For the test, you need to be able to:

1. Use and create water quality index tables

2. Understand how everything we've walked about is "folded in" to WQ indices

There are three facets to a water quality index:

1. Ultimately, you end up with a number that indicates the suitability of water for some use

2. The score is generated mathematically based on measured parameters

3. Knowing about parameters and their importance is the key to creating a WQ index of your own

Now, you will create a water quality index that assesses water quality with respect to drinking water. Assume that we have decided that the following information is reasonable:

Parameter	*How Important?*	*Ideal Values*
pH	Very	5.5 – 7.5
Temperature	Somewhat	40 – 50 F
Dissolved Oxygen	Not	XXX
Turbidity	Pretty Imp.	0 – 100 NTU

Using this information, fill in the boxes to the LEFT of the dotted lines in the table below. (I've started you off by transferring the ideal values from the table above; I also filled in values for temperature so you can see how it might work). Make sure to take these requirements into account:

a. The values you pick should fit within the possible values of the parameter (for example, pH should range from 0 – 14).
b. All possible values for each parameter should fit within the table (for example, if you measured a temperature of 61 F, you should be able to find where it fits on the table).
c. The categories you put each value in should make biological sense (for example, I've chosen "OK" temperature values of 32 – 40 and 50 – 70 because these are water temperatures that would be drinkable, but not ideal).

Parameter	*Excellent Values*		*OK Values*		*Poor Values*	
pH	5.5 – 7.5	20	4–5.5 7.5–9	7	< 4 > 9	0
Temperature	40 – 50 F	**10**	32 – 40 F 50 – 60 F	**5**	< 32 F > 60 F	**3**
~~**Dissolved Oxygen**~~						
Turbidity	0 – 100 NTU	15	100–250 NTU	6	> 250	2

Now, finish the water quality index by assigning point values to each of the parameters – use the boxes to the RIGHT of the dotted lines. (I've filled in points for temperature to start you off). Make sure to take these requirements into account:

a. The parameter that is the least important (in this case, DO) should be worth the fewest points overall. The parameter that is the most important (pH, in this case) should be worth the most points for excellent values and the fewest points for poor values.

b. For this activity, assume that pH is more important than turbidity and turbidity is more important than temperature – and assign points accordingly.

8. Next, use the hypothetical water quality data you looked at in questions number 1 and 2 and evaluate it using your drinking water quality index table. Which creek would be better for drinking water? Is this the same creek that would be better for trout habitat? Does this make sense, given how the two water quality index tables were constructed?

9. Finally, try to make another water quality index table – this time, for recreational purposes (swimming). You might need to do some research into what water quality parameter values are ideal, OK, and poor for swimming. (You can assume that the water being collected is from a stream or a lake that is deep enough for swimming.)

TODAY: Write answers to 8 & 9
Turned in turkey bin