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Magnetic Levitator

The reason I built a magnetic levitator was to see how I could apply the use of electromagnets to Magnetic Levitation trains to reduce the number of magnets used. My goal was to build a working magnetic levitator. I got all the parts needed, then focused on building a circuit that would allow an object to be levitated for an infinite amount of time. What happened was: it worked. The object I levitated, a pen cap with a magnet inside, actually levitated. It was a simple experiment, but the preparations were quite tedious, seeing as I went through about three different structures to hold the magnet and two different types of sensors. Ultimately the Hall Effect sensor was the easiest to use. I believe my levitator is more efficient because it uses a stability circuit to allow the object to be levitated infinitely. If I continue this project next year, I will experiment with different amounts of magnets to levitate a Magnetic Levitation train, using the process I used in my experiment, but multiplied to create a track. I met my goal, and created a really cool model that I'll continue experimenting with.