Basics of Electricity

BUILDING BLOCK FOR SUCCESS - reusable across all programs

Applies to: Cosmetology, Barbering, Esthetics, and Nail Technology

Suggested time: 2.5 hours (theory and a safety inspection demonstration)

How to use this plan: The lines under "Say" are scripted word for word so every class hears the same information - read them aloud. *Italic in brackets is what you do.* The jade "Teaching move" names the method; the "Students" line is their involvement.

Learning Objectives

By the end of this lesson, students will be able to:

- Explain the basic electrical terms used with salon tools.
- Identify electrical safety hazards and prevent them.
- Use salon electrical tools safely.
- Describe the role of safety devices such as fuses, breakers, and GFCIs.

Materials and Equipment

- SGS chapter slide deck, projector, and whiteboard
- Examples of salon electrical tools, unplugged (dryer, clippers)
- A GFCI outlet example and a frayed-cord example for the inspection
- Electrical safety inspection checklist and the student workbook

Key Terms

electricity, electric current, conductor, insulator, circuit, fuse, circuit breaker, GFCI, grounding, overload, volt, amp, watt.

Lesson Sequence

1. Opening Hook - 10 min

Teaching move: Frame electricity as a respected tool.

SAY (read aloud):

You will use electricity every single day - blow dryers, clippers, curling irons, lights, facial machines. Used the right way, it is one of your best tools. Used carelessly, it causes shocks, burns, and fires, often where water is nearby. Today we are going to respect electricity and learn to use it safely, so it always works for you and never against you.

■ **Students:** name three electrical tools they will use on the salon floor.

2. Electricity Made Simple - 15 min

Teaching move: Water-pipe analogy for current, conductor, insulator.

SAY (read aloud):

Let's keep this simple. Electric current is the flow of electricity, and it behaves a lot like water flowing through a pipe. Some materials let it flow easily - those are conductors, like metal, water, and yes, your body. Other

materials block it - those are insulators, like rubber and plastic, which is why cords are wrapped in them.

Electricity flows in a loop called a circuit. When that loop is safe and complete, your tools work. When it is broken or overloaded, that is when problems start. Remember: you and water are both conductors, so electricity plus water plus you is the combination we always avoid.

- **Students:** name one conductor and one insulator.

3. Electrical Safety Hazards - 20 min

Teaching move: Show real hazards and their consequences.

SAY (read aloud):

Now the hazards, and these are the ones that actually hurt people. *[Hold up the frayed cord.]* A frayed or damaged cord exposes the wire and can shock or spark - it comes out of service immediately. An overloaded outlet, with too many tools in one spot, can overheat and start a fire. Water near an outlet or a plugged-in tool is a shock risk. And a cracked plug or a tool that has been dropped can be dangerous inside even if it looks fine.

The rule is simple: inspect before you plug in, and if anything looks wrong, do not use it.

- **Students:** point out the hazard in each example you show them.

4. Safety Devices and Practices - 15 min

Teaching move: Explain the protections and the daily habits.

SAY (read aloud):

The good news is we have protections. A fuse or a circuit breaker cuts the power if a circuit is overloaded, preventing fires. A GFCI outlet - the kind with the test and reset buttons - shuts off in a fraction of a second if it senses electricity going where it should not, and it is required near water. Grounding gives stray electricity a safe path away from you.

Your daily habits matter just as much: do not overload outlets, inspect cords before use, keep tools and cords away from water, and dry your hands before handling anything electrical.

- **Students:** explain why a GFCI outlet belongs near a shampoo bowl or sink.

5. Demonstration - Using a Tool Safely - 15 min

Teaching move: Tell-show-do with an actual tool.

SAY (read aloud):

Let me show you how to handle a tool safely from start to finish. *[Pick up the unplugged dryer.]* First, I inspect it - the cord, the plug, the body - before I ever plug it in. I hold it by the handle, never by the cord. *[Mime use.]* I keep the cord clear of water and out of the walkway. And when I am done, I unplug it by gripping the plug, not by yanking the cord, because yanking the cord is how cords fray in the first place.

- **Students:** each student inspects and demonstrates safely plugging in, holding, and unplugging a tool.

6. Activity - Station Safety Inspection - 15 min

Teaching move: Apply the lesson as an inspection.

SAY (read aloud):

Now you inspect. *[Hand out the electrical safety inspection checklist.]* Go through your station and the tools and check each item: cords intact, no overloaded outlets, nothing near water, plugs in good shape. Mark anything that fails and tell me how you would fix it.

- **Students:** complete the electrical safety inspection checklist on a real station.

7. Check and Recap - 10 min

Teaching move: Recall, then close on respect for the tool.

SAY (read aloud):

Quick check. Are you a conductor or an insulator? *[Pause.]* A conductor - which is why we keep water away. What device shuts off power near water? *[Pause.]* A GFCI. How do you unplug a tool? *[Pause.]* By the plug, not the cord. To recap: respect electricity, inspect before you plug in, keep water away, and use your safety devices. Do that, and electricity stays your tool, every day.

- **Students:** state one electrical safety habit they will never skip.

Assessment

- Performance: electrical safety inspection checklist completed on a real station.
- Written: quiz on electrical terms and safety devices.
- Verbal: correct hazard identification during the demonstration.

Assignment

Read the Basics of Electricity chapter and complete the workbook. Be ready to identify three electrical hazards and the device that prevents fires.

Instructor Notes and Safety

Keep all demo tools unplugged during handling instruction.

Stress water plus electricity as the number-one salon electrical danger.