

## Technology Competencies 2008-2009

### Grade 4/Math

#### ISTE Standards

1. Creativity and Innovation
2. Communication and Collaboration
3. Research and Information Fluency
4. Critical Thinking, Problem Solving and Decision Making
5. Digital Citizenship
6. Technology Operations and Concepts

<i>AKS/Math/4</i>	<i>ISTE Standards</i>	<i>Suggested Activity</i>
<p>build new mathematical knowledge through problem solving (GPS) (4MA_A2007-2)</p> <p>communicate mathematical thinking coherently to peers, teachers and others (GPS) (4MA_A2007-11)</p>	<ol style="list-style-type: none"> <li>1. Creativity and Innovation</li> <li>2. Communication and collaboration</li> <li>4. Critical Thinking, Problem Solving and Decision Making</li> <li>5. Digital Citizenship</li> <li>6. Technology Operations and Concepts</li> </ol>	<p>Work with your LSTC to make the Think Blocks link available to all student workstations in a computer lab. Use projector to preview as whole class first to demonstrate how the game works. Then have students work independently or in pairs to demonstrate their ability to communicate their mathematical thinking.</p> <p><a href="http://www.mathplayground.com/thinkingblocks.html">http://www.mathplayground.com/thinkingblocks.html</a></p>
<p>use whole numbers to divide in problem solving situations (with and without calculators) (GPS) (4MA_B2007-27)</p>	<ol style="list-style-type: none"> <li>4. Critical Thinking, Problem Solving and Decision Making</li> <li>5. Digital Citizenship</li> <li>6. Technology Operations and Concepts</li> </ol>	<p>Work with your LSTC to make the Math Hoops game available to all student workstations in a computer lab. Use projector to preview as whole class first to demonstrate how the game works.</p> <p><a href="http://www.mathplayground.com/mathhoops_Z1.html">http://www.mathplayground.com/mathhoops_Z1.html</a></p>
<p>use addition, subtraction, multiplication and division facts with understanding and fluency (GPS) (4MA_B2007-28)</p>	<ol style="list-style-type: none"> <li>4. Critical Thinking, Problem Solving and Decision Making</li> <li>5. Digital Citizenship</li> <li>6. Technology Operations and Concepts</li> </ol>	<p>Work with your LSTC to make the Magic Mania game on Sheppard Software available to all student workstations in a computer lab. Use projector to preview as whole class first to demonstrate how the game works.</p> <p><a href="http://www.sheppardsoftware.com/math.htm">http://www.sheppardsoftware.com/math.htm</a></p>
<p>investigate and represent patterns and functions to describe relationships and solve problems (GPS) (4MA_E2007-61)</p>	<ol style="list-style-type: none"> <li>4. Critical Thinking, Problem Solving and Decision Making</li> <li>5. Digital Citizenship</li> <li>6. Technology Operations and Concepts</li> </ol>	<p>Work with your LSTC to make the Algebraic Reasoning game available to all student workstations in a computer lab. Use projector to preview as whole class first to demonstrate how the game works</p> <p><a href="http://www.mathplayground.com/algebraic_reasoning.html">http://www.mathplayground.com/algebraic_reasoning.html</a></p>
<p>locate a point in the first quadrant in the coordinate plane and name the ordered pair (GPS) (4MA_C2007-56)</p>	<ol style="list-style-type: none"> <li>4. Critical Thinking, Problem Solving and Decision Making</li> <li>5. Digital Citizenship</li> <li>6. Technology Operations and Concepts</li> </ol>	<p>Work with your LSTC to make the Locate the Alien game available to all student workstations in a computer lab. Use projector to preview as whole class first to demonstrate how the game works</p> <p><a href="http://www.mathplayground.com/locate_aliens.html">http://www.mathplayground.com/locate_aliens.html</a></p>

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compute using the order of operations, including parentheses (GPS) (4MA_B2007-44)	4. Critical Thinking, Problem Solving and Decision Making 5. Digital Citizenship 6. Technology Operations and Concepts	Work with your LSTC to make the Bracket Basics game available to all student workstations in a computer lab. Use projector to preview as whole class first to demonstrate how the game works  <a href="http://www.sums.co.uk/playground/c5a/playground.htm">http://www.sums.co.uk/playground/c5a/playground.htm</a>
round decimal fractions to the nearest whole number (GPS) (4MA_B2007-24)	4. Critical Thinking, Problem Solving and Decision Making 5. Digital Citizenship 6. Technology Operations and Concepts	Work with your LSTC to make the Laser Beam game available to all student workstations in a computer lab. Use projector to preview as whole class first to demonstrate how the game works  <a href="http://www.decimalsquares.com/dsGames/games/laserbeam.html">http://www.decimalsquares.com/dsGames/games/laserbeam.html</a>
use addition, subtraction, multiplication and division facts with understanding and fluency (GPS) (4MA_B2007-28)	4. Critical Thinking, Problem Solving and Decision Making 5. Digital Citizenship 6. Technology Operations and Concepts	Use the Advanced Mahjong and Advanced Math Madness to improve fact fluency  <a href="http://www.sheppardsoftware.com/math.htm">http://www.sheppardsoftware.com/math.htm</a>
model decimal fractions as part of the base-ten system (GPS) (4MA_B2007-32)	4. Critical Thinking, Problem Solving and Decision Making 5. Digital Citizenship 6. Technology Operations and Concepts	Work with your LSTC to make the Beat the Clock game available to all student workstations in a computer lab. Use projector to preview as whole class first to demonstrate how the game works  <a href="http://www.decimalsquares.com/dsGames/games/beatclock.html">http://www.decimalsquares.com/dsGames/games/beatclock.html</a>
read, write, compare and order two-digit decimal fractions and understand their relative size (GPS) (4MA_B2007-33)	4. Critical Thinking, Problem Solving and Decision Making 5. Digital Citizenship 6. Technology Operations and Concepts	Work with your LSTC to make the Concentration game available to all student workstations in a computer lab. Use projector to preview as whole class first to demonstrate how the game works  <a href="http://www.decimalsquares.com/dsGames/games/concentration.html">http://www.decimalsquares.com/dsGames/games/concentration.html</a>

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add and subtract one- and two- digit decimal fractions (GPS) (4MA_B2007-34)	<ol style="list-style-type: none"> <li>4. Critical Thinking, Problem Solving and Decision Making</li> <li>5. Digital Citizenship</li> <li>6. Technology Operations and Concepts</li> </ol>	<p>Work with your LSTC to make the Blackjack game available to all student workstations in a computer lab. Use projector to preview as whole class first to demonstrate how the game works</p> <p><a href="http://www.decimalsquares.com/dsGames/games/blackjack.html">http://www.decimalsquares.com/dsGames/games/blackjack.html</a></p>
add and subtract fractions and mixed numbers with common denominators through twelve (GPS) (4MA_B2007-39)	<ol style="list-style-type: none"> <li>4. Critical Thinking, Problem Solving and Decision Making</li> <li>5. Digital Citizenship</li> <li>6. Technology Operations and Concepts</li> </ol>	<p>Work with your LSTC to make the Fraction game available to all student workstations in a computer lab. Use projector to preview as whole class first to demonstrate how the game works</p> <p><a href="http://www.iknowthat.com/com/L3?Area=FractionGame">http://www.iknowthat.com/com/L3?Area=FractionGame</a></p>
convert and use mixed numbers and improper fractions interchangeably (GPS) (4MA_B2007-40)	<ol style="list-style-type: none"> <li>4. Critical Thinking, Problem Solving and Decision Making</li> <li>5. Digital Citizenship</li> <li>6. Technology Operations and Concepts</li> </ol>	<p>Work with your LSTC to make the Ice Cream game and the Pizza game available to all student workstations in a computer lab. Use projector to preview as whole class first to demonstrate how the game works</p> <p><a href="http://www.mrnussbaum.com/icecream/index.html">http://www.mrnussbaum.com/icecream/index.html</a>  <a href="http://www.mrnussbaum.com/tonyfraction.htm">http://www.mrnussbaum.com/tonyfraction.htm</a></p>
<p>identify, examine and classify quadrilaterals (including parallelograms, squares, rectangles, trapezoids and rhombi) (GPS) (4MA_C2007-50)</p> <p>identify and describe parallel and perpendicular lines and planes in a rectangular prism (GPS) (4MA_C2007-53)</p>	<ol style="list-style-type: none"> <li>1. Creativity and Innovation</li> <li>4. Critical Thinking, Problem Solving and Decision Making</li> <li>5. Digital Citizenship</li> <li>6. Technology Operations and Concepts</li> </ol>	<p>Work with your LSTC to make the flipbook template available to all student work stations. Have students use the drawing toolbar to construct the appropriate shapes on each page.</p> <p>Have students use the Math Library in Kidspiration to create a web of different geometric shapes.</p> <p>After using the drawing tools to create the basic shapes, students may add clip art examples of the shapes to the cover page of the flip book.</p> <p><i>(Microsoft Word Template: 4MA_Geometry_Flip.doc)</i></p>

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use tools, such as a protractor or angle ruler and other methods, such as paper folding or drawing a diagonal in a square, to measure angles (GPS) (4MA_D2007-59)	<ol style="list-style-type: none"> <li>4. Critical Thinking, Problem Solving and Decision Making</li> <li>5. Digital Citizenship</li> <li>6. Technology Operations and Concepts</li> </ol>	<p>Work with your LSTC to make the sites available to all student workstations in a computer lab. Use the website below to introduce the instruction on angles and then have students use the site for practice.</p> <p><a href="http://www.amblesideprimary.com/ambleweb/mentalmaths/protractor.html">http://www.amblesideprimary.com/ambleweb/mentalmaths/protractor.html</a></p> <p>Use the banana hunt game to extend students' understanding of using a protractor.</p> <p><a href="http://www.oswego.org/ocsd-web/games/bananahunt/bhunt.html">http://www.oswego.org/ocsd-web/games/bananahunt/bhunt.html</a></p>
represent and interpret mathematical relationships in quantitative expressions (GPS) (4MA_E2007-62)	<ol style="list-style-type: none"> <li>4. Critical Thinking, Problem Solving and Decision Making</li> <li>5. Digital Citizenship</li> <li>6. Technology Operations and Concepts</li> </ol>	<p>Work with your LSTC to make the "I know That" site available to all student workstations in a computer lab. Use projector to preview as whole class first to demonstrate how the game works</p> <p><a href="http://www.iknowthat.com/com/L3?Area=WordProblems">http://www.iknowthat.com/com/L3?Area=WordProblems</a></p>