### Concepts that must be addressed: [40 pts]

- **What is a solution?**
  - Identify the solute and solvent in every solution ___ /5

- **How do you make a solution?**
  - Show math for determining concentration (molarity, M) of solutions ___ /5
  - Show math for dilutions made (\(M_1 V_1 = M_2 V_2\)) ___ /5
  - Describe solutions as saturated, unsaturated, or supersaturated and why ___ /5

- **Why do solutions form?**
  - Identify all substances as polar or nonpolar ___ /5
  - Explain why solutions form or not in terms of polarity (“like dissolves like”) ___ /5
  - Explain solubility in terms of intermolecular forces (i.e. dissociation, dissolving, hydrogen bonding, etc.) ___ /5

- **What affects solution formation?**
  - Explain relationship of solubility and temperature (heat), particle size (surface area), and/or stirring based on how well or how fast solutions form ___ /5

### Scientific Question and Names [1 pt]

- Make question large on poster board ___ /.5
- Underneath title, include names of all group members with roles in parenthesis ___ /.5

### Purpose/Goal [2 pts]

- State purpose/goal of experiment ___ /1
- Have title for this section at the top ___ /1

### Equipment [2 pts]

- List every equipment, tool, and substance used in bullet form ___ /1
- Have a title for this section at the top ___ /1

### Procedure [5 pts]

- Number every step performed in detail ___ /2
- For each step, mention the equipment or substance needed + observations ___ /3

### Results/Calculations/Discussion [25 pts]

- Explain if and how purpose/goal was met ___ /2
- Include all mixture particle diagrams ___ /10
- Show ALL calculations done and formulas used ___ /10
- Describe any sources of error and how this may have affected results ___ /3

### Conclusion [5 pts]

- State the goal/purpose of experiment and if it was met ___ /2
- State final results of experiment ___ /3

### Presentation [20 pts]

- 25% based on peer evaluation (To be given out on the day of poster presentation) ___ /5
- 25% based on group member evaluations (based on participation and contributions) ___ /5
- 50% based on teacher evaluation ___ /10
Example of poster board layout
(As long as all of the information is included, you do not have to follow this format, but make sure it is neat and organized.)

Display in front of poster board...
May want to have solutions that your group made in front of board or anything else that you may want to display to showcase your experiment.

BONUS POINTS...
Maximum of 10 bonus points for neat and organized layout and presentation.