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**Student Activity- What is a precipitate?**

In this laboratory you will observe and record a reaction between two solutions You will observe the formation of a precipitate as well as other phenomenon and record them.

Recall that one of the indications that a chemical change has taken place is the formation of a precipitate (a solid substance that falls out of a solution).

You will be given two vials containing two different solutions. One of them contains an aqueous solution of lead (II) nitrate, Pb(NO3)2(*aq*). The other vial contains an aqueous solution of sodium sulfide, Na2S(*aq*). You will make some simple observations about these two solutions. Then you will combine them and record what occurs. You will determine if a reaction (a chemical change) has occurred. You will then draw some conclusions about your final products.

1. Write down any physical characteristics about your two vials.

Vial 1 - Pb(NO3)2(*aq*).

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Vial 2 - Na2S(*aq*).

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2. Combine the two vials into a small beaker and gently swirl the contents. Let it sit for a

minute. Record what happens.

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3. Did a chemical change occur? If so, how do you know?

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4. The products of this reaction are sodium nitrate and lead (II) sulfide. Sodium nitrate is a

 soluble white solid and lead (II) sulfide is an insoluble white solid. Which of these two products did you see formed in this reaction? Explain.

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5. Which product was not visible to the naked eye? Explain why you could not see it.

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6. The following is an unbalanced reaction between the two solutions we combined in this lab.

 We will learn how to balance it, in order to not violate the law of conservation of matter.

\_\_\_\_ Pb(NO3)2(*aq*) + \_\_\_\_ Na2S(*aq*) \_\_\_\_ NaNO3(*aq*) + \_\_\_\_ PbS(*s*)