

ALKALINE



We've all grown up with this type of disposable battery. These batteries have been around for many decades, so you'll find them everywhere! There's also a multitude of battery holders and accessories for AA and 9V batteries.

These batteries are cheap, safe to use, and available everywhere, but sadly, they **are not** rechargeable. The alkaline chemistry makes these batteries particularly idiot proof (safe).

AAs and AAAs are the most common alkaline batteries and output **1.2V nominally** (but are around 1.5V when first used). Because AAs output 1.2V, you will need to combine them in packs of 3 or 4 to run your 3.3V or 5V system. 9V batteries are obviously 9V nominally.



A 9V battery with a connector cable is a great, quick way to make a project portable, but don't expect the battery to last very long! While it outputs 9 volts, the capacity of a 9V battery is pretty low.

We regularly use this type of batteries with beginners. They are often comfortable with this type of battery and can easily find them. If they attach the battery backwards it may heat up, but little damage is done. Once a student is past the basics we generally transition users to LiPos because they last longer and can be recharged.

Source: <https://learn.sparkfun.com/tutorials/battery-technologies>