

## HOMEOWNER TIP

Electrical problems are one of the most common sources of house fires every year. To keep your home and electrical system safe:

- Have all work done by a licensed electrician.
- Install AFCI and GFCI devices, if your home doesn't have them.
- Test AFCI and GFCI devices monthly.
- If your home is more than 20 years old, have all circuitry tested.
- Test your smoke and CO detectors monthly.

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## WHOSE FAULT IS IT ANYWAY??

The term Ground Fault Circuit Interrupter (GFCI) is likely familiar to you. But did you know that a GFCI is a device that, when properly installed, provides you and your family with enhanced protection against electrical shock? And now, there is a new phrase to get familiar with: Arc Fault Circuit Interrupter (AFCI).

According to the National Fire Protection Agency (NFPA), every year there are about 40,000 house fires accounting for more than \$500 million in property damage attributable to electrical system malfunctions. Three hundred or more deaths and nearly 2,000 injuries result from these fires in a typical year. AFCI devices are designed to reduce those statistics.

So, whose fault is it, REALLY? Here is a bit of a primer on "fault" protection: why it matters, what to look for, and what to expect. And why does the "I" matter so much?

Essentially, a fault in an electrical system allows current to flow someplace where it should not.

A GROUND FAULT provides an opportunity for current to flow from its source (the electrical circuits in your home, for example) to "ground" which, in most cases, is the shortest path to good old mother earth. Putting your hand in a sink full of water while holding your hair dryer is one good way to create a GROUND FAULT. Another would be to stand in a puddle of water in your garage while operating an electric drill. Fortunately, thanks to GFCI devices, when a GROUND FAULT is detected by the device it trips the circuit breaker (or clears the fault) almost instantaneously, within a few thousandths of a second, so the GROUND FAULT CIRCUIT (GFC) through your body is INTERRUPTED (GFCI). Because the device is so quick to

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react, you survive. While GROUND FAULTS are not often the cause of a fire they have been responsible for many deaths and injuries. The “I” is the act of interruption, that’s the life saving step.

GFCI devices have been required by the National Electrical Code (NEC) for many years. Gradually, the requirements have expanded. In 1973, for all new construction, most outdoor outlets required GFCI protection. In 1978, bathroom outlets were added. In 1978 garage outlets, in 1987 kitchen outlets and in 1990 all outlets in crawl spaces and unfinished basements. While the NEC only requires GFCI device installation in new construction, if any of these areas of your home are substantially renovated, most local codes would require upgrading the electrical circuits to include GFCI protection.

GFCI devices come primarily in two forms, one which is part of the outlet (or receptacle) and the other which is a replacement for the circuit breaker in the main electrical distribution panel (sometimes called a load center). Those of the former type include test and reset buttons on the outlet itself. For the latter type, the test button is on the breaker, in the panel. These devices should be tested monthly.

The cause of many electrical fires is a different kind of FAULT, an ARC FAULT. Essentially, an ARC FAULT is current flowing between two conductors (individual wires carrying electrical current). Most household circuits have either two or three conductors in one cable serving each circuit. An ARC FAULT may also occur when there is a loose connection at an individual electrical device such as a switch. When an ARC FAULT occurs, the conductors and devices in the vicinity will heat up, sometimes to very high temperatures, causing any adjacent combustible material to ignite, leading to a fire.

An Arc Fault Circuit Interrupter is quick to respond. The ARC FAULT CIRCUIT (AFC) is INTERRUPTED (AFCI). The overheating does not occur and a fire is prevented. Again, the “I” is the important step, to prevent fires and save lives.

Vermont, recognizing the value of AFCI protection, took action in 2001 and required AFCI protection in ALL living areas, in new construction. The NEC first required the installation of AFCI devices in 2002, in bedrooms, in new construction. You can expect the NEC to expand AFCI coverage requirements in the near future.

AFCI devices are primarily at the main electrical panel (load center) as a circuit breaker. Outlets protected by AFCI devices should be so labeled, in the living space in which they are located.

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## FENG SHUI – *Is it science or superstition?*

GFCI and AFCI devices help make our homes safer electrically. If you have an older home that predates any of the GFCI or AFCI installation requirements, we recommend that you install these devices. While it is not required by code for an older home, these are proven devices that save lives and property. If you already have a grounded electrical system (typically characterized by three prong outlets), the installation of these devices is relatively straightforward.

There is a caution for an older home, however. If the other outlets throughout your house are two prong devices (these accept only plugs with two prongs, not the more contemporary ones with a third, cylindrical, grounding prong) you probably have a wiring system using only two conductor cable; some folks will refer to it as an ungrounded system. Without the third wire in the cable (for the third prong, which is a ground) most GFCI and AFCI devices will not function properly when installed on that type of circuit. To function properly, a new cable (two conductor, with ground) will need to be installed from your main electrical distribution panel (load center) to the location of the device. Thus, the installation process becomes more complicated and expensive.

All installations of GFCI and AFCI devices should be performed by a licensed electrician and their proper operation should be demonstrated when the installation is complete.

So, in the end, it's not really anyone's fault. But, faults in an electrical system are dangerous and there are some devices that will minimize that danger. Those devices, when properly installed, are a good investment for your home.

Feng Shui, or "wind water," is believed to be the process of maximizing the flow of energy to achieve harmony between people, structures and nature. It has been an important part of many Eastern cultures for centuries. However, after the Communist take over of Mainland China in the 1940s, Feng Shui was branded as a superstition, at least in that country.

In recent years, however, Feng Shui is enjoying a comeback in China and far more interest throughout the world. Not surprisingly, with increased interest and popularity comes more controversy. According to a recent CNN report, a course on Feng Shui offered by an institute related to Nanjing University in China has triggered some criticism. A noted architect and professor said, "Feng Shui is no science - it only fills the wallets of some charlatans." In contrast, a Feng Shui practitioner noted that before construction Feng Shui masters had evaluated at least 70 percent of the real estate projects in one China province.

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We certainly do not have the space in this newsletter to fully explore whether Feng Shui is science or superstition. Such a determination would require an enormous amount of research. If you “Google” Feng Shui, you will get more than 7 million references. While many are not credible, reviewing even one tenth of that information is mind-boggling.

However, if you are interested in learning more about Feng Shui, here are a few thoughts.

The International Feng Shui Guild ([www.internationalfengshuiguild.org](http://www.internationalfengshuiguild.org)) states in its mission statement;

“The international Feng Shui Guild is an umbrella organization meant to be a benevolent oasis for all schools of Feng Shui, connecting and serving professional practitioners as well as anyone interested in the ancient Asian art/science of Feng Shui.”

The Guild goes on to define (in part) Feng Shui as;

“Feng Shui, translated from the Chinese, means Wind Water. It is a system of philosophy, science and art that has been used for thousands of years as a method of connecting people with Heaven and Earth – seeking a balance between opposites in all aspects of our environments.

Almost every culture of the world reflects some awareness of the power of placement in its wisdom teachings. It is this ancient legacy that Feng Shui practitioners seek to enliven, embrace, uphold and share.

At the deepest level of understanding, Feng Shui is the interplay between the seen (our surroundings) and the unseen (energy and intention). Feng Shui acknowledges the interconnectedness of all creation.”

In addition to the Guild, more information is available at the American Feng Shui Society ([www.amfengshui.com](http://www.amfengshui.com)) and the Feng Shui Society of the United Kingdom ([www.fengshuisociety.org.uk](http://www.fengshuisociety.org.uk)).

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The new Disneyland in Hong Kong consulted Feng Shui masters to make sure “qi” (energy) would flow smoothly through the park. Donald Trump has used Feng Shui masters to guide the design of new projects. Even some of the enormous new Las Vegas casinos included Feng Shui concepts in their design. More and more, Feng Shui is influencing how we site our buildings, how we decorate and where we rent office space.

If you visit some Feng Shui consultants, you may become convinced that a commitment to Feng Shui design in your home and life will solve all of your problems and bring you a life that exceeds all of your expectations. That may be overstating the opportunity a bit. That, of course, is for you to decide.

As an example, if you visit the web site of Wind and Water Interior Design in Sedona, Arizona ([www.artoffengshuiinc.com](http://www.artoffengshuiinc.com) or [www.artofplacement.com](http://www.artofplacement.com)), you will find a wealth of information about the potential benefits of Feng Shui in your life.

Here are some examples of Feng Shui “placement” considerations and suggestions:

- If you live on a cul-de-sac, you could potentially get a divorce or have medical problems.
- If you live in a home that has a river or road that comes at your home and bends away, it will take money and energy away from you.
- If your property is below the grade of the road you will find you are always digging yourself out of problems.
- If you live near high voltage power lines you will always feel "frazzled".
- A fireplace in your home will create arguments.
- Ceilings with beams will put the weight of the world on your shoulders.
- Stairs affect the movement of energy and can cause falling accidents.

- Ceiling fans can cause trouble in relationships and keep your environment in constant change.
- An improper location of the stove and sink can cause war in your home.

To improve things, it is important to add “qi” (or “chi”) to your home. “Qi” is energy that makes your energy grow, like the feeling of a babbling brook or a hug from someone you love.

- Water Fountains are an excellent method for adding "Chi" to your home.
- Scientists now know that the quickest way to impact the workings of the brain is through smell. Aromatherapy can be very uplifting in your environment and assist you in creating your desires.
- Graphic representations of positive verses can add "Chi".
- Using sound and symbols can protect you and your home.
- The “command” position for your bed is such that you can see the entrance to your bedroom.

These are just a few of many, many thoughts about Feng Shui. If you subscribe to the concept that each of us is a part of our surroundings, Feng Shui will certainly provide ways to optimize that “oneness.” We encourage you to review the more credible sources of information and make your own decision.