>> If cobalt 54 is a positron emitter, what is the product? Okay, positron. That's a new one. Okay, what is a positron? A positron is antimatter. It's antimatter. It's antielectron. In other words, it has a negligible mass the same as electron does. But, whereas electron has a negative 1 charge, a positron has a positive 1 charge. So if you were to put electron and a negative, which is positive 1 together with, I'm sorry. If you put a positron, which is a plus 1 charge, together with an electron, which is a negative 1 charge. They would destroy, well, they would annihilate each other. And result in forming two gamma rays. Because the plus 1 and the minus 1 would cancel each other out. So, anyways, everything that's matter has antimatter too. There's an antimatter particle to match it. This is the match for a beta particle, in other words. Okay, so we're starting with cobalt 54. Which is atomic number 27. It's an emission. So we're going to put our arrow in. Put the positron on. And you don't have to put this positive sign there. But because an electron looks the same way, but with a negative sign, you might want to just put that positive sign in there to remind yourself what you're doing. So you don't get confused. Plus your product, okay. Same thing we've been doing. 54 equals zero plus x. Here we go. So x equals 54. And then the charge is 27 equals positive 1 plus y. I put that positive 1 in there to remind myself it's not a negative 1. To get rid of a plus 1, we subtract 1. And so now it's 27 minus 1 is 26 is y. 26 is iron. Our answer is iron 20, I'm sorry, iron 54, okay. So when we say it this way, same as we're saying it up there. We're saying it's an iron isotope. And the isotope has a mass number of 54.