Name_____

Mystery Solutions with Acids and Bases

Data Table with Observations

Pipet Label and Number of Drops	Pipet Label and Number of Drops	Observations	Conclusions

Post-Lab Analysis and Post-Lab Questions

1. Fill in the solution identities below.

Pipet Label	Solution Identity

2. Write a paragraph explaining how observations and data analysis identified all four unknown solutions.

3. If two unknown solutions were tested, an acid and a base, could the concentration of both solutions be found regardless of which solution is titrated?

4. "Don't mix chemicals unless instructed to do so" is a good general safety rule—unpredictable reactions may take place. The following are some common "chemicals" found in most homes.

   A. Vitamin C

   B. Baking soda

   C. Washing soda

   D. Epsom salts

   E. De-icing salt

Compounds A–E are all white solids that are soluble in water. When the solids were dissolved in water and then mixed pairwise in a laboratory as shown in the table below, several reactions were observed (NR—no reaction; ppt—precipitate). Note that since mixing A + B has the same effect as mixing B + A, only half the table is filled in.

	A	B	C	D	E
A	—	bubbles	NR	NR	NR
B		—	NR	NR	ppt
C			—	ppt	ppt
D				—	NR
E					—

Assume someone removed the labels from the household substances and scrambled them—they are now called 1–5. Identify 1–5 based on the data below.

	1	2	3	4	5
1	—	ppt	NR	ppt	NR
2		—	NR	NR	NR
3			—	NR	bubbles
4				—	ppt
5					—