



Numeracy through ICT

L White; H Crosbie

Program	Description	Suggested Application as a Teaching/Learning Tool
<p>Interactive Games http://resources.oswego.org/games/</p>	<p>This website is a database full of interactive numeracy games.</p>	<p>The topics covered in this resource are:</p> <ul style="list-style-type: none"> • Addition • Subtraction • Multiplication • Division • Fractions • Decimals, • Sequencing • Mathematical reasoning
<p>Visual Fractions Game http://www.visualfractions.com/Games.htm</p>	<p>Teachers can design their own fractions with the Fraction Maker Page. In this section they can produce either number line or circle fraction images. Students can play online games where they gain a greater understanding of the topic fractions.</p>	<p>This resource focuses mainly on fractions</p>
<p>Whiteboards Secondary Maths http://www.bgfl.org/bgfl/15.cfm?s=15&p=245,index</p> <p>Division Bingo http://www.bgfl.org/bgfl/custom/resources_ftp/client ftp/ks2/maths/bingo/index.html</p> <p>Sequencing http://www.bgfl.org/bgfl/custom/resources_ftp/client ftp/ks3/maths/match_seq/3.htm</p> <p>Percentages http://www.bgfl.org/bgfl/custom/resources_ftp/client ftp/ks2/maths/percentages/index.htm</p>	<p>This website is a data base full of topic specific online maths activities.</p> <p><i>Division Bingo</i> Students must cover all the numbers on their Bingo card with counters. Students gain counters by correctly answering multiplication and division questions.</p> <p><i>Sequencing</i> Students must build using match-sticks following the sequence.</p> <p><i>Percentages</i> Students are given sequential items to purchase Eg. Shoes, hats, clothes etc. They must then work out the percentage discount from the original item.</p>	<p>The following topics are covered in this resource:</p> <ul style="list-style-type: none"> • Division • Formulas for area and volume • Sequencing • Percentages • 2D and 3D Shapes



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<p>Shapes http://www.bgfl.org/bgfl/custom/resources_fftp/ks2/maths/3d/index.htm</p>	<p><i>Shapes</i> Students are shown various 2D and 3D shapes and how to calculate the area and perimeter.</p>	
<p>Illuminations</p> <p>Algebra Tiles http://illuminations.nctm.org/ActivityDetail.aspx?ID=216</p> <p>Fractal Tool http://illuminations.nctm.org/ActivityDetail.aspx?ID=17</p> <p>Geometric Solids http://illuminations.nctm.org/ActivityDetail.aspx?ID=70</p> <p>Interactive Calculus Tool http://illuminations.nctm.org/ActivityDetail.aspx?ID=221</p>	<p>Illuminations is a data base full of year specific online maths activities.</p> <p><i>Algebra Tiles</i> Students learn how to solve algebra equations.</p> <p><i>Fractal Tool</i> Students explore self-similarity and patterns in fractal measurements.</p> <p><i>Geometric Solids</i> Students can learn about various geometric solids and their properties. They can manipulate and colour each shape to explore the number of faces, edges, and vertices.</p> <p><i>Interactive Calculus Tool</i> Students learn calculus concepts in an interactive environment. They explore graphs of polynomial functions. Approximate tangent lines, derivative curves, and areas.</p>	<p>This resources covers the following topics:</p> <ul style="list-style-type: none"> • Algebra • Fractal measurements/patterns • Geometric Solids • Calculus
<p>Inter-activate http://www.shodor.org/interactivate/</p> <p>Arithmetic http://www.shodor.org/interactivate/activities/ArithmeticFour/</p>	<p>Inter-activate is an online resource for mathematics and science. It is comprised of online interactive activities, lessons, and discussions.</p> <p>Arithmetic Students play a generalised version of 'connect four', gaining the chance to place a piece on the board by answering maths questions (addition, subtraction, multiplication, division). Parameters: time, difficulty level, types of questions.</p>	<p>The activities in this resource relate to the following topics:</p> <ul style="list-style-type: none"> • Arithmetic • Comparison Estimator • Fractions and Decimals • Probability



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<p>Comparison Estimator http://www.shodor.org/interactivate/activities/ComparisonEstimator/</p> <p>Fractions and Decimals http://www.shodor.org/interactivate/activities/Converter/</p> <p>Probability http://www.shodor.org/interactivate/activities/Coin/</p>	<p><i>Comparison Estimator</i> Compare two sets of objects, using estimation to determine which is greater. Estimate a number of objects, the length of a line, or the area of a shape. Parameter: error tolerance.</p> <p><i>Fractions and Decimals</i> Observe the relationships between fractions and decimals.</p> <p><i>Probability</i> Involves the simulation of a coin toss allowing the user to input the number of flips. Toss results can be viewed as a list of individual outcomes, ratios, or table.</p>	
<p>Wolfram MathWorld http://mathworld.wolfram.com/</p>	<p>Mathworld is a mathematical resource that provides the most extensive service to the world's mathematics and internet communities as part of a commitment to education and educational outreach.</p> <p>MathWorld features innovative interactive elements that enhance its usability in the classroom.</p>	<p>These features include:</p> <ul style="list-style-type: none"> • Over 300 defined mathematical terms • downloadable Mathematica notebooks • Interactive three-dimensional geometry • Extensive online information and activities separated by topic
<p>Hotmath http://hotmath.com/games.html</p> <p>Number Cop http://hotmath.com/hotmath_help/games/numbercop/numbercop_hotmath.swf</p> <p>Catch The Fly http://hotmath.com/hotmath_help/games/ctf/ctf_hotmath.swf</p>	<p><i>Hotmath</i> is an interactive online games site that allows students to attempt mathematical problems in a fun and enjoyable way.</p> <p><i>Number Cop</i> In this game students must choose a base number, and then move their car to pick up the multiples of their base number.</p> <p><i>Catch The Fly</i> Plotting X, and Y coordinates on a number plane.</p>	<p>The following topics are covered:</p> <ul style="list-style-type: none"> • Division/Multiplication • Number Planes • Algebra



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<p>Algebra vs. the Cockroaches http://hotmath.com/hotmath_help/games/kp/kp_hotmath_sound.swf</p>	<p><i>Algebra vs. the Cockroaches</i> Find the equation of the line in slope-intercept form.</p>	
<p>Math-Play http://www.math-play.com/</p> <p><i>Coordinate Plane Game</i> http://www.math-play.com/coordinate-plane-game.html</p> <p><i>Rational and Irrational Numbers</i> http://www.math-play.com/rational-and-irrational-numbers-game/rational-and-irrational-numbers-game.html</p> <p><i>Pythagorean Theorem Jeopardy</i> http://www.math-play.com/Pythagorean-Theorem-Jeopardy/Pythagorean-Theorem-Jeopardy.html</p> <p><i>Adding Integers Game</i> http://www.math-play.com/adding-integers-game/adding-integers-game.html</p> <p><i>Solving Two-step Equations</i> http://www.math-play.com/Two-Step-Equations-Game.html</p> <p><i>Solving Systems of Equations</i> http://www.math-play.com/System-of--Equations-Game.html</p>	<p>Math-Play has a range of online interactive games categorised by year and topic:</p> <p><i>Coordinate Plane Game</i> This basketball game has different multiple choice questions about the quadrants and the two axes.</p> <p><i>Rational and Irrational Numbers</i> Classify rational and irrational numbers when playing this fast-paced and fun game</p> <p><i>Pythagorean Theorem Jeopardy</i> Find the unknown leg or the hypotenuse in a right triangle and check to see if three numbers could be the sides of a right triangle</p> <p><i>Adding Integers Game</i> Identify whether different sums are positive, negative, or zero by dragging different problems into the correct basket in less than 2 minutes.</p> <p><i>Solving Two-step Equations</i> Basketball game about solving two-step equations.</p> <p><i>Solving Systems of Equations</i> Basketball game while solving systems of equations and earning points.</p>	<p>The following topics are covered:</p> <ul style="list-style-type: none"> • <i>Coordinate Plan</i> • <i>Rational and Irrational Numbers</i> • <i>Pythagorean Theorem</i> • <i>Adding Integers</i> • <i>Two-step Equations</i> • <i>Exponents and powers</i>



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<p><i>Exponents Jeopardy</i> http://www.math-play.com/Exponents-Jeopardy/Exponents-Jeopardy.html</p>	<p><i>Exponents Jeopardy</i> Review basic facts about exponents and powers</p>	
<p>Cool Math4Kids http://www.coolmath4kids.com/fractions/index.html</p> <p>Equations http://www.coolmath-games.com/0-math-man/index.html</p> <p>Fraction Splat http://www.coolmath-games.com/</p>	<p>Cool Math4Kids is a colourful and interactive student centred online learning site. Each topic begins with an instructions page introducing the topic, followed by activities and games. Below is an example of some of the online games:</p> <p><i>Math Man</i> Use the math man to move around the board eating ghosts that correspond to your particular equation.</p> <p><i>Fraction Splat</i> Students must click on the correct fraction type to make it splat on the walls, as they do this they accrue points.</p>	<p>The following topics are cover in this resource:</p> <ul style="list-style-type: none"> • Fractions • Equations
<p>Fun Brain http://www.funbrain.com/brain/MathBrain/MathBrain.html</p>	<p>Fun Brain is an arcade styled literacy and numeracy online games site. In Math Arcade students must complete certain math related games to move their player further around the board.</p>	<p>The following topics are cover in this resource:</p> <ul style="list-style-type: none"> • Addition • Multiplication • Division • Subtraction
<p>Math Playground http://www.mathplayground.com/games.html</p> <p>Scale Factor X http://www.mathplayground.com/ScaleFactorX2/GameLoader.html</p> <p>Weigh the Wangdoodles http://www.mathplayground.com/wangdoodles.html</p>	<p>Math Playground is an online numeracy based games site. This site caters for students from upper primary to through to high school.</p> <p><i>Scale Factor X</i> In this game students must alter ratios, proportions, and scale factors to undo damage done by aliens.</p> <p><i>Weigh the Wangdoodles</i> Your job is to find the weight of each Wangdoodle using the information provided by the scales. To be successful, you will have to make sure that the weight you assign to each Wangdoodle works on each scale. This activity is an introduction to multiple algebraic equations</p>	<p>Topics cover in this resource are:</p> <ul style="list-style-type: none"> • Ratios • Algebra • Area and perimeter • Decimals • Fractions • Percentages



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<p>Decention http://www.mathplayground.com/Decention/Decention.html</p> <p>Area and Perimeter http://www.mathplayground.com/PartyDesigner/PartyDesigner.html</p>	<p><i>Decention</i> In this game students must match fractions, decimals and percentages together into groups for the intergalactic space games.</p> <p><i>Area and Perimeter</i> It's a party and students are in charge of designing the floor plan. They must click and drag the corners of the coloured squares to create room sections that have the correct area and perimeter.</p>	
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