

Integrating Technology Into the Grade 4 Math Curriculum

Strand: Number Sense

Understanding	Questions	Possible Technology Product/Outcome
Mathematical terminology and symbols are used in precise ways.	<ul style="list-style-type: none"> • Why is it important to use precise mathematical vocabulary and symbols? • How does mathematical terminology relate to common English words? • How does the use of different symbols or terminology change the meaning or result of our work? 	
All numbers have a distinct position on the real number line.	<ul style="list-style-type: none"> • What is the relationship between the position of a number on the number line and the value of the number? • How can we use a number line to solve problems? 	<ul style="list-style-type: none"> • Use <i>Mighty Math Calculating Crew, Nautical Number Line</i>, to identify and estimate location of fractions on a number line. • Use <i>Decimal Switch</i>: http://www.interactivestuff.org/sums4fun/switch.html to order decimals on the number line.

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<p>There are equivalent forms for any real number.</p>	<ul style="list-style-type: none"> • When is one form of a number more useful than another form? • How are the different forms of numbers connected? 	<ul style="list-style-type: none"> • Using <i>Inspiration</i> or <i>Kidspiration</i> to create an equivalent fraction diagram. • Use <i>Math Workshop</i>, <i>Bowling For Numbers</i> and <i>Rhythm Shop</i>, to explore fractional relationships. • Use <i>Mighty Math Number Heroes</i>, <i>Fraction Fireworks</i>, to convert decimals to fractions and find equivalent fractions.
<p>The results of an operation depend on the types of numbers involved.</p>	<ul style="list-style-type: none"> • How does identifying the types of numbers involved in an operation assist in determining the reasonableness of the result? 	<ul style="list-style-type: none"> • Use <i>Project Sphinx</i> as a whole class demonstration. • Create a slide show to demonstrate the steps for multiplication or division of numbers. • Use <i>Mighty Math Number Heroes</i>, <i>Fraction Fireworks</i> and <i>Mighty Math Calculating Crew</i>, <i>Nautical Number Line</i> and <i>Superhero Superstore</i>, to add, subtract, and multiply whole numbers and decimals.

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<p>Estimation is a logical, useful tool.</p>	<ul style="list-style-type: none">• How can estimation be used to determine the reasonableness of an answer?• When is estimation the best strategy?• How does rounding impact a result?	<ul style="list-style-type: none">• Use <i>Project Sphinx</i> as a whole class demonstration.• Use <i>Mighty Math Calculating Crew, Nautical Number Lines</i>, to round whole numbers and decimals up and down.
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Strand: Algebra (Patterns & Functions)

Many patterns exist in mathematics.	<ul style="list-style-type: none">• What are number patterns and why are they useful?• How can we find number or picture patterns?• Where do patterns exist in the physical world?	<ul style="list-style-type: none">• Use <i>Mighty Math Number Heroes</i>, <i>GeoComputer</i>, to create geometric art.
Relations and functions are used to describe physical relationships in the real world.	<ul style="list-style-type: none">• How do we represent functions through graphic representations?	<ul style="list-style-type: none">• Use <i>TERC Sunken Ships and Grids</i> to practice use of ordered pairs to plot points on a coordinate grid.

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Strand: Geometry and Measurement

<p>Mathematical terminology and symbols for geometry and measurement are used in precise ways.</p>	<ul style="list-style-type: none"> • Why is it important to use precise mathematical vocabulary and symbols? • How does mathematical terminology relate to common English words? 	<ul style="list-style-type: none"> • Use <i>Mighty Math Number Heroes</i>, <i>GeoComputer</i>, to identify and create congruent shapes.
<p>Different types of measurements are required depending on the situation or objects involved.</p>	<ul style="list-style-type: none"> • How do we use different types of measurements? 	<ul style="list-style-type: none"> • Use <i>TimeLiner</i> to create a timeline comparing customary and metric units.
<p>Perimeter and area are distinct concepts that require different units of measure and appropriate labels.</p>	<ul style="list-style-type: none"> • How do we appropriately label perimeter and area? • What are the connections between perimeter and area? 	<ul style="list-style-type: none"> • Use <i>Geo-Logo Turtle Paths</i> to create a polygon and calculate the perimeter.
<p>Different transformations can be applied to plane figures.</p>	<ul style="list-style-type: none"> • What are the effects of transformations on plane figures? 	<ul style="list-style-type: none"> • Use <i>Mighty Math Number Heroes</i>, <i>GeoComputer</i>, to identify and create transformations of shapes.

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Strand: Data, Statistics and Probability

<p>There are a variety of ways to represent, model, and analyze data and to predict future events.</p>	<ul style="list-style-type: none">• How can we use data to interpret events in the physical world and in our society?	<ul style="list-style-type: none">• Use <i>The Graph Club</i> to determine and create the appropriate graph or table to display sets of data.• Use <i>The Graph Club</i> to create and interpret tally charts and line plots.• Use <i>Mighty Math Number Heroes, Probability</i>, to analyze possible events and express their probabilities.
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Use the following websites to enhance the student learning:

Math Goodies: <http://www.mathgoodies.com>

Math Problem Of The Week: <http://www.mathforum.org/pow/>

Math Cats: <http://www.mathcats.com/contents.html>

Fun Brain: <http://www.funbrain.com/>

Plane Math: <http://www.planemath.com/activities/pmactivities4.html>

Math In Daily Life: <http://www.learner.org/exhibits/dailymath/>

Internet 4 Classrooms: http://www.internet4classrooms.com/skills_4th.htm