Number

Proficiency Scale

Quantity is measured with numbers that enable counting, labeling, comparing, and operating.

How can the infinite nature of the number line broaden the perception of number?

Score 4.0	In addition to score 3.0 performance, the student demonstrates in-depth inferences and applications that go beyond what was taught.	
	Score 3.5	
Score 3.0	**Students will:** Investigate magnitude with positive and negative numbers	
	Score 2.5	
Score 2.0	**Students will:** ● Understand that symmetry of the number line extends infinitely to the left and right of zero or above and below zero. ● Express the relationship between two numbers, including positive and negative numbers, using <, >, or = ● Identify negative numbers in familiar contexts, including contexts that use vertical or horizontal models of the number line.	
	Score 1.5	
Score 1.0	With help, partial success at score 2.0 content and score 3.0 content.	
	Score 0.5	
Score 0.0	Even with help, no success.	

How can the processes of addition and subtraction be applied to problem solving?

Score 4.0	In addition to score 3.0 performance, the student demonstrates in-depth inferences and applications that go beyond what was taught.	
	Score 3.5	In addition to score 3.0 performance, partial success at score 4.0 content.
Score 3.0	**Students will:** Solve problems using standard algorithms for addition and subtraction	
	Score 2.5	No major errors or omissions regarding score 2.0 content and partial success at score 3.0 content.
Score 2.0	**Students will:** ● Solve problems in various contexts using standard algorithms for addition and subtraction. ● Understand that addition and subtraction of numbers in problem-solving contexts is facilitated by standard algorithms. ● Understand that any number can be expressed as a sum in infinitely many ways and the difference of any two numbers can be interpreted as a sum.	
	Score 1.5	Partial success at score 2.0 content and major errors or omissions regarding score 3.0 content.
Score 1.0	With help, partial success at score 2.0 content and score 3.0 content.	
	Score 0.5	With help, partial success at score 2.0 content but not at score 3.0 content.
Score 0.0	Even with help, no success.	

How can prime factorization and exponentiation provide new perspectives of numbers?

Score 4.0	In addition to score 3.0 performance, the student demonstrates in-depth inferences and applications that go beyond what was taught.	
	Score 3.5	In addition to score 3.0 performance, partial success at score 4.0 content.
Score 3.0	**Students will:** Analyze numbers using prime factorization and exponentiation.	
	Score 2.5	No major errors or omissions regarding score 2.0 content and partial success at score 3.0 content.
Score 2.0	**Students will:** ● Understand that a product can be composed in multiple ways and different representations of a product can provide new perspectives of its divisibility ● Express the prime factorization of a composite number. ● Determine common factors for two natural numbers, using prime factorization.	
	Score 1.5	Partial success at score 2.0 content and major errors or omissions regarding score 3.0 content.
Score 1.0	With help, partial success at score 2.0 content and score 3.0 content.	
	Score 0.5	With help, partial success at score 2.0 content but not at score 3.0 content.
Score 0.0	Even with help, no success.	

How can the processes of multiplication and division be applied to decimal numbers?

Score 4.0	In addition to score 3.0 performance, the student demonstrates in-depth inferences and applications that go beyond what was taught.	
	Score 3.5	
Score 3.0	**Students will:** Apply standard algorithms to multiplication and division of decimal and natural numbers.	
	Score 2.5	
Score 2.0	**Students will:** ● Multiply and divide up to 3-digit natural or decimal numbers by 2-digit natural numbers. ● Assess the reasonableness of a product or quotient using estimation. ● Solve problems using multiplication and division, including problems involving money.	
	Score 1.5	
Score 1.0	With help, partial success at score 2.0 content and score 3.0 content.	
	Score 0.5	
Score 0.0	Even with help, no success.	

How can equal sharing contribute meaning to fractions?

Score 4.0	In addition to score 3.0 performance, the student demonstrates in-depth inferences and applications that go beyond what was taught.	
	Score 3.5	
Score 3.0	**Students will:** Relate fractions to quotients	
	Score 2.5	
Score 2.0	**Students will:** ● Understand that fractions represent quotients in equal sharing situations ● Understand all equivalent fractions equal the same quotient ● Model an equal sharing situation in more than one way	
	Score 1.5	
Score 1.0	With help, partial success at score 2.0 content and score 3.0 content.	
	Score 0.5	
Score 0.0	Even with help, no success.	

How can the addition and subtraction of fractions be generalized?

Score 4.0	In addition to score 3.0 performance, the student demonstrates in-depth inferences and applications that go beyond what was taught.	
	Score 3.5	
Score 3.0	**Students will:** Add and subtract fractions with denominators within 100	
	Score 2.5	
Score 2.0	**Students will:** ● Determine the factor that relates one denominator to another ● Express two fractions with common denominators ● Add and subtract fractions	
	Score 1.5	
Score 1.0	With help, partial success at score 2.0 content and score 3.0 content.	
	Score 0.5	
Score 0.0	Even with help, no success.	

How can an understanding of multiplication be extended to fractions?

Score 4.0	In addition to score 3.0 performance, the student demonstrates in-depth inferences and applications that go beyond what was taught.	
	Score 3.5	
Score 3.0	**Students will:** Interpret the multiplication of natural numbers by fractions	
	Score 2.5	
Score 2.0	**Students will:** ● Understand that multiplication does not always result in a larger number ● Multiply and natural number by a fraction ● Multiply a natural number by a unit fraction ● Relate multiplication by a unit fraction to division	
	Score 1.5	
Score 1.0	With help, partial success at score 2.0 content and score 3.0 content.	
	Score 0.5	
Score 0.0	Even with help, no success.	

In what ways can equivalent ratios support proportional reasoning?

Score 4.0	In addition to score 3.0 performance, the student demonstrates in-depth inferences and applications that go beyond what was taught.	
	Score 3.5	
Score 3.0	**Students will:** Apply equivalence to the interpretation of ratios and rates	
	Score 2.5	
Score 2.0	**Students will:** ● Determine whether two ratios are equivalent ● Relate percentage of a number to a proportion ● Determine a percent of a number, limited to percentages within 100%. ● Solve problems involving ratios, rates, and proportions.	
	Score 1.5	
Score 1.0	With help, partial success at score 2.0 content and score 3.0 content.	
	Score 0.5	
Score 0.0	Even with help, no success.	

“Score 4.0 indicates that a student has demonstrated learning, inferences, and in-depth understanding that go beyond the target goal; score 1.0 indicates that with help from the teacher, the student is able to demonstrate partial knowledge of the 2.0 and 3.0 content; and score 0.0 indicates that even with hope, a student is unable to demonstrate success with any of the content. The half-point score allows teachers to assign scores at a finer level of detail and can be done with the whole point scores alone. For example, if a student knows and understands the 2.0 content, but has only partial success with the 3.0 content,