

Kid's Corner

Make a Tornado in a Bottle!

Wind speeds in a tornado can reach 300 mph and can cause great damage to homes and property. Making a tornado in a bottle will help you study its funnel shape and twisting motion without the real life danger!

Step 1: Ask your parents to help you collect the following household items for this activity:

- 2-liter plastic soda bottle and cap, with the brand label removed.
- Dishwashing liquid
- Water
- Marbles or other small objects

Step 2: Fill the soda bottle with water.

Step 3: Add 3 or 4 drops of dishwashing liquid to the water.

Step 4: Place a few objects in the bottle and replace the cap.



Step 5: Hold the bottle sideways with a hand on each end. Begin to swirl the liquid by moving the bottle in a circular motion.

Step 6: Keep the liquid swirling as you turn the bottle upside down. To form the tornado, keep the cap end of the bottle steady while you continue to swirl the liquid in the large end.

* This learning project was adapted from the American Red Cross "Masters of Disasters" classroom curriculum.



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FLASH is a non-profit, 501(C)3 charitable organization dedicated to disaster safety education.

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Dedicated, toll-free, home safety hotline
(877) 221-SAFE



Thinking about building, remodeling or restoring a home? You need a blueprint — a **Blueprint for Safety**SM

Strengthening homes with innovative, storm resistant designs and new building materials is a growing trend in Florida and now the process is made easier with FLASH, Inc.'s Blueprint for Safety program.

Blueprint for Safety is a landmark educational program that provides Florida's residential builders and homeowners with the most comprehensive disaster safety information available today.

The program offers recommendations and examples of "code plus" construction guidelines for protecting both new and existing homes against flooding, wildfire and high winds from hurricanes and tornadoes.

Complete with an interactive Web site, a consumer guide and contractor's field manual, this valuable program provides accurate, current and reliable techniques and information about how to build, remodel or restore homes using disaster-resistant techniques, technologies and products.

The Blueprint for Safety program was developed through a unique technical advisory committee made up of builders, engineers, architects and safety experts. The program represents a groundbreaking partnership between the public, private and non-profit sectors, including the Florida Alliance for Safe Homes – FLASH, Inc., Florida Department of Community Affairs' Division of Emergency Management, and the Florida Home Builders Association.

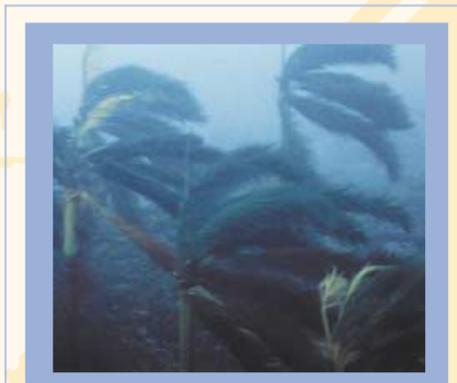
Blueprint for Safety materials and technical advice for homeowners and homebuilders are available on CD-ROM, on the Web at www.blueprintforsafety.org, via e-mail at flash@flash.org or by calling the FLASH toll-free help desk at (877) 221-SAFE.

Blueprint for Safety clearly illustrates that residential construction can be built safer and more disaster resistant using conventional methods and materials that still keep homes affordable.

Whether you're building a home from the ground up or you're planning to renovate an existing home —

THE BLUEPRINT FOR SAFETY PROGRAM HAS THE TOOLS TO HELP YOU MAKE YOUR HOME AS SAFE AS IT CAN BE.

WIND



Wind forces are the most common source of damage to residential construction and can sometimes result in total destruction of the home. Wind behavior and force are influenced by geographic location, variations in landscape features, building size and design.

Because the behavior of the wind is unpredictable, it can produce a condition known as gusting. Gusting is the sudden change in wind velocity or speed and can include a reversal or change in direction.

Tornadoes represent the most extreme and violent type of wind produced by nature; sometimes reaching speeds up to 300 miles per hour. Buildings are not typically designed for such conditions, but are designed according to building codes to handle wind speeds in the range of 90 to 150 mph, depending on geographic location. Why does so much damage and destruction happen to homes during a windstorm? As wind moves past, around and over a building the entire structure is simultaneously subjected to pressures and suction on all surfaces.

That's why connections between the roof, wall, floor and foundation are critical in maintaining the integrity of the entire structure from the ground up. These connections help resist wind forces from tropical storms, hurricanes and other high wind events. Structures with improperly connected floor-to-foundations systems can lift or slide off the

foundation, resulting in extensive damage or total destruction of the home.

Blueprint for Safety WIND recommendations

- Protect all windows, doors, and gable end vents with tested and approved coverings such as plywood or roll-down shutters in the event of a hurricane or tornado.
- Reinforce your home's roof, wall and foundation connections with hurricane straps and clips.
- Use a secondary water barrier and impact-resistant roof coverings when installing a new roof or when re-roofing.
- Reinforce the underside of the roof with construction adhesive or spray on structural foam if a new roof is years away.

FLOOD



Flooding is the nation's most costly natural disaster — with more than \$4 billion in damages annually during the 1990s. Florida is especially vulnerable to flooding because of its 1,350 miles of coastline, countless rivers and abundant floodplain areas. There is widespread public awareness of the flood threat in Florida — Floridians now hold more than 40 percent of all flood insurance policies in the United States.

The best way to combat a flood disaster is during the planning stage of new construction. Blueprint for Safety recommends an evaluation and inspection of the lot prior to construction to determine

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the flood zone and the Base Flood Elevation (BFE). BFE refers to the elevation associated with the "100-year flood," or a flood with a 1% chance of occurrence in any given year. The "100-year flood" patterns form the basis for the National Flood Insurance Program (NFIP) flood insurance rates and regulatory floodplain management.

Blueprint for Safety FLOOD recommendations

- Avoid costly damage by consulting a Flood Insurance Rate Map to determine risks before you build a new home. Contact local building officials for help in determining Base Flood Elevation.
- Consider raising the existing structure so the lowest floor is above flood level if your home is in a designated flood zone.
- Consider "flood proofing," levees and floodwalls as other flood prevention techniques.

WILDFIRE



America's population has nearly tripled during the past century with much of the growth flowing into undeveloped natural areas. Cities have grown to suburbs and suburbs have stretched into what was once rural America. This expanding development creates an extremely complex landscape where wildfires have become an increasing concern.

Thoughtful planning, including landscaping and building practices, can dramatically reduce the threat of wildfires to families and homes in Florida. Communities designed using the "Firewise" techniques included in the Blueprint for Safety program can preserve not just houses, but homes, a cherished lifestyle and natural settings for wildlife and recreation.

Blueprint for Safety WILDFIRE recommendations

- Maintain a dependable water source.
- Build with fire-resistant building materials.
- Create a defensible space around your home by removing firewood and trimming back trees and brush within 30 feet of the residence.
- Landscape using only fire-resistant plants such as fern, dogwood or oak.

Are Americans in the Dark About Disaster Prevention?

A recent survey commissioned by the Federal Emergency Management Agency's (FEMA) Project Impact finds that the majority of Americans are aware that disasters threaten their communities, but most underestimate their ability to reduce disaster-related damages.

Survey Results for the Southern United States:

- While 89% of residents said they are at risk for a natural disaster such as a hurricane;
- Only 52% of residents believe there are steps they can take to protect their homes from a natural disaster.

The Project Impact study was conducted by Opinion Research Corporation International and included a random sample of 687 homeowners between March 8-11, 2001. The margin of error is +/-4%.

For more information and a copy of the report, contact Cynthia Ramsay Taylor, at (202) 646-4117.