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Today we're going to make a baby plasma cutter. These are the tools that we'll need for this. Are some alligator clips. A piece of tin foil which will be what we're going to cut. A piece of lead, 0.5 usually seems to work the best and four 9-volt batteries. So in order to construct this, what we'll do is we'll put the tin foil, spread it across ... like what we have right here is a basket and we'll use a rubber band to hold it down. I'll hook up the 9-volt batteries to one end will go to the tin foil and the other end will go to the piece of lead.

The science behind this experiment is you will have the positive lead on the piece of lead and the negative lead on the tin foil and when you bring the piece of lead very close to the surface of the tin foil here, right as it touches you'll get a very small point of contact. And that will allow the current to flow and since it's a very small area, which the current is flowing through, it will get extremely hot.

And that will vaporize the carbon atoms within the piece of lead and it will actually turn them -- it will ionize them and vaporize them -- and that will turn them into a small ball of plasma, right at that connection. And that will then vaporize the aluminum foil. And in this reaction, both the piece of lead and the aluminum foil will be consumed.

To construct this, you get your piece of tin foil and you want to set it over like a basket or just some hollow surface. Close it down over the edges there, we can use this rubber band in order to hold it in place, so the tin foil is somewhat tight.

Now what we want to do is hook up our 9-volt batteries in series and they'll just plug right into each other, like this, so that one end is negative and one end is positive. We'll hook up one of the ends (Note: the \*negative lead) to the tin foil. The other lead will go to the pencil lead.

And there we have our baby plasma cutter.