Grade 3 RICAS Mathematics Achievement Level Descriptors

(Updated March 2022)

Student results on the RICAS assessments are reported according to four achievement levels:

- **Exceeding Expectations**
  A student who performed at this level exceeded grade-level expectations by demonstrating mastery of the subject matter.

- **Meeting Expectations**
  A student who performed at this level met grade-level expectations and is academically on-track to succeed in the current grade in this subject.

- **Partially Meeting Expectations**
  A student who performed at this level partially met grade-level expectations in this subject. The school, in consultation with the student's parent/guardian, should consider whether the student needs additional academic assistance to succeed in this subject.

- **Not Meeting Expectations**
  A student who performed at this level did not meet grade-level expectations in this subject. The school, in consultation with the student's parent/guardian, should determine the coordinated academic assistance and/or additional instruction the student needs to succeed in this subject.

The descriptors included in the table below illustrate the knowledge and skills students demonstrate on RICAS at each level. Knowledge and skills are cumulative at each level. No descriptors are provided for the *Not Meeting Expectations* achievement level because students' work at this level, by definition, does not meet the criteria of the *Partially Meeting Expectations* level.

Grade 3 RICAS Achievement Level Descriptors – General Performance

Grade 3	Partially Meets Expectations *On RICAS, a student at this level:*	Meeting Expectations *On RICAS, a student at this level:*	Exceeding Expectations *On RICAS, a student at this level:*
Conceptual Understanding and Procedural Knowledge	• demonstrates partial understanding of the numeration system • performs some calculations and estimations • identifies examples of basic math concepts • reads and constructs graphs, tables, • and charts	• demonstrates solid understanding of the numeration system • performs most calculations and estimations • defines concepts and generates examples and counterexamples of concepts • represents data and mathematical relationships in multiple forms • (e.g., equations, graphs)	• connects concepts from various areas of mathematics, and uses concepts to develop generalizations • performs complex calculations and estimations • selects the best representations for a given set of data and purpose
Problem Solving	• applies learned procedures to solve routine problems	• applies learned procedures and mathematical concepts to solve a variety of problems, including multi-step problems	• generates unique strategies and procedures to solve non-routine problems
Mathematical Reasoning	• applies some reasoning methods to solve simple problems	• uses a variety of reasoning methods to solve problems • explains steps and procedures	• uses multiple reasoning methods to solve complex problems • justifies strategies and solutions
Mathematical Communication	• identifies and uses basic mathematical terms	uses various forms of representation (e.g., text, graphs, symbols) to illustrate steps to a solution	• uses various forms of representation (e.g., text, graphs, symbols) to justify solutions and solution strategies

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Adopted from 2019 MCAS Next-Generation Achievement Level Descriptors

Grade 3 RICAS Achievement Level Descriptors – Content Specific

Grade 3	Partially Meets Expectations *On RICAS, a student at this level:*	Meeting Expectations *On RICAS, a student at this level:*	Exceeding Expectations *On RICAS, a student at this level:*
Operations and Algebraic Thinking	• Determines products and quotients of whole numbers • Solves one-step word problems by multiplying and dividing within 100 with limited accuracy • Determines the unknown whole number in a multiplication or division equation • Recognizes simple arithmetic patterns	• Interprets products and quotients of whole numbers • Solves word problems by multiplying and dividing within 100 accurately • Solves two-step word problems with unknowns in equations involving all four operations • Applies the properties of multiplication • Recognizes arithmetic patterns • Recognizes products of two single-digit numbers • Uses equal groups and arrays to solve word problems involving multiplication and division within 100 • Consistently uses estimation strategies to assess the reasonableness of answers	• Creates and solves equations with unknown factors to solve word problems • Explains arithmetic patterns using the properties of operations • Uses area models to solve word problems involving multiplication and division within 100 • Recognizes products of two single-digit numbers and the related division facts
Number and Operations in Base Ten	• Uses place value to round two-digit numbers to the nearest 10 • Solves problems by adding and subtracting within 1000 using various strategies with limited accuracy	• Uses place value to round three digit numbers to the nearest 10 • Fluently adds and subtracts within 1000 using various strategies • Solves problems involving multiplication of a one-digit whole number by multiples of 10 in the range 10-90	• Uses algorithms to add and subtract within 1000 and multiply one-digit whole numbers by multiples of 10 in the range 10-90, and explain why they work • Recognizes the relationship between addition and subtraction

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Grade 3	Partially Meets Expectations *On RICAS, a student at this level:*	Meeting Expectations *On RICAS, a student at this level:*	Exceeding Expectations *On RICAS, a student at this level:*
Number and Operations - Fractions	• Visually identifies fractional parts of a whole • Recognizes equivalent fractions • Compares two fractions with like numerators or like denominators	• Identifies fractional parts of a whole • Identifies and represents fractions on number lines or other visual fraction models that are already created • Generates equivalent fractions • Represents whole numbers as fractions • Compares fractions with like numerators and denominators by reasoning about their size using visual fraction models that are already created, and symbols <, > and =	• Explains fraction equivalence • Recognizes and explains fractional equivalence of whole numbers • Creates visual fraction models to justify the size comparison made about two fractions that refer to the same whole.
Measurement and Data	• Tells, writes and measures time to the nearest minute • Identifies appropriate tools and units of measurement to solve problems • Uses line plots to solve problems • Uses scaled picture graphs and bar graphs to solve problems	• Solves word problems involving addition and subtraction of time intervals in minutes • Selects and uses appropriate tools and units of measure to solve problems • Draws simple scaled picture graphs and bar graphs and uses them to solve one-step problems	• Uses estimation to solve word problems involving measurement • Draws scaled picture graphs and scaled bar graphs and uses them to solve two-step problems • Differentiates perimeter from area • Interprets scaled picture and bar graphs, and line plots

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Measurement and Data	• Finds area by using non-standard units • Solves mathematical problems involving perimeters of polygons, including finding the perimeter given the side length	• Generates measurement data using rulers marked with halves and fourths of an inch • Creates line plots with whole numbers, halves and fourths to record and show data to solve problems • Finds area by using standard units • Relates multiplication and addition to area • Determines area by decomposing shapes into non-overlapping rectangles and adding the areas of the non-overlapping parts • Solves mathematical problems involving perimeters of polygons, including finding an unknown side length and identifies rectangles with the same perimeter and different area	• Solves mathematical and real-world problems involving perimeters of polygons, including finding an unknown side length and is able to reproduce rectangles with the same perimeter and different area
Geometry	• Identifies two-dimensional shapes based on their sides and angles • Partitions shapes into parts	• Describes two-dimensional shapes based their sides and angles • Partitions shapes into parts with equal areas and expresses the area as a unit fraction of the whole	• Compares and classifies two-dimensional shapes based on their sides and angles

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