

Charge into Fire Safety™

JUST
10!

Topic: 10-Minute Lesson Plan on Lithium-Ion Battery Safety

Audience: Adults who would benefit from learning important safety practices when handling, charging, and storing lithium-ion batteries.

Lesson Objective: By the end of the lesson, participants will be able to identify 3 behaviors that will help prevent lithium-ion battery fires.

Step 1: Introduction (1–2 Minutes)

- Welcome participants and thank them for allowing me to speak for 10 minutes.
- Introduce myself and share my connection to the community.
- **HOOK:** “Raise your hand if you have a smart phone with you today.”
- **ASK:**
 - Do you know how your smart phone gets its power?
 - Do you have any other devices in your home with a battery that you have to charge?
 - Can you name some of those devices?
Examples include smart phones, laptops, tablet (e.g., iPad, kindle), e-scooters, e-bikes, hoverboards, e-cigarettes, smoke alarms, e-cigarettes, toys, and even cars.
- **ASK:** Did you know that all of these use lithium-ion batteries and that these batteries can overheat, catch fire, or explode if used incorrectly?

Step 2: Body of the Presentation (7–8 minutes)

Understanding Lithium-Ion Batteries (1–2 minutes)

- Briefly explain what lithium-ion batteries are and where they are commonly used.
 - Lithium-ion batteries give power to many kinds of devices like the ones we just named. (smart phones, laptops, tablets, scooters, e-bikes, hoverboards, e-cigarettes, smoke alarms, toys, and even cars)
 - These batteries store a large amount of energy in a small amount of space.
 - Sometimes batteries are not used the right way; batteries not designed for a specific use can be dangerous.
- **ASK:** How many times do you think you have dropped your smart phone or tablet? Think about the impact that could have on the lithium-ion battery that is powering your device.
- Like any product, a small number of these batteries are defective. They can overheat, catch fire, or explode.

Charge into Fire Safety with these Safety Tips (4 minutes)

- Purchase and use devices that are listed by a qualified testing laboratory.
- Always follow the manufacturer’s instructions.
- Use only the battery that is designed for the device.
- Put batteries in the device the right way.
- Use only the charging cord that came with the device.
- Do not charge a device under your pillow, on your bed, or on a couch.
- Do not keep charging the device or device battery after it is fully charged.
- Keep batteries at room temperature when possible. Do not charge them at temperatures below 32°F (0°C) or above 105°F (40°C).
- Store batteries away from anything that can catch fire.



Educational Messages to Review:

Chapter 20: Battery Safety
20.1 Lithium-Ion Batteries

Materials

- Visual aids or images of battery safety symbols (optional)
- Printed NFPA Lithium-Ion Battery tip sheet (available in English, Spanish, French)



NATIONAL FIRE PROTECTION ASSOCIATION
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— Charge into Fire Safety™: Lithium-Ion Battery Safety —

Signs of a Problem (1 minute)

Stop using the battery if you notice these problems:

- odor
- change in color
- too much heat
- change in shape
- leaking
- odd noises

Battery Disposal (1 minute)

- Do not put lithium-ion batteries in the trash.
- Recycling is always the best option.
- Take batteries to a battery recycling location or contact your community for disposal instructions.
- Do not put discarded batteries in piles.

Step 3: Conclusion (1 minute)

- Summarize the main points covered during the lesson.
- Remind participants that understanding the importance of practicing safe battery usage and charging will help increase safety.
- Distribute the printed [NFPA Lithium-Ion Battery Safety tip sheet](#)
- Thank participants for their time.

Additional Resources:

- Encourage participants to review the user manuals and safety guidelines provided with devices.
- Share online resources or articles on lithium-ion battery safety.

