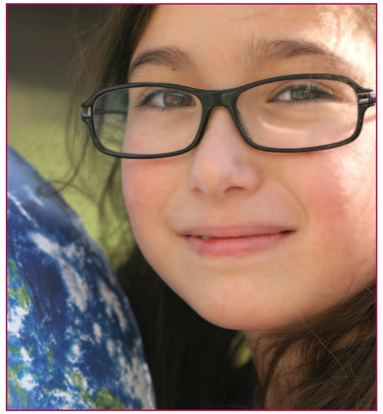

helping your child learn science

NoChild LeftBehind
U.S. Department of Education

The knowledge-based workplace of the 21st century requires that our students excel at the highest levels in math and science.
—President George W. Bush

Children ask their parents hundreds of questions such as "Why is the sky blue?" and "What makes sound possible?" Curiosity is natural for children, but they need help making sense of what they see and relating observations to their existing knowledge. Parents can help their children turn curiosity into an understanding of science by encouraging their children to ask questions, make predictions, and explore in a safe environment. This support helps children become successful students and scientific thinkers.

Today's children are growing up in an increasingly technological society that requires far more advanced instruction in science and technology than their parents received. The good news is that parents do not have to be scientists or have college degrees to help their children learn science. It is far more important for parents to nurture their children's natural curiosity and take time to observe and learn together.

All parents want their children to be successful. The *No Child Left Behind Act*, the national effort to improve education, recognizes that it is vital for children to master the core academic subjects like science if they are to perform to the highest standards of achievement. This brochure is based on the *Helping Your Child* series of publications for parents and families, which is designed to provide parents with the latest research and practical information to help them support their children and ensure their children's success in school and in life.



activity

Children learn by doing. They try new ideas and challenge old ones. But learning does not just happen in school. You can help your child learn by providing him or her with safe, interesting learning experiences in a supportive atmosphere. Below is an example of such an activity.

Float or sink? (kindergarten–first grade)

Learning to make and test predictions is a good first step toward formulating and testing hypotheses.

What you need:

- Block of solid wood,
- Plastic bottle cap,
- Two pieces of heavy-duty aluminum foil, and
- Sink filled with water.

What to do:

- Tell your child to hold the wooden block in one hand and the plastic cap in the other hand. Ask him or her to answer the following questions:
  - Which item feels heavier?
  - Do you think the wooden block will float or sink? How about the plastic cap?
- Have your child test his or her predictions by placing the wooden block and cap on the water. What happens? Next, have your child hold both items under water and gently release them. What happens now?
- Give your child a piece of aluminum foil. Tell your child to squeeze it into a ball and drop it in the water. Does it float or sink? Give your child another piece of foil. Help him or her shape it into a boat. Have your child carefully place it on top of the water. Does the foil float now?

The foil ball sinks because it is squeezed into a small shape and only a small amount of water is trying to hold up its weight. When the foil is spread out, it floats because the weight is supported by a lot more water.

tips for working with teachers and schools

- **Visit your child's school.** During your visit, look for clues as to whether the school values science. Do you see science learning centers or displays? Are there plants, aquariums, or collections (of rocks or insects, for example) in the classrooms?
- **Find out about the school's science curriculum.** Ask for a school handbook. If none is available, meet with the school's principal and ask questions such as the following: What methods and materials does the school use for science instruction? Are the science teachers highly qualified? Are activities available that parents may use at home to support instruction?
- **Meet with your child's teacher.** Schedule an appointment and ask how your child approaches science. Does he or she understand assignments and do them accurately? If the teacher indicates that your child has problems with science, ask for specific things that you can do to help your child improve.
- **Find out if the school has a Web site and, if so, get the address.** School Web sites can provide you with access to all kinds of information, including homework assignments, class schedules, lesson plans, and test dates.
- **Get actively involved.** Attend parent-teacher meetings. If you are unable to attend, ask school staff to mail you notes from the meetings. You also may request that school staff post minutes and other handouts from the meetings on the school's Web site. If your schedule permits, volunteer to help with the science program.



resources

This brochure was drawn from the larger booklet in the *Helping Your Child* series, "Helping Your Child Learn Science." The booklet provides parents of children ages three through 10 with information and activities to help their children develop an interest in the sciences. For more information on how you can help your child learn science—in addition to a wide range of other topics—visit the *Helping Your Child* series Web site at www.ed.gov/parents/academic/help/hyc.html.

For more information on how you can help your child learn science, take a look at the following resources from the U.S. Department of Education and other organizations:

U.S. Department of Education: www.ed.gov or 1-800-USA-LEARN

The Parents Portal: www.ed.gov/parents/landing.jhtml

Federal Resources for Educational Excellence (FREE): www.ed.gov/free/index.html

Parental Information and Resource Centers: www.ed.gov/programs/pirc/index.html

American Competitiveness Initiative: www.ed.gov/about/inits/ed/competitiveness

National Science Foundation: www.nsf.gov

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