FLINN SCIENTIFIC

Name_____

Match the Mystery Solutions Worksheet

In the space below, describe the test method used and summarize your observations.

Post-Lab Questions

1. Write your matches in the box below and describe the reasoning that led to your conclusion.

___	=	___
___	=	___
___	=	___

2. What steps of the scientific method listed in the *Background* section were used in solving the mystery of the unknown solutions?

3. Forming a hypothesis is often considered an essential step of the scientific method. Why was it not appropriate to develop a hypothesis in this experiment?

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

Continued on back of sheet.

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					—