Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Partner: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Investigating Physical and Chemical Properties of Matter**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Skills:** | Emerging | Developing | Proficient | Extending |
| Making detailed observations |  |  |  |  |
| Evaluating limitations of experiments |  |  |  |  |

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**Purpose:** To recognize chemical and physical properties of common substances.

**Materials**: Spot Plates, scoopula,

* Baking powder
* Icing sugar
* Bay powder baking soda
* Cornstarch
* Flour
* Unknown mixture
* Vinegar
* Water
* Iodine

**Procedure:**

1. Place a small scoop (the size of a pea) of each substance into a well of a spot plate.
2. Make observation on each substance (colour, texture) and record in the data table.
3. To each sample, add 3 drops of water and record your observation in your data table.
4. Rinse out and dry the spot plate.
5. Add a pea-sized scoop of each substance into its own well and add 3 drops of vinegar to each well. Record your observations in the chart.
6. Repeat step 5 for iodine.
7. Choose an unknown (record the letter). Observe its texture and colour as well its reaction to water, vinegar and iodine. Record your observations.

Data Table

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Colour and Texture | Reaction with water | Reaction with vinegar | Reaction with iodine |
| Baking Powder |  |  |  |  |
| Icing Sugar |  |  |  |  |
| Baby Powder |  |  |  |  |
| Baking soda |  |  |  |  |
| Corn Starch |  |  |  |  |
| Flour |  |  |  |  |
| Unknown # |  |  |  |  |

**Questions**

1. In your own words describe the difference between a physical property of matter and a chemical property.
2. Which of the above properties you observed were PHYSICAL properties?
3. Which of the above were CHEMICAL properties you observed?
4. Each UNKNOWN sample contains 2-3 of the chemicals that you tested. State the chemicals you think are in your unknown. What is your evidence?

|  |  |
| --- | --- |
| Chemical | Evidence |
|  |  |
|  |  |
|  |  |

1. EVALUATE: Why was it so difficult to be certain what chemicals were in the unknown?

Next time try sugar and salt