MICHIGAN Department of Education

MATHEMATICS

Performance Level Descriptors Grade 1

Michigan Department of Education
BENCHMARK ASSESSMENTS
Early Literacy & Mathematics

Range Performance Level Descriptors			
Standard	**Needs Support**	**Demonstrates Proficiency**	**Demonstrates Mastery**
	The student's performance is not yet proficient and indicates a minimal or partial understanding and application of key academic content standards defined for Michigan students. The student needs intervention and support to improve achievement.	The student's performance indicates understanding and application of key academic content standards defined for Michigan students. The student needs continued support to maintain and improve proficiency.	The student's performance exceeds academic content standards and indicates substantial understanding and application of key concepts defined for Michigan students. The student needs support to continue to excel.
Operations and Algebraic Thinking			
1.OA.1	**A student at this level** • uses addition or subtraction within 20 to solve one-step word problems that are represented with objects or drawings.	**A student at this level** • uses addition and subtraction within 20 to solve one-step word problems involving a variety of situations.	**A student at this level** • uses addition and subtraction within 20 to solve two-step word problems involving a variety of situations and represents addition and subtraction word problems as equations with unknowns in all positions.
1.OA.2	• solves simple modeled problems that call for addition of three whole numbers with sums up to 20.	• represents and solves word problems that call for addition of three whole numbers with sums up to 20.	• uses equations to represent and solve word problems that call for addition of three or more whole numbers with sums up to or greater than 20.
1.OA.3	• understands addition is commutative and associative (order does not matter), while subtraction is not (order matters).	• utilizes properties of operations to add and subtract.	• fluently applies properties of operations as strategies to add and subtract.
1.OA.4	• recognizes the relationship between addition and subtraction in specific situations.	• understands any subtraction problem as an unknown-addend problem.	• rewrites subtraction equations as unknown-addend equations.
1.OA.5	• uses counting as a strategy to solve addition and subtraction problems within 10.	• relates counting to addition and subtraction.	• uses efficient counting strategies to solve addition and subtraction problems.
1.OA.6	• adds and subtracts within 20 given concrete models and supports.	• adds and subtracts within 20, demonstrating fluency within 10, using a variety of strategies.	• fluently adds and subtracts within 20.

1.OA.7	• recognizes the equal sign as a symbol meaning "the same."	• understands the meaning of the equal sign in an equation and determines whether equations involving addition and subtraction are true or false.	• identifies when equations involving addition or subtraction are false and adjusts them to become true.
1.OA.8	• determines the unknown whole number in an addition or subtraction equation when the unknown is the sum or difference.	• determines the unknown whole number in an addition or subtraction equation relating three whole numbers, with the unknown in any position.	• creates a context for an addition or subtraction equation relating three whole numbers with one unknown in any position.
Number and Operations in Base Ten			
	A student at this level	**A student at this level**	**A student at this level**
1.NBT.1	• counts to 120, starting at zero or any multiple of 10.	• counts to 120, starting at any number less than 120 and, in this range, reads and writes numerals and represents numbers of objects with written numerals.	• counts beyond 120 and, in this range, reads and writes numerals and represents numbers of objects with written numerals.
1.NBT.2	• uses concrete models to demonstrate understanding that the two digits of a two-digit number represent amounts of tens and ones.	• understands the place values of a two-digit number, thinks of a ten as a bundle of ten ones, understands that the numbers 11–19 are composed of a ten and between one and nine ones, and describes numbers such as 70 as having seven tens and zero ones.	• uses place value equivalencies to describe single values in multiple ways (e.g., describes 58 as "5 tens and 8 ones," "58 ones," or as "4 tens and 18 ones").
1.NBT.3	• compares two two-digit numbers that are represented with models of their tens and ones.	• compares two two-digit numbers based on tens and ones and records the comparisons using >, =, and < symbols.	• represents comparisons of two two-digit numbers both symbolically and verbally by using appropriate comparative language and orders three or more two-digit numbers from least to greatest or greatest to least.
1.NBT.4	• understands that in adding two-digit numbers, one adds tens and tens and ones and ones.	• adds within 100 using concrete models, drawings, or strategies based on place value and understands that sometimes it is necessary to compose a ten.	• adds within 100 using a variety of representations and strategies, including properties of operations, and relates the strategies to written methods and explains the reasoning used.

1.NBT.6	• subtracts multiples of 10 in the range 10–90 from multiples of 10 in the range 10–90 using concrete models or drawings.	• subtracts multiples of 10 in the range 10–90 from multiples of 10 in the range 10–90 using strategies based on place value and properties of operations.	• subtracts multiples of 10 in the range 10–90 from multiples of 10 in the range 10–90 using a variety of representations and strategies and relates the strategies to written methods and explains the reasoning used.
Measurement and Data			
	A student at this level	**A student at this level**	**A student at this level**
1.MD.1	• orders three concrete objects by length.	• orders three objects by length and compares the lengths of two objects indirectly by using a third object.	• orders more than three objects by length using both direct and indirect comparisons.
1.MD.2	• understands that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps.	• expresses the length of an object as a whole number of length units by laying multiple copies of a shorter object (the length unit) end to end.	• measures the length of an object by laying multiple copies of a length unit end to end and, in situations where the length of the object is not a whole number of length units, determines whether to report the length as the previous whole number of units or the next whole number of units (depending on how much of the object is getting measured by the last-laid length unit).
1.MD.3	• tells and writes time in hours and half-hours using digital clocks.	• tells and writes time in hours and half-hours using analog and digital clocks.	• draws hands on an analog clock to represent times in hours and half-hours.
1.MD.4	• organizes and represents data with two categories and answers simple questions about the total number of data points and how many are in each category.	• organizes, represents, and interprets data with up to three categories and answers questions about the total number of data points, how many are in each category, and how many more or fewer are in one category than in another.	• asks and answers a variety of questions about categorical data and compares two different sets of data with similar categories.

Geometry			
	A student at this level	**A student at this level**	**A student at this level**
1.G.1	• identifies shapes possessing certain defining attributes.	• distinguishes between defining attributes and non-defining attributes and builds and draws shapes to possess certain defining attributes.	• builds and draws shapes to possess various combinations of defining and non-defining attributes.
1.G.2	• composes two-dimensional shapes to create a composite shape.	• composes two- or three-dimensional shapes to create a given composite shape and composes new shapes from the composite shape.	• identifies the component parts of a composite shape.
1.G.3	• identifies circles and rectangles that have been partitioned into two or four equal shares and describes the shares and the whole using appropriate fraction terminology.	• partitions circles and rectangles into two and four equal shares, describes the shares and the whole using appropriate fraction terminology, and understands that decomposing into more equal shares creates smaller shares.	• partitions various shapes into two and four equal shares and recognizes that some shapes can be partitioned into halves or fourths in more than one way.