

Sixth Grade Math Scales

Students will be able to fluently add, subtract, multiply and divide multi-digits decimals using the standard algorithm.

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| 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 using the standard algorithm for: <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 with the standard algorithm. <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 interpret and compute quotients of fractions and solve word problems involving division of fractions by fractions.

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| 4 | Student is able to demonstrate in depth inferences and applications to fractions that go beyond what was taught and apply to real world situations. |
| 3 | Student is able to solve word problems involving the division of fractions by fractions |
| 2 | Student is able to interpret quotients of fractions and use visual models to represent the problem. |
| 1 | Student is able to interpret quotients of fractions with help. |

Students will be able to understand the ordering and absolute value of rational numbers.

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| 4 | Student is able to apply knowledge of positive and negative numbers to solve real world problems. |
| 3 | Student is able to understand the ordering and absolute value of rational numbers including: <ul style="list-style-type: none"> • Interpreting statements of inequality as statements about the relative position of two numbers on a number line • Write, interpret, and explain statements of order for rational numbers • Understand the absolute value of a rational number as its distance from 0 on the number line • Distinguish comparisons of absolute value from statements about order |
| 2 | Student is able to understand the ordering and absolute value of rational numbers including 3 out of the 4 level 3 skills. |
| 1 | Student is able to understand ordering and absolute value of rational numbers including 2 out of the 4 level 3 skills with help. |

Students will be able to solve real world and mathematical problems by graphing points in all four quadrants of the coordinate plane.

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| 4 | Student is able to solve real world problems with solutions that involve graphing on a coordinate plane. |
| 3 | Student is able to solve problems by graphing in all four quadrants of the coordinate plane. |
| 2 | Student is able to graph points in 2 quadrants. |
| 1 | Student is able to graph points in the first quadrant with help. |

Students will be able to use ratio and rate reasoning to solve real-world and mathematical problems.

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| 4 | Student is able to demonstrate and apply knowledge of ratios and unit rates to real world problems. |
| 3 | Student is able to solve real world and mathematical problems using ratios and unit rates. |
| 2 | Student is able to recognize multiple equivalent representations of ratios and/or use language to describe a ratio relationship. |
| 1 | Student is able to recognize multiple equivalent representations of ratios with help. |

Students will be able to write and evaluate numerical expressions involving whole number exponents.

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| 4 | Student is able to solve real-world applications involving algebraic expressions. |
| 3 | Student is able to write and evaluate numerical expressions involving whole number exponents including: <ul style="list-style-type: none"> • Write expressions that record operations with numbers and with letters standing for numbers • Identify parts of an expression using mathematical terms and view one or more parts of an expression as a single entity • Evaluate expressions at specific values of their variables |
| 2 | Student is able to write and evaluate numerical expressions involving whole number exponents including 2 out of the 3 level 3 skills. . |
| 1 | Student is able to write and evaluate numerical expressions involving whole number exponents including 1 out of the 3 level 3 skills. |

Students will be able to apply the properties of operations to generate equivalent expressions.

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| 4 | Student is able to answer real world questions that have solutions of equivalent expressions. |
| 3 | Student is able to apply the properties of operations to create equivalent expressions and identify when two expressions are equivalent. . |
| 2 | Student is able to apply the properties of operations to create equivalent expressions with help. |
| 1 | Student is able to use addition to generate equivalent expressions with help. |

Students will be able to use variables to represent numbers and write expressions when solving a real-world problem.

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| 4 | Student is able to use variables to represent numbers and write expressions and explain their thinking. |
| 3 | Student is able to use variables to represent numbers and write expressions when solving a real-world problem including: <ul style="list-style-type: none"> • Understanding that a variable can represent an unknown number • Writing and solving expressions |
| 2 | Student is able to use variables to represent numbers and write expressions when solving a real-world problems including 1 out of the 2 level 3 skills. |
| 1 | Student is able to use variables to represent numbers and write expressions when solving real-world problem with help. |

Students will be able to solve real-world and mathematical problems by writing and solving equations of the form $x + p = q$ and $px = q$ for cases in which p , q and x are all nonnegative rational numbers, including decimals and fractions.

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| 4 | Student is able to solve real-world and mathematical problems by writing and solving equations and explain their thinking. |
| 3 | Student is able to write and solve equations. |
| 2 | Student is able to solve a given equation. |
| 1 | Student is able to solve a given equation with help. |

Students will be able to write an inequality to represent a constraint or condition in a real-world problem and represent solutions on number lines.

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| 4 | Student is able to solve real-world problems where the solution is writing and solving an equation. |
| 3 | Student is able to write an inequality to represent a constraint or condition in a real-world problem and represent solutions on number lines. |
| 2 | Student is able write an inequality to represent a constraint or condition. |
| 1 | Student is able to write an inequality to represent a constraint or condition with help. |

Students will be able to use variables to represent two quantities in a real-world problem and analyze the relationship between the dependent and independent variables using graphs and tables.

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| 4 | Student is able to apply level 3 knowledge and explain their thinking. |
| 3 | Student is able to use variables to represent two quantities in a real-world problem and analyze the relationship between the dependent and independent variables using graphs and tables. |
| 2 | Student is able to write an equation to express one quantity (dependent variable) in terms of the other quantity (independent variable) |
| 1 | Student is able to write an equation with help. |

Students will be able to find and apply the area of polygons.

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| 4 | Student is able to solve real-world problems involving finding the area of polygons and surface area of three dimensional figures.. |
| 3 | Student is able to find and apply the area of polygons and surface area of three dimensional figures. |
| 2 | Student is able to find the area of polygons by composing into rectangles or decomposing into triangles and other shapes and find the surface area of three dimensional figures using a given net. |
| 1 | Student is able to find areas of rectangles and surface area of three dimensional figures with help. |

Growing Learners, Preparing Students

Students will be able to draw polygons in a coordinate plane.

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| 4 | Student is able to draw polygons in a coordinate plane and identify distance of points as a solution to a real world problem. |
| 3 | Student is able to draw polygons in a coordinate plane and identify distance of points. |
| 2 | Student is able to draw polygons in a coordinate plane with points plotted for them. |
| 1 | Student is able to draw polygons in a coordinate plane with help. |

Students will be able to find the volume of a right rectangular prism.

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| 4 | Student is able to solve real-world problems involving finding the volume of a right rectangular prism. |
| 3 | Student is able to apply the formulas $V=lwh$ and $V=Bh$ to find the volume of a right rectangular prism with fractional edge lengths. |
| 2 | Student is able to find the volume of a right rectangular prism by packing it with unit cubes of the appropriate fractional edge lengths. |
| 1 | Student is able to find the volume of a right triangle with whole number edge lengths with help. |

Students will be able to understand and apply mean, median, mode, range and standard deviation.

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| 4 | Student is able to answer real world statistical questions using mean, median, mode, and range. |
| 3 | Student is able to use standard deviation to answer statistical questions including using <ul style="list-style-type: none"> • Mean • Median • Mode • Range |
| 2 | Student is able to use 2 out of the 4 level 3 strategies. |
| 1 | Student is able to use some of the level 3 strategies with help. |

Students will be able to display and analyze data in a variety of distributions.

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| 4 | Student is able to analyze data to answer a variety of real world problems. |
| 3 | Student is able to display and analyze data in a variety of distributions. |
| 2 | Student is able to display data in a variety of distributions. |
| 1 | Student is able to display data in a few distributions with help. |

These are the end of the year 6th Grade Math Scales