Resistance

OK, so let's look at a couple of things that affect resistance here. As you can see, we'll see the flow of electrons down here, which is a product of how much resistance actually exists. So our formula for resistance in an electrical circuit is rho, which is the conductivity of the wire, the length of the wire, which L, and capital A, which is the area of the wire.

So what we see here is as we increase rho, we're actually going to be increasing the resistance in the circuit. So I'll put that back down here. If we increase the length, we're going to see that resistance also increases. And then when we increase area, we're going to see that resistance actually decreases. So the larger the object, the less resistant. And as you can see, the tube actually gets bigger down here.

So if we were to play with some combinations, you'll see that we have an area that's fairly small. We have a high resistance. But then if we actually increase the length, we're actually going to see even more resistance. And then if we increase the conductivity of the wire, we're actually going to even have more resistance.

Whereas if we lower it, the conductivity is really small, resistance goes down, the length goes down, and we're actually going to have a very small R there as well. And then if we increase the area, we're going to have even smaller. And this should make sense because it's very easy for the electrons to flow through this area very easily.