Learning Disability/Limitation: Attention Deficit Hyperactivity Disorder (ADHD)
ADHD affects kids and teenagers, with the possibility of persisting through adulthood. The most common mental disorder diagnosed in children, ADHD is manifested by a difficulty paying attention, trouble staying still, and impulsive tendencies.

Scientific Concept: Circuit Theory
Circuit theory is a powerful tool because it is a concrete example of how physical concepts can be applied directly for real world results. It is often taught using simple systems to start with: a power source (usually a battery) produces a voltage across a circuit, which is made up of some conductor in a closed loop (usually copper wire).

Elements in these basic circuits are often limited to resistors and/or capacitors, as their theory is mathematically straightforward ($V = I/R$, $V = Q/C$). Children too young to understand these formulae, be given circuit components, or comprehend the common water analogies present in most introductory circuits courses could still get an intuition for how some of these circuit elements work.

Learning Strategy and Method: Electron Obstacle Course
Gather a group of kids, probably somewhere between thirty and forty of them, all of similar ages, and bring them to an obstacle course of sorts. They will all get little hats (or vests, sashes, etc.) denoting them electrons! They'll have a very important job: power The Circuit, and energize an ice-cream-making robot!

In order to do so, they'll travel from the starting room (the power source) and on through the course. The open air, for the kids, is analogous to a conductor because they, the electrons, can move freely. The bounds of the course—made of a bouncy, inflatable material—can then be considered insulators, because they can't move freely through them.

To explain resistors, you can use a crawl space or narrow portion to show how current is limited in resistors. For a capacitor, you could make it so the next wiring portion only opened if a certain number of electrons were present in the room. Transistors would even be possible—one electron goes around to the base, and flips a lever to let others pass through the collector and emitter passages. If they completed the course, making their way back to the voltage source, you can explain that the loop is closed, and the circuit is therefore active! Ice cream for everyone. Maybe drop in that they could construct their own ice-cream-making robot with a little bit of study in electronics.

Reflection

This exercise was illuminating and interesting for me because it put me in the shoes of someone else and drove me to think of how I would best learn in that position. In many ways, this type of thought experiment is the essence of science communication—translating topics of scientific importance to those who would otherwise not find them comprehensible. It also opened my eyes to how any child, with or without a learning disability/limitation, could be shown science in a fun and interesting way! The concepts in this teaching technique could be expanded and applied to other important scientific concepts, as well.