Put on Your Math Goggles:
Seeing Mathematics in the Visual Arts (Grades 3-5)

Robin A. Ward, Ph.D.
Clinical Assistant Professor of Mathematics
Rice University School Mathematics Project
rward@rice.edu  robinanneward@gmail.com

Books by Robin A. Ward
Math + Art = Fun: Activities for Discovering Mathematical Magic in Modern Art
Numeracy and Literacy: Teaching K-8 Mathematics Using Children’s Literature
Literature-Based Activities for Integrating Mathematics with Other Content Areas (K-2)
Literature-Based Activities for Integrating Mathematics with Other Content Areas (3-5)
Literature-Based Activities for Integrating Mathematics with Other Content Areas (6-8)

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

Wassily Kandinsky
Composition VIII (1923)
Several Circles (1926)
Wassily Kandinsky (The Life and Work of…Series) by Paul Flux
Wassily Kandinsky by Ulrike Becks-Malorny

Paul Klee
New Harmony (1936)
Farbtafel (1930)
Paul Klee (Getting to Know the World’s Greatest Artists Series) by Mike Venezia
Paul Klee (Adventures in Art Series) by Prestel Publishing

Wayne Thiebaud
Pies, Pies, Pies (1961)
Jolly Cones (2002)
Cakes (1963)
Three Machines (1963)
Seven Suckers (1970)
What Is Round? by Rebecca Dotlich
Counting with Wayne Thiebaud by Susan Goldman Rubin
Delicious: The Life & Art of Wayne Thiebaud by Susan Goldman Rubin
The Donut Chef by Bob Staake
The Missing Piece by Shel Silverstein
You Tube video: Wayne Thiebaud - CBS Sunday Morning:
https://www.youtube.com/watch?v=vI_QJ5D9Qm8
Alexander Calder

Untitled (1938)
Boomerangs (1941)
The Crab (1962)
Totem (n.d.)

Archimedes' Law of Levers: \( W_L \times D_L = W_R \times D_R \)

Alexander Calder (The Life and Work of…Series) by Adam Schaefer
Sandy’s Circus (A Story about Alexander Calder) by Tanya Lee Stone
The Man Who Walked Between the Towers by Mordicai Gerstein

Jasper Johns

Flag (Moratorium) (1969)
Map (1961)
Figure 8 (1959)
Figure 7 (1969)
Figure 9 (1969)
0 Through 9 (1960)
Figure 1 (1969)
Numbers in Color (1958-59)

Big Numbers: And Pictures That Show Just How Big They Are! by Edward Packard
Little Numbers: And Pictures That Show Just How Little They Are! by Edward Packard
The Day Anthony Counted to a Googol by Mark North
Jasper Johns (Adventures in Art Series) by Prestel

Other Useful Resources

Museum Shapes and Museum 1 2 3 by The Metropolitan Museum of Art
I Spy…Books by Lucy Micklethwait
Math + Art = Fun: Activities for Discovering Mathematical Magic in Modern Art by Robin Ward

Keep your math goggles on!