**Molar Mass from the freezing point of a solution.**

**Objective:**

With a partner or two, discuss how you might determine the molar mass of an unknown compound(solute) from the freezing point of an aqueous solution.

Consider the following:

1. What are the units for molar mass?
2. Considering the units for molar mass, how might you easily obtain one of the unit quantities you listed?
3. Do you know of a formula that involves the freezing point of a solution? If so please write it.
4. You likely determined a simple method for determining one of the units needed to determine molar mass. Does the formula for the freezing point of a solution contain the other unit you need to solve the problem? Rearrange the formula to find it. Hint: What do you need to know about the water?
5. At this point do you feel confident that you can perform this task? If not, ask me your questions.
6. There is something to consider when you preform this experiment. When saltwater freezes, like at the North Pole, the ice does not contain any salt. The salt stays dissolved in the liquid and therefore increases the concentration of the seawater. What happens to the freezing point of seawater as its salinity increases?
7. If you record the temperature of your solution well after the solution has begun to freeze, like at the North Pole, how will that change your calculated molar mass? Be specific.
8. **Names of people in the group.**