ICE Table Steps

1. Make a chart with rows for: **Rxn, I, C, E, 5%, Ans.**
2. Draw your ICE table with enough columns for each substance
* *Put dashes in the table for solids/liquids since they will
not have [ ]’s*
1. **Rxn -** Write the balanced eq. for your reaction.
2. **I -** Write in any initial [ ]’s you are given.
3. **C -** Use the generic value of “x” to list the changes to
the concentrations
* *Make sure to include the coefficients from the balanced equation. Example: 2H2 would be 2x.*
* *Use ( - ) for anything being used up, and ( + ) for anything being made. If the 2H2 is being used up then it would be -2x.*
1. **E -** Add the initial and change columns together and list as
the equilibrium [ ]s for each substance.
2. **5% -** Determine if the 5% rule can be applied*.* If 5% rule is
a possibility adjust your E values and write them in the
5% row of your chart.
* *Required: K < 1*
* *K being at least 1000x smaller than initial [ ]’s is a better guess of when it might be a valid rule, but it’s just a guess.*
* *Remember you must check to see if the 5% rule was valid or not when you are finished! If it wasn’t valid then you need to start over without it and do the math with the original “E” values.*
1. Write the Equilibrium Expression (Law of Mass Action) so you can plug in your values to solve for X.
* *You may have to use the quadratic equation to solve! If you are lucky it will just be regular old algebra. Remember the “F.O.I.L” method and the quadratic equation* $\frac{-b\pm \sqrt{b^{2}-4ac}}{2a}$ *where your equation is ax2 + bx +c*
1. **Ans. –** Use your answer for X to determine your final concentrations at equilibrium. List in the answer row of your ICE table.
* *Don’t forget that X is not necessarily your equilibrium concentration! You must go back and use X to solve for your equilibrium concentrations.*

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