

Science and Math for Everyone!

Exploring Science and Math Concepts Through Storytimes

Materials Mentioned

Flower Garden by Eve Bunting
Sheep in a Jeep by Nancy Shaw
Napping House by Audrey Wood
Swimmy by Leo Lionni
Little Red Hen
Three Little Pigs
Jesse Bear, What Will You Wear? by Nancy Carlstrom
Do You Know Which Ones Will Grow? by Susan Shea
Doorbell Rang by Pat Hutchins
Freight Train by Donald Crews
There Was a Tree by Rachel Isadora
Dance Away by George Shannon
We're Going on a Bear Hunt by Michael Rosen
Itsy Bitsy Spider by Lorianne Siomades

Llama, Llama Red Pajama by Anna Dewdney
Pete the Cat by Eric Litwin
Blue Sea by Robert Kalan
Goodnight Moon by Margaret Wise Brown
Pond Walk by Nancy Wallace
What's Up Duck? A Book of Opposites by Tad Hills
Frogs! by Elizabeth Carney (National Geographic Kids)
Elephants Trumpet by Pam Scheunemann
Busy Buzzy Bee by Karen Wallace (DK)
My Giant Tractor by Chip Lovitt (Reader's Digest)
How Do Cuts and Bruises Heal? by Gary Frick (Garth Stevens Publishing, My Body Does Strange Stuff series)

Storytime ideas and handouts at Storytime Share: www.earlylit.net/storytimeshare

Resource Books

Anderson, Sally. *How Many Ways Can You Make Five? A Parent's Guide to Exploring Math with Children's Books*. (VT Center for the Book) Lewisville, NC: Gryphon House, 2012.
 Anderson, Sally. *Where Does My Shadow Sleep? A Parent's Guide to Exploring Science with Children's Books*. (VT Center for the Book) Gryphon House, 2012.
 Ashbrook, Peggy. *Science Is Simple: Over 250 Activities for Preschoolers*. Silver Spring, MD: Gryphon House, 2003.
 Brooks, Jacqueline. *Big Science for Growing Minds: Constructivist Classrooms for Young Thinkers*. NY: Teachers College Press, 2011.
 Brownell, Jeanine. *Big Ideas of Early Mathematics: What Teachers of Young Children Need to Know*. Boston: Pearson Education, Inc., 2014 (The Early Math Collaborative, Erickson Institute)
 Chalufour, Ingrid and Karen Worth. *Building Structures with Young Children*. St. Paul, MN: Redleaf Press, 2004. (also separate trainer's guide)
 Daly, Lisa and Miriam Beloglovsky. *Loose Parts: Inspiring Play in Young Children*. St. Paul, MN: Redleaf, 2010.
 DeVries, Rheta and Christina Sales. *Ramps & Pathways: A Constructivists Approach to Physics with Young Children*. Washington, DC: NAEYC, 2011.
 Doudna, Kelly. *Kid's Book of Simple Everyday Science*. Minneapolis, MN: Scarletta Kids, 2013.
Exploring Math & Science in Preschool. Washington, DC: NAEYC, 2015.
 Falk, John and Kristi Rosenberg. *Bite-Sized Science: Activities for Children in 15 Minutes or Less*. Chicago Review Press, 1999.
 Gelman, Rochel et al. *Preschool Pathways to Science: Facilitating Scientific Ways of Thinking, Talking, Doing and Understanding*. Paul Brookes, 2010.
 Ghoting, Saroj and Pamela Martin-Diaz. *Storytimes for Everyone: Developing Young Children's Language and Literacy*. ALA, 2013.
 Hauser, Jill. *Science Play!* Williamson Books, 1998.
 Hirsch, Elisabeth, ed. *The Block Book* 3rd ed. Washington, DC: NAEYC, 1996.
 Lawrence, Ellen. *Fundamental Experiments: Sound*. NY: Bearport, 2014 (others in series: Light, Water, Motion)

Maryland State Department of Education. *Healthy Beginnings: Supporting Development and Learning from Birth Through Three Years of Age: Every Baby, Every Child*.
<http://olms.cte.jhu.edu/olms2/data/ck/sites/3910/files/HealthyBeginnings2015.pdf> (Cognitive Development helps you see the progression for scientific and mathematical thinking)

Neuman, Susan and Kathleen Roskos. *Nurturing Knowledge: Building a Foundation for School Success by Linking Early Literacy to Math, Science, Art and Social Studies*. Scholastic, 2007.

Pollman, Mary Jo. *Blocks and Beyond: Strengthening Early Math and Science Skills Through Spatial Learning*. Paul Brookes, 2010.

Prince, Lisa, Anne van Kleeck, and Carl Huberty. Talk During Book Sharing Between Parents and Preschool Children: A Comparison Between Storybook and Expository Book Conditions. *Reading Research Quarterly* 44(2) 2009 pp.171-194. dx.doi.org/10.1598/RRQ.44.2.4

Promoting the Development of Scientific Thinking by Ruth Wilson Earlychildhood NEWS
http://www.earlychildhoodnews.com/earlychildhood/article_print.aspx?ArticleId=409

Rosales, Allen. *Mathematizing: An Emergent Math Curriculum Approach for Young Children*. St. Paul, MN: Redleaf Press, 2015.

Spotlight on Young Children (journal) Exploring Science. NAEYC, 2013.

Stone-MacDonald, Angi et al. *Engaging Young Engineers: Teaching Problem-Solving Skills Through STEM*. Baltimore, MD: Paul H. Brookes, 2015.

Van Cleave, Janice. *Play and Find Out About Science: Easy Experiments for Young Children*. John Wiley, 1996

Van Cleave, Janice. *Play and Find Out About Math: Easy Activities for Young Children*. John Wiley, 1998.

Wilburne, Jane et al. *Cowboys Count, Monkeys Measure and Princesses Problem Solve: Building Early Math Skills Through Storybooks*. Paul Brookes, 2011.

Williams, Robert et al. *Preschool Scientist: Using Learning Centers to Discover and Explore Science*. Silver Spring, MD: Gryphon House, 2010.

Worth, Karen and Sharon Grollman. *Worms, Shadows, and Whirlpools: Science in the Early Childhood Classroom*. Portsmouth, NH: Heinemann, 2003.

Websites

All Things STEAM: <http://showmelibrarian.blogspot.com/p/all-things-steam.html>

Parenting Science: Parenting for the Science-Minded: <http://www.parentingscience.com/>

Reading is Fundamental has some STEM activities/connections for specific books:
<http://www.rif.org/us/literacy-resources/multicultural/2012-multicultural-booklist.htm#activity>

Wilsonville (OR) Public Library Preschool Stories & Science:
<http://www.wilsonvillelibrary.org/Index.aspx?page=244>

Early Childhood News: Promoting the Development of Scientific Thinking
http://www.earlychildhoodnews.com/earlychildhood/article_view.aspx?ArticleId=409

Erikson Math Collaborative Big Ideas <http://earlymath.erikson.edu/big-ideas/>

Idaho Commission for Libraries STEM Resources: <http://libraries.idaho.gov/STEM-Resources>

Intentional Storytimes: <https://intentionalstorytime.wordpress.com/hands-on-science/fun-with-math/>
<https://intentionalstorytime.wordpress.com/hands-on-science/fun-with-science/>
<https://intentionalstorytime.wordpress.com/hands-on-science/fun-with-science-2014/>

Nature Explore www.natureexplore.org

Math at Home includes videoclips on different aspects of math concepts and processes
<http://www.mathathome.org/KnowledgeModules/Vocabulary/KnowledgeModuleVocabulary.php>

Simply STEM program ideas: <http://simplystem.wikispaces.com/Preschool+Programs>

Math at Play Resources: http://www.mathatplay.org/resources_gta.html

Make Room for Blocks: <http://illinoisearlylearning.org/tipsheets/blocks.htm>

Science display ideas (adaptable from school-age):
<http://riskingfailure.blogspot.com/2013/09/simple-science-displays.html>

Science/Math Activities, mostly school-age, starts age 4, searchable by age group
<http://www.howtosmile.org>