

K-6 Family Science & Math Activity Resources

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Science Activity Guides

- Animal Defenses* (GEMS) (Activities for teaching predator-prey interactions and defenses of dinosaurs and animals that live today) **Grades Pre-2**
- Astronomy: for Every Kid* by Janice VanCleave (101 easy experiments that really work) **Grades 2-8**
- Birds, Birds, Birds* by NWF, Ranger Rick, NatureScope (25 indoor and outdoor activities that covers migrations patterns, habitats, eggs, family life, feathers and more.) **Grades K-6**
- Bubble-ology Teachers Guide* (GEMS) (Light and color, aerodynamics, chemical composition and surface tension.) **Grades K-6**
- Building Big Activity Guide* by David MaCaulay (Fun engineering activities for building structures.) Website: pbs.org/buildingbig; Tel: 1-800-949-8670 **Grades 3-8**
- Crime Lab Chemistry Teacher's Guide* by (GEMS*) (Great chromatography activities) **Grades 4-8**
- Discovering Density* (GEMS) (Contains five 50-minute sessions for teaching about the densities of liquids in everyday life. Includes layering unknown solutions, salt solutions, mixing secret formulas, and testing predictions.) **Grades 6-10**
- Electricity* by Janice VanCleave (Experiments and activities) **Grades 2-8**
- Exploring Energy with Toys* by Beverley Taylor (Complete lessons) **Grades 4-8**
- Family Science (1999) by David Heil et al.**
(Hands-on activities that help children tinker, test ideas and talk about science)
- Fingerprinting* (GEMS*) (Lessons on observing, classifying, drawing conclusions, and making inferences about fingerprints. Students make their own fingerprints, classify fingerprints, and solve a "crime.") **Grades 4-8**
- Geology Rocks* by Cindy Blobaum. (50 Hands-on activities to explore the earth.) **Grades 2-8**
- Hands-On Earth Science Activities* by Marvin N. Tolman (Thinking and reasoning skills along with basic earth science concepts and facts) **Grades K-8**
- Hands-On Nature* by Jenepher Lingelbach (Information and activities for exploring the environment with children) **Grades K-6**
- Involving Dissolving* (GEMS) Students observe dissolving to figure out where the substance went. Other activities focus on evaporation and crystallization. **Grades 1-3**
- Lake Effects: The Lake Superior Guide* by the Lake Superior Center (Background information and activities about Lake Superior) **Grades K-12**
- Learning to Read Rocks* (Fun earth science activities) **Grades K-12**
- Liquid Explorations* (GEMS) (Contains five classes that provide rich experiences in physical science for students as they observe and experiment with various liquids and develop skills in observing, describing, comparing, classifying, recording, and drawing conclusions.) **Grades 1-3**
- Magnets* by Janice Van Cleve (Experiments and activities) **Grades 2-12**
- Microscopic Explorations* (GEMS) (Students discover the power of microscopes as a tool of inquiry. Lessons for examining fingerprints, fabrics, salts, different types of sand, kitchen powders, small creatures, and pond life.) **Grades 4-8**
- Mr. Wizard's Supermarket Science* by Roy McKie (Experiments using everyday items) **Grades K-8**
- Physics: For Every Kid* by Janice VanCleave (101 easy experiments in motion, heat, light, machines, and sound) **Grades 2-8**
- Project Learning Tree* (Activity guide to learn about plants & forests) **Grades Pre-8**
- Project WET (Water Education for Teachers)* (Activities to teach about all aspects of water through science, math, language arts, art, & music) **Grades K-10**
- Project WILD* by the Western Regional Environmental Education Council **Grades K-12**

(Activities on wildlife appreciation, diversity, ecology, and conservation)	
<u>Project WILD—Aquatic</u> by the Western Regional Environmental Education Council (Curriculum/activity guide that teaches about wildlife & water)	Grades K-12
<u>175 Science Experiments to Amuse and Amaze Your Friends</u> (Collection of experiments that can be done in any household; good step-by-step instructions)	Grades K-8
<u>Science Explorer</u> from the San Francisco Exploratorium (Science experiments for students and families to do at home)	Grades K-8
<u>Science Magic for Kids</u> by William Wellnitz (68 Simple and safe experiments)	Grades K-5
<u>Sharing Nature With Children</u> by Joseph Cornell (Parents' and Teachers' Nature Awareness Guidebook)	Grades K-12
<u>Sharing the Joy of Nature</u> by Joseph Cornell (Introduces the idea of "flow learning" with great outdoor activities and games.)	Grades K-12
<u>Sifting Through Science</u> (GEMS) (Activities for examining substances, floating/sinking, magnetism, filtering, separating mixtures, recycling, and dissolving.)	Grades K-2
<u>Stories in Stone</u> (GEMS) (Examines properties and classification of minerals and rocks, shapes of crystals, and formation of sedimentary, igneous, and metamorphic rocks.)	Grades 4-9
<u>Teaching Chemistry with Toys</u> by Sarquis, Sarquis & Williams (Collection of activities using and creating everyday toys)	Grades K-9
<u>Teaching Physics with Toys</u> by Taylor, Poth & Portman (Collection of activities using and creating everyday toys)	Grades K-9
<u>Water Precious Water</u> by AIMS Activities (Collection of elementary water activities)	Grades 2-6
<u>WOW! The Wonders of Wetlands</u> (Activities to teach about all aspects of wetlands through science, math, language arts, art, and music)	Grades K-10

*GEMS = Great Explorations in Math and Science by Lawrence Hall of Science at University of California-Berkeley

Math Activity Guides

<u>Activity Math: Using Manipulatives in the Classroom</u> by Ann Bloomer and Phyllis Carlson (Ideas for using manipulatives in teaching math.)	Grades 1-12
<u>Clever Kids</u> by Scholastic (Entertaining hands-on activities for young children, helps build learning, use and enjoyment of numerical skills.)	Grades K-2
<u>Cosmic Classroom: Stars, Planets and Satellites</u> by Space Center Houston (Games and Activities designed to introduce students to astronomy based science.)	Grades 3-5
<u>Family Math</u> (1986) by Jean Kerr Stenmark, Virginia Thompson, Ruth Cossey. Full of activities to introduce parent and their children to activities that help to improve math skills. Website: www.lhs.berkeley.edu/equals	Grade K-6
<u>Great Graphing</u> by Martin Lee and Marcia Miller (Over 60 activities for collecting, displaying and using data.)	Grades 1-4
<u>Group Solutions</u> by LHS GEMS (Teachers guide of cooperative logic activities.	Grades K-4
<u>Math Around The World</u> by Braxton, Gonsalves, Lipnes and Barber [LHS GEMS] (A collection of 8 games from 4 continents)	Grades 5-8
<u>Schoolyard Ecology</u> by GEMS (Teacher guide that combines science and math skills for use in the school yard.)	Grade 3-6
<u>Tangramables</u> by Judi Martschinke (Activities that can be used by children of many different ability levels to explore patterns and properties of shape.)	Grades K-6
<u>Treasure Boxes Teacher's Guide</u> by Jaine Kopp with Kimi Hosoume [LHS GEMS] (Exercises use collections of small items in a sequence that builds one upon the other.)	Grades K-3