BSA Electricity Merit Badge

Electricity Merit Badge

Electricity Safety

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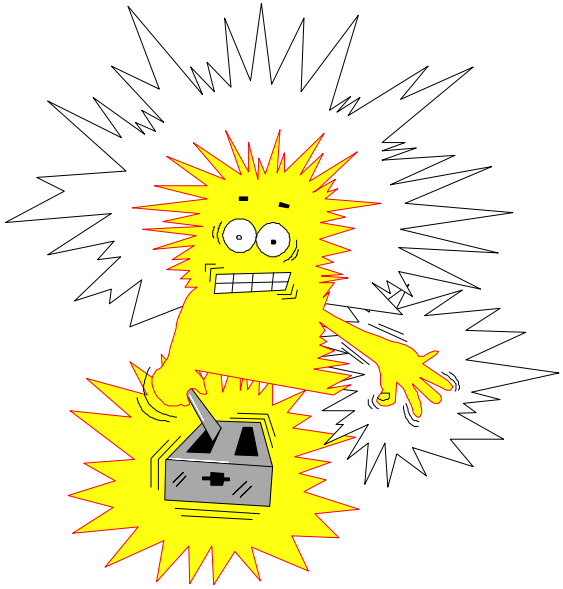
Electrical Shock

Electricity is always trying to get to the ground. Like all good travelers, electricity takes short cuts whenever it can. If something that conducts electricity gives electricity an easy path to the ground, electricity will take it!



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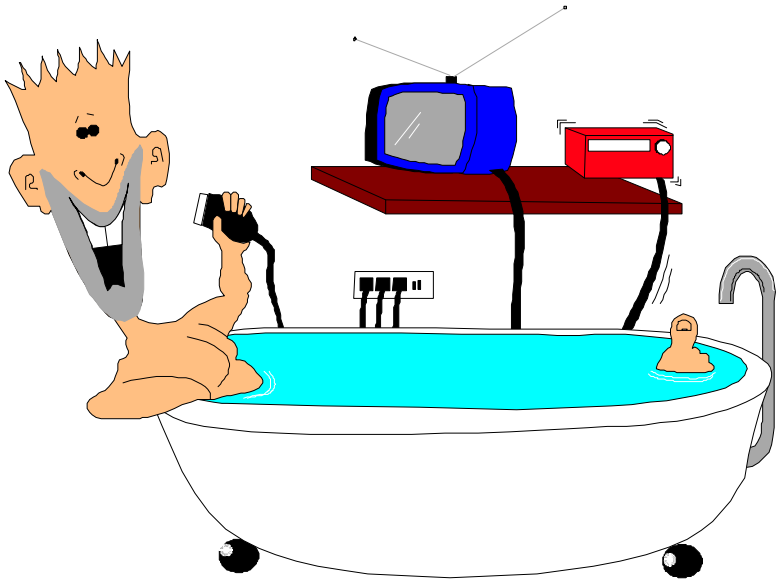
Water is an excellent conductor. You can become electricity's path to the ground if you are touching water that touches electricity. Electricity would travel through the water and through you to the ground.

This is why it's so important to keep all electrical appliances away from water, and to make sure your hands are dry and you are not standing in water when you touch anything electrical. It's also the reason no one should ever use water on an electrical fire, but should use a multipurpose fire extinguisher instead



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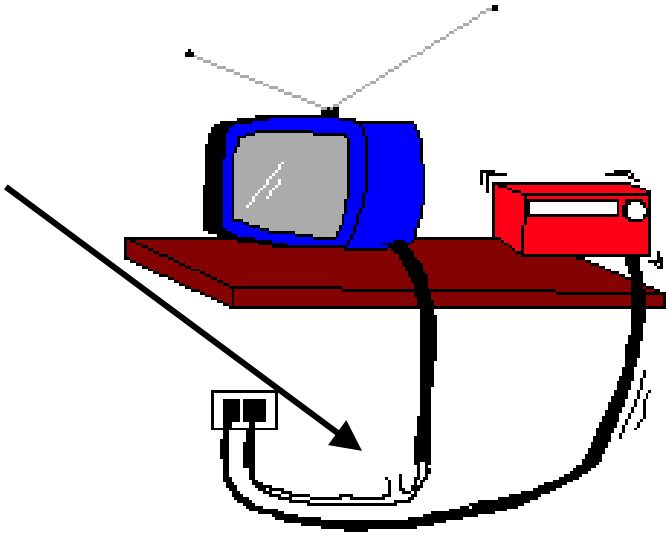
Bad Electrical Wire

Appliances have protective insulated cords and coverings to keep you from contacting the electricity inside.
It's important to use appliances and cords the way they were designed so you don't damage the insulation or contact live electrical parts.
If a live wire inside an appliance, toy or power tool touches the inside of the device and you touch the device, it would be like touching a bare live wire.
You cannot tell from the outside if there is a problem inside, so you should always act as if there were danger of shock.

Open Wire



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Electric shock can cause muscle spasms, weakness, shallow breathing, rapid pulse, severe burns, unconsciousness, or death.

In a shock incident, the path that electric current takes through the body gets very hot. Burns occur all along that path, including the places on the skin where the current enters and leaves the body.

It's not only giant power lines that can kill or injure you if you contact them. You can also be killed by a shock from an appliance or power cord in your home.

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If someone in a house is in contact with a live wire, you can quickly shut off the current by pulling the main switch. You also could grab the electrical cord where it is not wet or bare and pull it from the socket. If you don't know where the main switch is and can't pull the plug, your third alternative is to remove the wire form the victims. Use a dry handkerchief, towel, sheet or other cloth; encircle the wire with it; and pull the wire from the victim. Don't touch the wire or the victim. Don't tough grounded objects like the pipes under a sink. If you can't encircle the wire, use a cloth to pull the victim from the wire. You might have to pull some distance before breaking contact with the wire. Do not touch the victim directly until victim and wire are separated.

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Electrical Burn

Electrical burns are caused by electricity touching you or passing through your body. Or, you can be burned when electricity jumps from electrical equipment to you. Electricity causes burns on the skin. The burns may be very deep. The electricity may cause damage inside your body as it passes through you. Electricity can hurt the brain, heart, and other organs. How fast you get better depends on how badly you are burned.
Types of burns: There are three kinds of burns:

- First-degree burns include only the outer layer of skin. The skin may be red. The skin may also hurt when touched. These are mild burns and usually heal in a few days.
- Second-degree burns are deeper and more severe. Blisters may form on the burned area. The skin feels very tender when touched. This burn takes about 2 weeks to heal.
- Third-degree burns are the deepest and most dangerous. The skin is tough or leathery. It may look white, brown, black, or red. You may not feel anything when the burned skin is touched.

Care: Always call your caregiver if you get an electrical burn. If the burn is small, you may be able to take care of it at home. Drink 6 to 8 glasses (soda-pop can size) of liquids like water or fruit juice each day. You may also need medicine for pain, swelling, fever, or infection (in-fek-shun). If you have a large burn or you get a shock from the electricity, get to the hospital right away. Do not drive yourself! Call 911 or 0 (operator) if there is no one to drive you to the hospital

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Mouth-to-Mouth Breathing

The most effective method of artificial respiration is mouth-to-mouth breathing. You breathe air into the victim's lungs with your own mouth. This method has been adopted by the American Red Cross and Boy Scouts of America.
When using mouth to mouth, speed is important. First, place the victim face up. If there is a foreign matter in the mouth, quickly wipe it out with your finger or cloth wrapped around your finger. Begin artificial respiration.