>> Make one liter of .505 molar sodium bromide solution. This is making a stock solution. Stock solutions are solutions that we have in the stock room. We make a large amount of something and then later, as we need, we can take parts of that, dilute it down and make other concentrations. So that's what we do. We make large amounts of stock solution and we store them. Ok? In this situation, we have one liter that we're making of a stock solution. Ok? So we have two pieces of information. We're making one liter, and we want it to be the concentration .505 moles per liter. Ok? It's going to be a sodium bromide solution. So what we want to do to make that solution, we want to weigh out the sodium bromide, put it into a volumetric flask, and then fill the flask up with deionized water. But how much sodium bromide should we start with? Well, let's go ahead and start with what we know. We have one liter of sodium bromide, which is what we want to make. We have our .505 moles per liter. You notice it does have the two units, which means it's going to be our conversion factor. So we want to make sure that we have it set up so that we can cancel out liters, and we end up with moles of sodium bromide. One times the .505 simply gives us .505 moles of sodium bromide. So now we know how many moles. We also know we can't measure out moles out of balance. So we have to convert moles now to grams so that we can measure it out. So starting with our .505 moles, we're using now the molar mass of sodium bromide, which is 102.90 grams per mole. We have it set up just so, so we can cancel out our moles. We end up with .505 times 102.90 for a total of 52.0 grams of sodium bromide. So again, looking back at what they're asking us to do, they're asking us to make the solution. If we stop right here, this does not answer the question. This only tells us how much we need to use in the first step. So to answer the question now, we have to write down our steps. First step, put 52.0 grams of sodium bromide in a one volume, one liter volumetric flask. Ok? Real important to use a volumetric flask. Second step is to Q.S., which means to fill up to the line, Q.S. to 1.00 liters with deionized water. And remember, it needs to be deionized and not tap water.