

Integrating Technology Into the Grade 5 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 or decimals on a 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"> • Use <i>Inspiration</i> to create an equivalent fraction diagram. • Use <i>Math Workshop, Bowling For Numbers</i> and <i>Rhythm Shop</i>, to explore fractional relationships. • Use <i>Mighty Math Number Heroes, 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>Lights, Camera, Fractions</i> as a whole class demonstration. • Use <i>Mighty Math Number Heroes, Fraction Fireworks</i> and <i>Mighty Math Calculating Crew, Nautical Number Line</i> and <i>Superhero Superstore</i>, to add, subtract, and multiply whole numbers, fractions, and decimals.
<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>Lights, Camera, Fractions</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)

<p>Many patterns exist in mathematics.</p>	<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>Quizzo</i>, to complete patterns and analogies.
<p>Equations are fundamental tools for modeling situations.</p>	<ul style="list-style-type: none"> • How do we use equations to model situations? • How do we express solutions? 	
<p>Relations and functions are used to describe physical relationships in the real world.</p>	<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. • Join Journey North's Mystery Class Project, http://www.learner.org/jnorth/, to analyze and represent real situations and mathematical relations.

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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 Calculating Crew, Dr. Gee's 3D Lab</i>, to identify and classify 2D and 3D figures. • Use <i>Mighty Math Number Heroes, Quizzo</i>, to identify shapes by their properties.
<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>Mighty Math Number Heroes, GeoComputer</i>, to identify and create shapes that are congruent and shapes with given angles.
<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>Mighty Math Number Heroes, GeoComputer</i>, to create shapes with a given area or 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>Math WorkShop, Puzzle Patterns</i>, to perform transformations. • Use a paint program to create a shape to tessellate.

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Strand: Data, Statistics and Probability

There are a variety of ways to represent, model, and analyze data and to predict future events.	<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 a spreadsheet software program to chart and graph data.• 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 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/>