

Fifth Grade Math Scales

Students will be able to explain patterns in the number of zeros of the product when multiplying a number by powers of 10.

4	Student is able to convert amongst different sized measurement units within the metric system and explain their strategies.
3	Student is able to describe the value of digits in a multidigit number (for example, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left).
2	Student is able to name the value of digits in a multidigit number beginning at the one's place and to the right.
1	Student is able to name the value of digits in a multi digit number with help.

Students will be able to fluently multiply multi-digit whole numbers using the standard algorithm.

4	Student is able to solve story problems with multiplying multi-digit numbers as the solution and share and show their strategies.
3	Student is able to multiply multi-digit numbers.
2	Student is able to multiply a multi-digit number by a one digit number.
1	Student is able to multiply a multi-digit number by a one digit number with help.

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Students will be able to relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume.

4	Student is able to find the volume of solid figures composed of two non overlapping right rectangular prisms by adding the volumes of the parts and share and show their strategies.
3	Student is able to find the volume of figures using the formula $L * W * H$.
2	Student is able to measure volume by counting unit cubes.
1	Student is able to recognize volume as an attribute of solid figures with help.

Students will be able to find whole number quotients of whole numbers with up to four digit dividends and two digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division.

4	Student is able to divide up to four digit dividends by a two digit divisor when dividing with decimals.
3	Student is able to divide up to four digit dividends by two digit divisors using the most efficient strategy.
2	Student is able to divide up to a three digit dividend by a two digit dividend.
1	Student is able to divide up to a two digit dividend by a one digit dividend with help.

Students will be able to add, subtract, multiply, and divide decimals to the hundredths, using concrete models or drawings and strategies based on place value.

4	Student is able to add, subtract, multiply, and divide decimals to the hundredths and explain the strategy they used and share and show their strategies.
3	Student is able to work with decimals to hundredths using concrete models or drawings including: <ul style="list-style-type: none"> • Adding • Subtracting • Multiplying • Dividing
2	Student is able to use 2 of the 4 operations to work with decimals to hundredths. <ul style="list-style-type: none"> • Adding • Subtracting • Multiplying • Dividing
1	Student is able to use some of the operations to work with decimals to the hundredths using concrete models or drawings with help.

Students will be able to add and subtract fractions with unlike denominators by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions.

4	Student is able to solve word problems involving fractions with unlike denominators and share and show their strategies.
3	Student is able to solve word problems involving adding and subtracting fractions with unlike denominators.
2	Student is able to add or subtract fractions with unlike denominators.
1	Student is able to add and subtract fractions with unlike denominators with help.

Students will be able to apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction.

4	Student is able to solve real-world problems involving multiplying fractions by whole numbers or fractions and can explain their strategies and share and show their strategies.
3	Student is able to multiply fractions by whole numbers and fractions to solve real world problems.
2	Student is able to multiply a fraction by a whole number or fraction.
1	Student is able to multiply fractions by whole numbers or by a fraction with help.

Students will be able to find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths. Multiply fraction side lengths to find areas.

4	Student is able to solve real world problems involving finding the area of rectangles with fractional side lengths by tiling with unit squares and share and show their strategies.
3	Student is able to find the area of rectangles with fractional side lengths by tiling with unit squares.
2	Student is able to find the area of rectangles with non- fractional side lengths.
1	Student is able to find the area of rectangles with non- fractional side lengths with help.

Students will be able to apply and extend previous understandings of division to divide unit fractions.

4	Student is able to solve real world problems involving division of fractions and share and show their strategies.
3	Student is able to divide fractions (bare number task).
2	Student is able to divide fractions using concrete models.
1	Students is able to divide fractions with help.

Students will be able to make a line plot to display a data set of measurements in fractions of a unit ($\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$).

4	Student is able to use operations to solve word problems involving line plots with data in fractions of a unit and share and show their strategies.
3	Student is able to use operations to solve problems involving line plots with data in fractions of a unit.
2	Student is able to make a line plot of measurement data in fractions of a unit.
1	Student is able to make a line plot of measurement data in fractions of a unit with help.

Students will be able to use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.

4	Student is able to solve real-world problems evaluating expressions with parentheses and brackets and share and show their strategies.
3	Student is able to evaluate expressions with parentheses, brackets, and braces.
2	Student is able to evaluate expressions with parentheses, brackets, or braces.
1	Student is able to evaluate expressions with parentheses, brackets, or braces with help.

Students will be able to write simple expressions that record calculations with numbers and interpret numerical expressions without evaluating them.

4	Student is able to generate numerical patterns including forming ordered pairs.
3	Student is able to write and describe the meaning of simple expressions.
2	Student is able to write simple expressions.
1	Student is able to write simple expressions with help.

Students will be able to represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate value of a point in context of the situation.

4	Student is able to interpret the coordinate points according to the context and share and show their strategies.
3	Student is able to graph points in the first quadrant and interpret the value of the points.
2	Student is able to graph points in the first quadrant and can describe how to find points on the plane.
1	Student is able to describe how to find points on the coordinate plane with help.

These are end of the year 5th Grade Math goals