**Types of Reactions Lab – Instructions for Virtual Students**

You are going to watch two videos. You will observe 11 different chemical reactions. In the data chart, the reactants for those reactions have been provided. The links to the videos are below.

Step 1. **Before** you watch the videos, predict (hypothesize) the products of each of the reactions. Write your predictions in box **2.).** Use your knowledge of types of reactions (or your notes) to help you make accurate predictions. **(All you do for box 2.) is write the formulas for what you think the products will be!)**

Step 2. Then, watch both of the following videos. **Pause** the videos as needed. **Re-watch parts** as needed. Use the videos to complete box **3.)** the observations.

Step 3. In box **4.)** write the formulas for the actual products of the reaction. You will get this information from the videos.

Step 4. In box 5**.)**, write the balanced chemical equation for the reaction. Include the state of matter for each substance.

Step 5. Answer the post-lab questions.

Step 6. The completed lab should be saved in your OneNote notebook in Unit 5.

**Links to videos:**

**Video 1.** **Watch this one first.** In this video the teacher spends the first minute telling her students how to set up their notebooks – so just ignore! [**https://www.youtube.com/watch?v=eLkGX2jAKoM**](https://www.youtube.com/watch?v=eLkGX2jAKoM)

**Video 2.** [**https://www.youtube.com/watch?v=WX2Lrsdyg2Y**](https://www.youtube.com/watch?v=WX2Lrsdyg2Y)

**Types of Reactions Lab**

**Purpose: (in Video 1)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Data and Observations:**

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| --- | --- | --- | --- | --- |
| **Type of Reaction** | **1.) Reactants** | **2.) Products (Hypothesized)** | **3.) Observations (Signs that a chemical reaction has occurred)** | **4.) Products (Actual)** |
| **Video 1 & 2**  **Synthesis**  **Video 1** | **Mg + O2 🡪** |  |  |  |
| **5.) Balanced Equation:** | | | |
| **1.)**  **Cu + O2 🡪** | **2.)** | **3.)** | **4.)** |
| **5.)** | | | |
| **Video 1**  **Decomposition**  **Video 2** | **1.)**  **NaHCO3 🡪** | **2.)** | **3.)** | **4.)** |
| **5.)** | | | |
| **1.)**  **H2O2 🡪**  **(MnO2, cat)** | **2.)** | **3.)** | **4.)** |
| **5.)** | | | |
| **Video 1**  **Single Displacement**  **(Single Replacement)**  **Video 1 & 2** | **1.)**  **AgNO3 + Cu 🡪** | **2.)** | **3.)** | **4.)** |
| **5.)** | | | |
| **1.)**  **HCl + Zn 🡪** | **2.)** | **3.)** | **4.)** |
| **5.)** | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Type of Reaction** | **1.) Reactants** | **2.) Products (Hypothesized)** | **3.) Observations (Signs that a chemical reaction has occurred)** | **4.) Products (Actual)** |
| **Video 1**  **Video 1**  **Double Displacement**  **(Double Replacement)**  **Video 2** | **CaCl2 + AgNO3🡪** |  |  |  |
| **5.) Balanced Equation:** | | | |
| **1.)**  **Na2CO3 + HCl 🡪** | **2.)** | **3.)** | **4.)** |
| **5.)** | | | |
| **1.)**  **CuSO4 +**  **NaOH🡪** | **2.)** | **3.)** | **4.)** |
| **5.)** | | | |
| **Video 1**  **Combustion**  **Video 2** | **1.)**  **C3H7OH + O2 🡪** | **2.)** | **3.)** | **4.)** |
| **5.)** | | | |
| **1.)**  **C4H10 + O2 🡪** | **2.)** | **3.)** | **4.)** |
| **5.)** | | | |

**Post-Lab Questions:**

**1.** In this activity, a wooden splint was used two times. In one case, the splint was glowing (not burning) and the other case, the splint was burning. What was the purpose of the splint in each situation?

**2.** What are the signs that a chemical reaction may have occurred?

1.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_2.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_3.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_5.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**3.** What is a precipitate?