

Name \_\_\_\_\_

FINAL GRADE \_\_\_\_\_ / 100

Partners' Names \_\_\_\_\_

## SOLUTIONS UNIT: Group Experiment and Presentation Rubric worth a test grade

[point values in brackets]

### 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 ( $M_1V_1 = M_2V_2$ ) \_\_\_\_ /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 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]

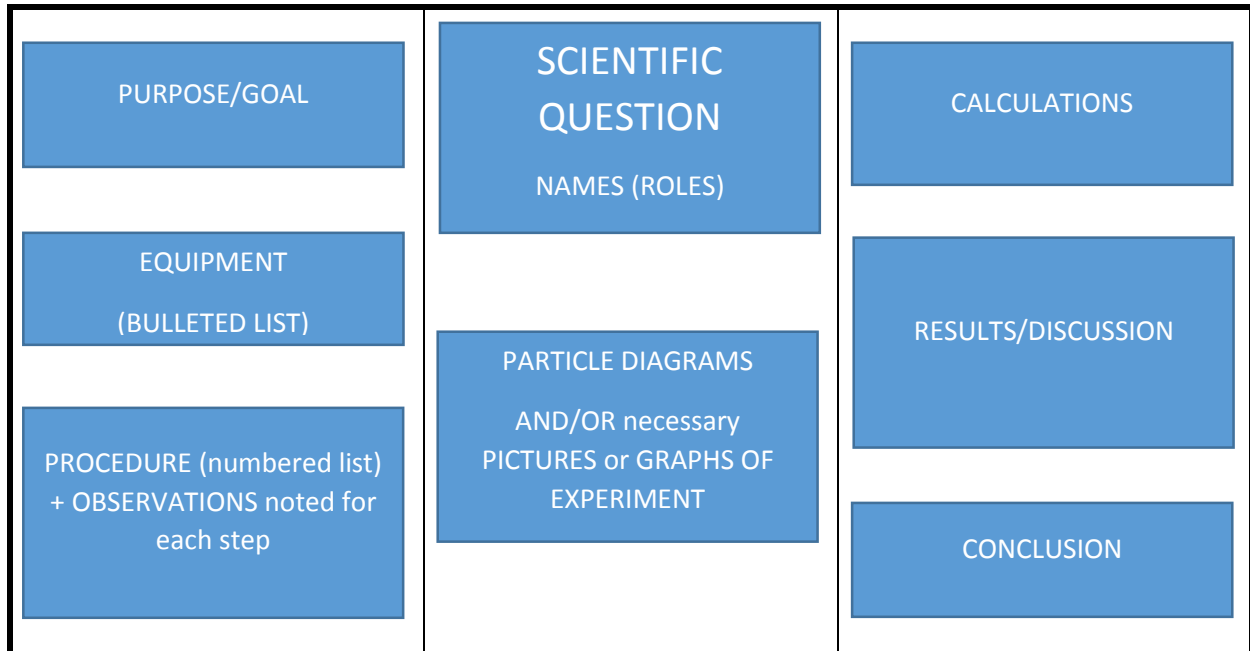
- ☐ State the goal/purpose of experiment and if it was met \_\_\_\_ /2
- ☐ State final results of experiment \_\_\_\_ /3

### 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.