

SAM Collections: STEAM Tours

School Tours

BOOKS FOR STUDENTS

Art Is . . . The Elements of Art and Principles of Design for Children by Kubit, Glenna. Glenview, IL: Crystal Productions, 2013. N 7440 K83

Presents for children the elements of art and principles of design in a format that is easily understood.

The Art of Urban Sketching: Drawing on Location Around the World by Campanario, Gabriel. Beverly, MA: Quarry Books, 2012. NC 825 C57 C36 2012

Over five hundred city and town illustrations drawn on location from artists from around the world, includes tips on drawing urban environments with various perspectives.

How Artists Use Shape by Flux, Paul. Oxford: Heinemann Library, 2001. N 8217 G44 F58

Shows how artists from prehistoric people to Moore, Modigliani, and Picasso have used shape in their work.

An Introduction to Perspective by Smith, Ray. New York: Dorling Kindersley in association with the Royal Academy of Arts; Boston: Distributed by Houghton Mifflin, 1995. NC 750 S65

Teaches you everything you need to know about using this fundamental concept in your work.

Math at the Museum by Kim, Yun-ju and Group. Majongmul. Los Angeles, CA: TanTan Publishing; 2015. QA 19 M35

Elementary math concepts that relate to perspective, composition, symmetry, and other principles turn a stroll through the art museum into an eye-opening adventure.

Perspective Without Pain by Metzger, Philip W. Cincinnati, OH: North Light Books, 1992. NC 750 M48

Offers a simple and practical approach to perspective.

Picture This: How Pictures Work by Bang, Molly. Boston: Little, Brown and Company, 2000. NC 960 B29

Introduction to the concepts of art including color, shape, and composition using the classic fairy tale "Little Red Riding Hood."

Renaissance: Invention of Perspective by Canta, Lillo. New York: Chelsea House, 1995. N 6370 C36

Illustrates how Renaissance artists use perspective.

RESOURCES FOR EDUCATORS

Books & Educator Guides

100 Essential Things You Didn't Know You Didn't Know About Math and the Arts by Barrow, John D. London: The Bodley Head, 2014. NX 180 M33 B37 2014

Outlines 100 thought-provoking and often whimsical intersections between math and many arts.

Art Is Fundamental: Teaching the Elements and Principles of Art in Elementary School by Prince, Eileen S. Chicago: Zephyr Press, 2008. N 362 P74

A comprehensive art curriculum that can be integrated into any teacher's existing instruction.

Engaging the Adolescent Mind Through Visual Problem Solving by Vieth, Ken. Worcester, MA: Davis Publications, 2005. N 350 V54

This resource for secondary teachers includes more than thirty art studio experiences.

From STEM to STEAM: Using Brain-Compatible Strategies to Integrate the Arts by Sousa, David A. and Pilecki, Thomas. Thousand Oak, CA: Corwin, 2013. LB 1591 S67

Includes teacher-tested techniques for fitting the arts into STEM classrooms, as well as sample lesson plans across K-12.

Math Art: Projects and Activities by Brunetto, Carolyn Ford. New York: Scholastic Professional Books, 1997. QA 135.5 B7

Reproducible activities and handouts designed to teach math concepts through art projects.

Math + Art = Fun: Activities for Discovering Mathematical Magic in Modern Art by Ward, Robin A. Houston, TX: Bright Sky Press, 2011. QA 19 A78 W3

Creative activities that introduce children to modern art masters by exploring math concepts.

Object Lessons: Teaching Math through the Visual Arts, K-5 by Holtzman, Caren and Susholtz, Lynn. Portland, ME: Stenhouse Publishers, 2011. QA 19 A78 H6

Authors use everyday objects to create rigorous, hands-on activities that address key mathematics standards and concepts.

Shapes in Art: 2-D Shapes by Wall, Julia. Huntington Beach, CA: Teacher Created Materials, 2008. QA 445.5 W35
Discusses how to find two-dimensional shapes and lines of symmetry in art, such as sculpture, mosaics, architecture, and stained glass, with photographs, illustrations, and instructions for making works of art with paper and straws.

STEAM Point: A Guide to Integrating Science, Technology, Engineering, the Arts, and Mathematics through Common Core by Riley, Susan M. Westminster, MD: EducationCloset, 2012. LB 1591 S6
A guide for leveraging STEAM to close the achievement gap for all students.

STEAM Kids: 50+ Science, Technology, Engineering, Art, and Math Hands-On Projects for Kids by Carey, Anne. North Charleston, SC: Left Brain Craft Brain, 2016. Q 164 C37 QA 19 A78 H6
50+ ways to have fun with STEAM, perfect for ages 4 to 10.

Media (CDs/Videos/Posters)

Composition, Realism by Dwyer, Ruth. Glenview, IL: Crystal Productions, 2006. VIDEO ND 1142 D89 Vol. 2
Explains how certain effects can be achieved by arranging lines and shapes. For grades 3-8. 20 min. DVD format.

Getting to Know Shape and Form in Art: An Instructional Program for Grades K-4. Getting To Know, Inc., 2006. VIDEO N 362 G47
Covers basic information about shape and form in art for early elementary students. Topics include: geometric and organic shapes, shape and form in the world around us, shape in painting, form in sculpture, shape and pattern, negative and positive shapes, and shape as a tool for drawing. ca. 24 min. DVD format.

Outreach Activities

Elements of Art Outreach Suitcase. Seattle: Seattle Art Museum, 2013.
www.seattleartmuseum.org/programs-and-learning/schools-and-educators/teacher-resource-center/suitcases
The Elements of Art Outreach Suitcase is a resource for investigating how the elements of art are applied to the creation and understanding of visual art. Drawn from the SAM's collection and featuring many Pacific Northwest artists, a wide range of media and cultures demonstrates the individual elements of art. The suitcase includes artists' color and value tools, a ceramic plate and vase, native carving, texture and 2-D and 3-D shape items, and prints of supporting images.

Online Resources

Collections by the Seattle Art Museum.
www.seattleartmuseum.org/collections
Learn more about the works of art in SAM's collections.

Geometric Design in Islamic Art by the Metropolitan Museum of Art.
www.metmuseum.org/learn/educators/lesson-plans/geometric-design-in-islamic-art
Lesson plan for middle and high school students on geometric design and symmetry.

Mathematics Lesson Plans by the Philadelphia Museum of Art.
www.philamuseum.org/teacherresources?lppID=1&lpsID=
Rich resource of educator lessons combining art and Common Core Mathematics Standards.

New Angles on Art by the National Gallery of Art.
www.nga.gov/content/ngaweb/education/teachers/lessons-activities/new-angles.html
Three mathematics- and geometry-based lessons for middle and high school students.

Ready, Set, Draw! by the National Building Museum.
www.nbm.org/assets/pdfs/youth-education/macaulay_perspective_activity.pdf
Short activity introducing one-point perspective.

STEM to STEAM by the STEM to STEAM Initiative.
<http://stemtosteam.org>
Website for the group out of the Rhode Island School of Design that works to promote the arts in science, technology, engineering, and math education.