

# Safety Quest Answer Key

## **When is electrical safety month?**

The Electrical Safety Foundation (ESFI) sponsors National Electrical Safety Month each May to increase public awareness of electrical hazards in order to reduce the number of electrically-related fires, fatalities, injuries, and property loss.

## **What is an electrical circuit?**

An electrical circuit is a closed loop through which an electrical current flows. A circuit includes the source of the electrical power, the conductor through which the current flows, and devices that are connected to the conductor that are powered by the current.

## **What is the difference between a conductor and an insulator in an electrical wire?**

An electrical wire or cord consists of two primary parts. On the inside is a conductor, a material like copper that allows the flow of the electrical current. The outside of the cord is covered by an insulator, a material like rubber or plastic that does not allow the flow of electrical current. An insulator prevents people from receiving a shock when they touch a wire through which current is passing.

## **How hot does a light bulb get when it is turned on?**

The temperature of a light bulb depends on several things, including the wattage of the bulb itself. For example, a 60 watt bulb can reach a temperature of around 260 degrees Fahrenheit. This is more than hot enough to boil water, burn your skin, or set things on fire if they are touching the bulb.

## **What are the two kinds of electrical plugs?**

In the United States, there are two main kinds of electrical plugs. One kind has two prongs, and one has three prongs. A three-pronged plug is considered safer because the third prong is connected to a grounding wire. This wire does not carry electricity and is intended to prevent shocks. Most electrical outlets in a house have three slots. This means that both two and three-pronged plugs will work in the outlet.

## **Why is it dangerous to have electrical devices around water?**

Water and most other liquids can conduct an electrical current. If a liquid is spilled near an electrical outlet or a device that is plugged in, the current can flow through the liquid and shock a person.

## **Why should you not put an electrical wire under a carpet?**

There are two main reasons for not putting an electrical wire under a carpet. One is because wires get hot when a current flows through them. If the wire gets too hot, it can cause the carpet to burn. Another reason is because people walking on the carpet might damage the wire. This can cause the wire to get even hotter or damage the wire so it can cause a shock.

## **Why is a frayed electrical cord dangerous?**

When an electrical cord is frayed or worn, the conducting wire inside can be exposed. When current flows through the wire, it can cause a shock or spark. The sparks from the wire may cause a fire.

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### **What is a smoke alarm?**

A smoke alarm or detector is a device that can tell when there is smoke in the air. When smoke is detected, a loud sound is made by the alarm to warn people that there might be a fire. This allows the people to escape the fire.

### **Why should you replace the battery in a smoke alarm?**

A smoke alarm runs on electricity. Many smoke alarms use a battery for the source of electricity. Batteries lose their power over time. That is why it is so important to replace the batteries in a smoke alarm. The battery in a smoke alarm should be replaced at least once a year. Some smoke alarms even tell you when the battery is getting low. These alarms make a little chirping sound.