

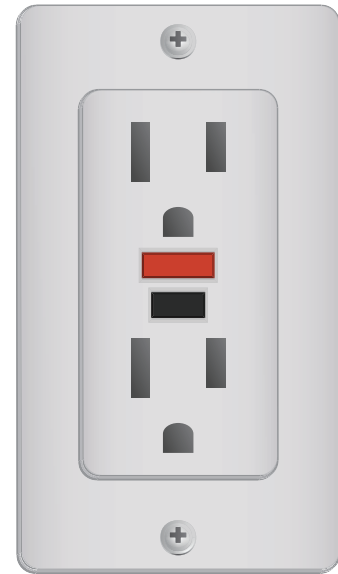


YOU'RE GROUNDED

BACKGROUND

A ground fault circuit interrupter (GFCI) is a safety device that monitors the flow of current to and from an appliance. If there's more current flowing to an appliance than coming back, it means that some is traveling to the ground—perhaps through you—and the GFCI will quickly cut power. You can still get a shock in the time it takes the GFCI to interrupt the ground fault, but you are less likely to be seriously injured.

GFCIs can be found in newer outlets and service panels and embedded in the cords of some appliances. Take a few minutes to find out where GFCIs are located in your home or school. Think about why they are located where they are.



STEPS

- 1 Search your home or school for GFCIs. On a sheet of paper, make a note of where they're located and if any appliances have them built into the cord. (Don't confuse a GFCI with an adapter, which reduces the voltage of electricity entering the appliance. A GFCI will have test/reset buttons. An adapter will not.)
- 2 What conclusions can you draw about where GFCIs are placed? Based on your conclusions, are there any outlets that probably should have a GFCI but don't? Why do some appliances have a GFCI in their cord, but others don't?
- 3 GFCIs should be tested monthly. With an adult, test the GFCIs in your home or classroom using these steps:
 - Plug in a lamp or radio in the GFCI-protected outlet and turn it on. (For appliances that have a GFCI built into the cord, plug in the appliance and turn it on.)
 - Press the "test" button on the GFCI. The test button works by allowing a small amount of current to flow to the ground wire, simulating a dangerous ground fault in the circuit.
 - The "reset" button should pop out and the appliance should turn off.
 - If the appliance doesn't turn off, the GFCI is not working properly and will not protect you from getting shocked.
 - Ask your family or school custodian to have a licensed electrician replace bad GFCI outlets and to replace appliances with bad GFCIs.
 - When you're done testing each GFCI, press the reset button to restore power.



YOU'RE GROUNDED

In this activity students learn about ground fault circuit interrupters (GFCIs). They are then asked to search their home or school for GFCIs and perform a simple test to make sure the devices are working. This research activity appears in the section *Dangerous Waters*.

QUESTIONS AND ANSWERS

What conclusions can you draw about where GFCIs are placed? Based on your conclusions, are there any outlets that probably should have a GFCi but don't? Why do some appliances have a GFCi in their cord, but others don't?

To help prevent electrocution, GFCIs should ideally be placed in all outlets near water (such as in kitchens and bathrooms), in garages, at outside outlets, and in any unfinished basements—all places where the risk of electric shock is high.

Student's findings about outlets needing GFCIs will vary.

Some appliances have a GFCI built into their cord because they are typically used near water (such as a hair dryer), and use of these appliances puts one at greater risk for electric shock.