>> Diane Jewell: Calculate the pH when hydronium ion concentration is 5.5 times 10 to the negative third molar. This is a different situation because if you look at our concentration now, we don't have a coefficient of 1. Once you put a coefficient in here, that's anything other than 1, you need to use a calculator to figure out what is your pH. Okay? And so, we've got actually two different sets of instructions, depending upon what kind of calculator you're using. Most calculators will use these instructions, but if you have something like one of the more advanced Texas Instruments calculators, TI instrument, TI calculators that have the trigonometric functions, this is what you're going to be using is this set of instructions. So taking this data here, you're going to first off put in your 5.5, enter it as a number, find your "EE" button, push that. Then you're going to take your exponent and put that number in; in this case, it's– we're just putting in the positive part of it, the 3. Now, once you've put in your 3, you're going to press this button, the plus/minus button that's going to change this 3 to a negative 3. So you've just entered now: 5.5 times 10 to the negative third power. So when you put the equal sign in, you've now put in your scientific notation. Okay, now, you want to find the log of this number. So we've already entered the number; you're going to now push log button, again the plus/minus button and then the equal. What's going to happen now is this value you've placed in there, you're now taking the negative log of it and you're getting the number 2.26. And actually, this will be a longer number; you have to truncate it to the correct number of significant figures. In this case, because we've got two digits here, you want to take it to two decimal places. Now, if you have one of the TI calculators, then you're going to use this system here. You want to press this button here, with the negative; now you're going to press the log button. So you're taking the negative log of this number. Now, you enter this number, the 5.5 EE which means, times 10 to the what power. Now you're going to put the negative 3. So it's 5.5 times 10 to the negative third power. Now, if you want to skip this step you can, but you can close your parentheses and now we know that you're taking the negative log of this number right here. And then push enter and you'll get your answer; it'll be the same and again, you'll have to round it to the appropriate number of decimal places.