

Electrical Safety

- Why Should We Know About Electrical Safety
- What can happen?
- Electrical Boxes and Circuit Breakers
- Fuses
- Grounding and Static Discharge
- Wall Outlets (Receptacles)
- GFCI
- Dangling Electrical Lines
- Safety Tips



Preview File

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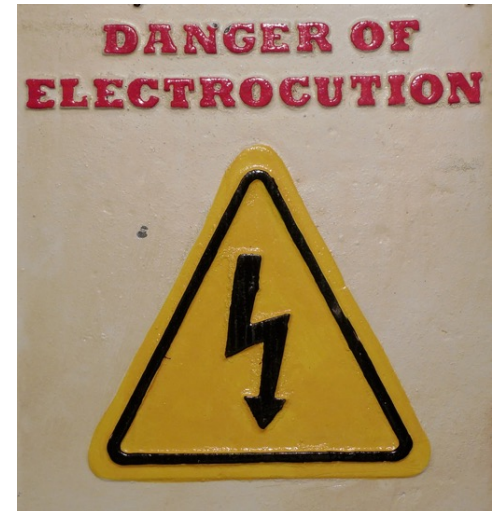
- Some slides appear blank because they have been removed
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Why Should We Know About Electrical Safety?

- The available electrical current in regular businesses and homes has enough power to cause death by electrocution
- _____



The Stats are Shocking

- 30,000 = Number of non-fatal shock accidents each year that occur at home
- 325 = Average number of electrocutions each year
- 2,555 = Number of children that are treated each year due to wall outlet shock accidents
- 70% = Percentage of child-related electrical accidents that occur at home under adult supervision
- 60 = Number of electrocutions each year associated with consumer appliances
- Electrical hazards cause more than 300 deaths and 4,000 injuries each year among the U.S. workforce.
- Electrocution is sixth among causes of workplace deaths in America.

What can happen?

- When electrical current travels through our bodies, it can interfere with the normal electrical signals between the brain and our muscles (e.g., heart may stop beating properly, breathing may stop, or muscles may spasm)



What can happen?

Shock burns can burn internal tissue while leaving outside skin w injuries



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Electrical Boxes and Circuit Breakers

- All buildings have distribution panels made up of circuit breakers or fuses to control the flow of electricity
- _____



Electrical Boxes and Circuit Breakers

- If too much electricity is flowing, the system shuts down to prevent damage or possibly a fire
- _____
- They can be easily reset if tripped by flipping them like a switch





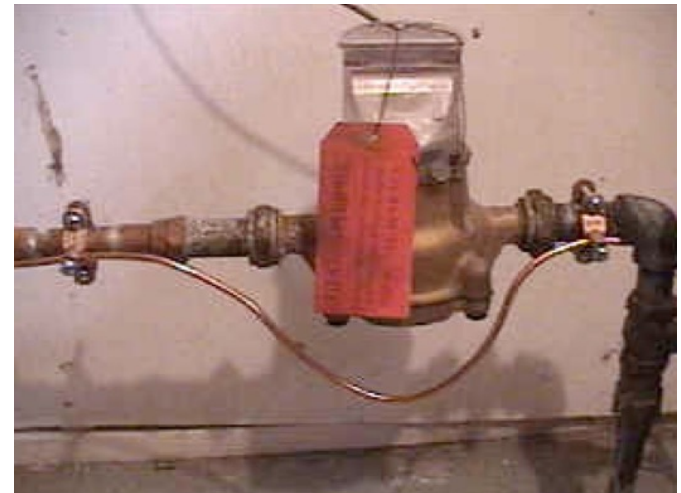
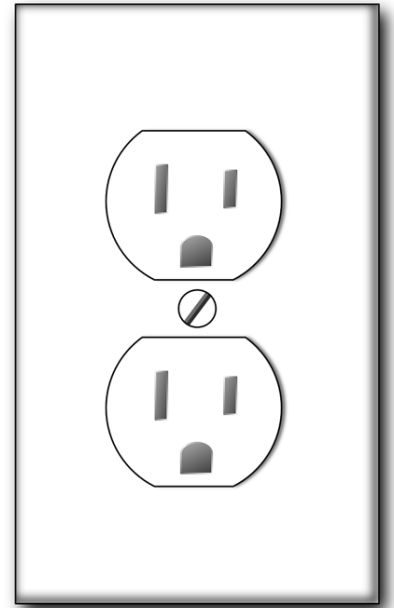
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Grounding and Static Discharge

- _____
- Excess electrons can sometimes build on electrical boxes and on machines and can be dangerous

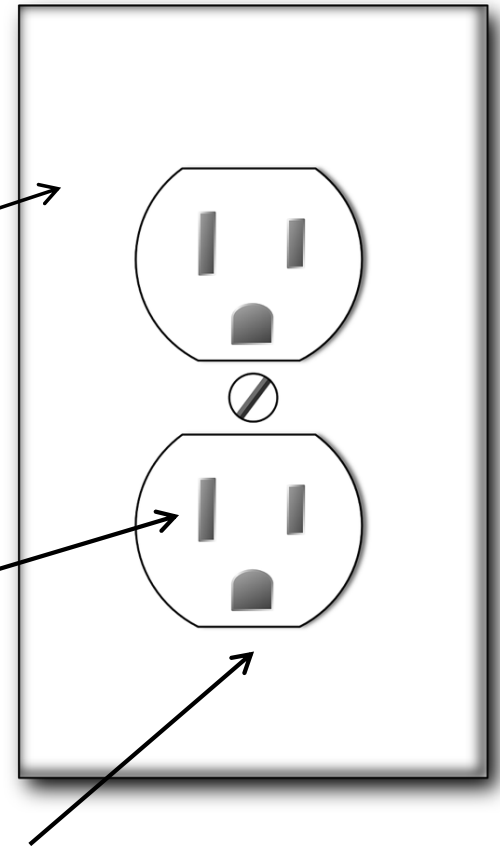
Grounding

- _____
- It takes the excess electrical buildup and sends it into the ground
- Grounding works because the earth (ground)



Wall Outlets (Receptacles)

- Where we obtain electricity for things such as televisions, lamps, etc.
- Safety features of a wall outlet
 1. _____
 2. Polarized plugs (one slot is bigger than the other) Therefore, plug needs to go in the proper way
 3. Most have a third round hole.



GFCI (Ground Fault Circuit Interrupter)

- Sometimes called an RCD (residual current device)
- A GFCI monitors the amount of current flowing within the outlet
- _____



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GFCI

- _____
- This turns the electricity off before severe injuries or electrocution can occur
- Once a GFCI has been tripped, it must be reset by pushing the reset button
 - Similar to a circuit breaker that needs to be flipped after tripping



GFCI

- An example of this is if you are using an appliance near a water supply
- If the water supply comes in contact with the current



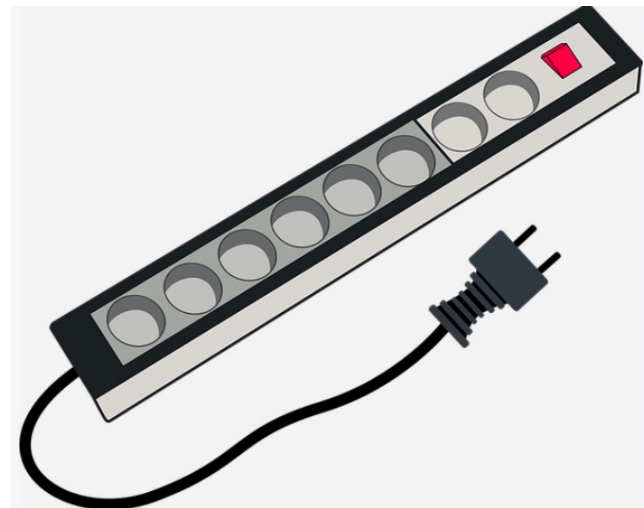
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Dangling Electrical Lines

- Electrical lines can be damaged by storms or accidents
- If you see a downed electrical line, stay at least 10 m (32 feet) away
- _____
 - Your car will protect you

Safety Tips

- _____
- Inspect portable cord-and-plug connected equipment, extension cords, power bars, and electrical fittings for damage or wear before each use



Safety Tips

- _____
- Do not touch a person or electrical apparatus in the event of an electrical accident
- Do not plug high amperage equipment such as space heaters, portable air conditioners and other power equipment into extension cords