The Yellow Submarine Demo

**Purpose:** To collect evidence that determines what happens to atoms when substances react.

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| **Table 1. Observations** | | | |
|  | **BEFORE POUR** | | **AFTER POUR** |
| **Chemical** | 1. *Lead Nitrate* | 1. *Potassium Iodide* | ???? |
| **Observations** |  |  |  |

**Making Sense of the Yellow Submarine**

Below is the equation for the chemical reaction you observed and, in Table 2, the models for some of the substances. Complete the table by constructing models for the remaining substances present in the reaction.

Pb(NO3)2(aq) + 2KI(aq) --> PbI2(s) + 2KNO3(aq)

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| --- | --- | --- | --- | --- |
| **Table 2. Models** | | | | |
|  | **BEFORE** | | **AFTER** | |
| **Chemical Name and Formula** | Lead Nitrate  Pb(NO3)2 | Potassium Iodide  2KI | Lead Iodide  PbI2 | Potassium Nitrate  2KNO3 |
| **Molecular Model** | A close up of a clock  Description automatically generated |  |  |  |
| **Number of Atoms** |  |  |  |  |

1. How do the models above support your observations from Table 1?
2. Use evidence from this activity to defend the following claims about chemical reactions:

|  |  |
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| **CLAIM** | **EVIDENCE** |
| During a chemical reaction, new substances form. |  |
| During a chemical reaction, atoms rearrange. |  |
| During a chemical reaction, matter is not created. |  |
| During a chemical reaction, matter is not destroyed. |  |