	**b.** Identify and compare units of capacity using cups and gallons	**b.** Measure capacity of objects using cup, pint, quart, liter, and gallon	**b.** Measure capacity of containers to the nearest cup, pint, quart, gallon, milliliter, and liter using graduated containers					
c. Explore the weight of objects	**c.** Explore and compare weight of objects	**c.** Compare and order objects by weight in pounds using a spring scale and a bathroom scale	**c.** Measure objects to the nearest pound and kilogram	**c.** Measure weight of objects to the nearest ounce and pound and the mass of an object to the nearest gram and kilogram					
		d. Describe the attributes of length, weight, and capacity	**d.** Select and use appropriate units of measure for length/height, weight, and capacity						
					2. Compare right angles to a corner	**2.** Measure angles	**2.** Measure angles in polygons		
						a. Measure a single angle and angles in regular polygons **Assessment limit:** • Measure an angle between 0 and 180 to the nearest degree			
C. Applications in Measurement	**C**. Applications in Measurement	**C**. Applications in Measurement	**C**. Applications in Measurement	**C**. Applications in Measurement	**C**. Applications in Measurement	**C**. Applications in Measurement	**C**. Applications in Measurement	**C**. Applications in Measurement	**C**. Applications in Measurement

			1. Apply measurement concepts	**1.** Apply measurement concepts	**1.** Apply measurement concepts	**1.** Estimate and apply measurement formulas	**1.** Estimate and apply measurement formulas	**1.** Estimate and apply measurement formulas	**1.** Estimate and apply measurement formulas
			a. Develop the concept of perimeter by counting units around a picture or geometric shape	**a.** Estimate and determine the perimeter of geometric figures and pictures on a grid **Assessment limit:** • Use counting and whole numbers (0 – 50)	**a.** Determine perimeter **Assessment limit:** • Use polygons with no more than 6 sides given the length of the sides in whole numbers (0 – 100)	**a.** Determine perimeter **Assessment limit:** • Use polygons with no more than 8 sides and whole numbers (0 –500)	**a.** Estimate and determine the area of a polygon **Assessment limit:** • Use triangles and whole number dimensions (0 – 200)	**a.** Estimate and determine the area of quadrilaterals **Assessment limit:** • Use parallelograms or trapezoids and whole number dimensions (0 – 1000)	**a.** Estimate and determine the circumference or area of a circle **Assessment limit:** • Include circles using rational numbers with no more than 2 decimal places (0 – 10,000)
			b. Develop the concept of area by counting square units within a picture or geometric shape	**b.** Estimate and determine the area of geometric figures and pictures on a grid **Assessment limit:** • Use counting and whole numbers (0 – 50)	**b.** Determine area **Assessment limit:** • Use rectangles with the length of the sides in whole numbers (0 – 100) ***47. Are Vacant Lots vacant?*** ***80. Nothing Succeeds like Succession, Part C***	**b.** Determine area **Assessment limit:** • Use rectangles and whole numbers (0 – 200) ***47. Are Vacant Lots vacant?*** ***80. Nothing Succeeds like Succession, Part C***	**b.** Estimate and determine the volume of a rectangular prism **Assessment limit:** • Use rectangular prisms and whole number dimensions (0 – 1000)	**b.** Determine the surface area of geometric solids **Assessment limit:** • Use rectangular prisms with whole number dimensions (0 – 1000)	**b.** Estimate and determine area of a composite figure **Assessment limit:** • Include composite figures with no more than 6 polygons (triangles, rectangles, or circles) by measuring, partitioning, or using formulas with whole number dimensions (0 - 10,000)
					c. Determine start time, elapsed time, and end time **Assessment**	**c.** Find the area and the perimeter of any closed figure on a grid	**c.** Estimate and determine the area of a composite figure **Assessment**	**c.** Estimate pi using physical models	**c.** Estimate and determine the volume of a cylinder **Assessment**

					limit: • Use hour and half hour intervals ***38. Every Drop Counts, Part A***	**Assessment limit:** • Use whole and partial units (0-50)	**limit:** • Use composite figures with no more than four polygons (triangles or rectangles) and whole number dimensions (0 – 500)		**limit:** • Use cylinders, given the formula, and whole number dimensions (0-10,000)
						d. Estimate and determine volume by counting	**d.** Determine missing dimension of a quadrilateral given the perimeter length **Assessment limit:** • Find length in a quadrilateral given the perimeter with whole number dimensions (0 – 200)	**d.** Estimate and determine the volume of a triangular prism	**d.** Determine the volume of cones, pyramids, and spheres
							e. Determine the missing dimension of rectangles **Assessment limit:** • Find length in a square or rectangle given the area and whole number dimensions (0 – 200)		**e.** Determine the surface area of cylinders, prisms, and pyramids

			2. Calculate to determine equivalent units	**2.** Calculate equivalent measurements	**2.** Calculate equivalent measurements	**2.** Calculate equivalent measurements		**2.** Analyze measurement relationships	**2.** Analyze measurement relationships
			a. Recognize equivalent units of 12 inches = 1 foot	**a.** Determine equivalent units of length **Assessment limit:** • Use 12 inches = 1 foot and 3 feet = 1 yard and whole numbers (0 – 30)	**a.** Determine equivalent units of length **Assessment limit:** • Use 36 inches = 1 yard and whole numbers (0-100)	**a.** Determine start, elapsed, and end time **Assessment limit:** • Use the nearest minute ***70. Soil Stories, Part B*** ***70. Soil Stories, Enrichment***		**a.** Determine a missing dimension for a figure using a scale. **Assessment limit:** • Use a polygon with no more than 8 sides using whole numbers (0 – 1000)	**a.** Use proportional reasoning to solve measurement problems **Assessment limit:** • Use proportions, scale drawings with scales as whole numbers, or rates using whole numbers or decimals (0 – 1000)
					b. Determine equivalent units of time	**b.** Determine equivalent units of measurement **Assessment limit:** • Use seconds, minutes, and hours or pints, quarts, and gallons		**b.** Determine the distance between 2 points using a drawing and a scale **Assessment limit:** • Use a scale of 1 cm=?, ¼ inch=?, or ½ inch=?, and whole numbers (0 – 1000)	
					c. Determine equivalent units of capacity and weight within the same system				

Note: Highlighted assessment limits will be tested in the no calculator section of MSA. In the assessment limit, (0-10) or (-10 to 10) means all numbers in the problem or the answer will fall within the range of 0 to 10 (including endpoints) or -10 to 10 (including endpoints), respectively. All content standards are tested in MSA but not all objectives. Objectives that have an assessment limit are tested on MSA. Objectives without an assessment limit are not

tested on MSA.

June 2004