Using the Lens of the Visual Arts and Children's Literature to Explore PreK-2 Mathematics

Robin A. Ward, Ph.D.
Clinical Assistant Professor of Mathematics
Rice University School Mathematics Project
http://rusmp.rice.edu

7 Elements of Art
• Line
• Shape (2D)
• Form (3D)
• Space (perspective)
• Color
• Value
• Texture

Jackson Pollock
Number 6 (1949)
Number 8 (1949)
Number 11 (1952)

Jackson Pollock (Getting to Know the World’s Greatest Artists Series) by Mike Venezia
Action Jackson by Jan Greenberg and Sandra Johnson
Art by Patrick McDonnell
Ish by Peter Reynolds

Roy Lichtenstein
Explosion (1965-66)
Mustard on White (1963)
Girl with Hair Ribbon (1965)
Sunrise (1965)
Interior with Skyline (n.d.)
Cubist Still Life with Playing Cards (1974)

Roy Lichtenstein (Getting to Know the World’s Greatest Artists Series) by Mike Venezia
The Dot by Peter Reynolds
Lines by Phillip Yenawine
Follow the Line by Laura Ljungkvist
When a Line Bends…A Shape Begins by Rhonda Gowler Greene

Georges Seurat
Sunday Afternoon on the Island of La Grande Jatte (1884-86)
The Side Show (1888)
Young Woman Powdering Herself (1893)

Georges Seurat (Getting to Know the World’s Greatest Artists Series) by Mike Venezia
Katie’s Sunday Afternoon by James Mayhew
A Million Dots by Andrew Clements

Paul Signac
The Bonaventure Tree (1893)

Henri Matisse
Woman in a Purple Coat (1937)
The Family of the Artist (1911)
La Fougere Noire (1948)
La Gerbe (1953)
The Snail (1953)
Henri Matisse (Getting to Know the World’s Greatest Artists Series) by Mike Venezia
Henri Matisse: Drawing with Scissors (Smart About Art Series) by K. Johnson & J. O’Connor
Matisse: The King of Color by Laurence Anholt
Pattern Fish AND Pattern Bugs by Trudy Harris
Lots and Lots of Zebra Stripes by Stephen Swinburne
Spirals, Curves, Fanshapes & Lines by Tana Hoban
When Pigasso Met Mootisse by Nina Laden

The Snail
Spirals in Nature
   http://xahlee.org/SpecialPlaneCurves_dir/Spiral_dir/spiral.html

Andy Warhol
Campbell Soup I (1968)
Ice Cream Dessert (1959)

Andy Warhol (Getting to Know the World’s Greatest Artists Series) by Mike Venezia
Uncle Andy’s by James Warhola
Cubes, Cones, Cylinders, & Spheres by Tana Hoban
Mummy Math: An Adventure in Geometry by Cindy Neuschwander

Piet Mondrian
Composition with Red, Yellow, and Blue (1921)
Composition with Large Blue Plane, Red, Black, Yellow, and Gray (1921)

Two Short, Two Long: A Book about Rectangles by Christianne Jones
City Shapes Series by Jennifer Burke
Mondrian by Jose Maria Faerna

Hans Arp
Squares Arranged According to the Laws of Chance (1917)
Collage with Squares Arranged According to the Laws of Chance (1916-17)

Probably Pistachio by Stuart Murphy
A Very Improbable Story by Edward Einhorn
Same Old Horse by Stuart Murphy
If You Give a Moose a Muffin by Laura Numeroff

Other Good Books
I Spy Shapes in Art, I Spy Two Eyes: Numbers in Art, AND I Spy Colors in Art by Lucy Micklethwait
Museum Shapes AND Museum 1 2 3 by The Metropolitan Museum of Art
Shapes AND Colors by Philip Yenawine
The ABCs of Art (Baby Einstein) by Julie Aigner-Clark
Math-terpieces: The Art of Problem-Solving by Greg Tang
Literature-Based Activities for Integrating Mathematics with Other Content Areas (Grades K-2, Grades 3-5, Grades 6-8) by Robin Ward

NOTE: I will have a new book published in the fall of 2010 by Bright Sky Press, tentatively entitled, Math Goggles: Teaching Kids to See the Magic of Math in Modern Art, which will be a compilation of math-visual arts activities. Keep your eye out for it!