

## **The Mystery of the Periodic Table**

### **“I Have /Who Has” Activity Directions:**

1. Students study the terms from the Word Bank, using the Glossary in the back of the book. It’s fun to work with a partner.
2. Students should have the Word Bank available for reference during the activity.
3. Cut the cards with terms and definitions apart and distribute them among students or small groups of students. Laminate them before distributing, if desired.
4. The teacher, or a student with the “START HERE” card begins with “Who has . . .” while others listen for the definition on their card.
5. The person with the correct definition says “I have . . .” with the correct term.
6. Even after the list is completed, students can practice to complete it within a certain time limit.

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### **WORD BANK**

**element**

**acid**

**alloy**

**base**

**calcinations**

**Conservation of Mass**

**Law of Definite Proportions**

**Law of Multiple Proportions**

**mass**

**groups**

**ores**

**periods**

**smelting**

**reduction**

**compound**

**distillation**

## The Mystery of the Periodic Table: I Have /Who Has

<p><b>I have: Mass</b></p> <p>☺ <b>START HERE</b> ☺</p> <p><b>Who has:</b> These taste sour or tart, and change litmus to red. They are proton donors.</p>	<p><b>I have: Acids</b></p> <p><b>Who has:</b> This states that the elements in a compound are always present in a definite proportion by weight. It was formulated by Proust.</p>
<p><b>I have:</b> <b>Law of Definite Proportions</b></p> <p><b>Who has:</b> A substance of more than one element</p>	<p><b>I have: Compound</b></p> <p><b>Who has:</b> This occurs when elements are removed from a compound, as when oxygen is removed from iron oxide, leaving only iron.</p>
<p><b>I have: Reduction</b></p> <p><b>Who has:</b> This separates liquid compounds into elements or simpler compounds by vaporizing or evaporation.</p>	<p><b>I have: Distillation</b></p> <p><b>Who has:</b> When metals are burned in air, a whitish powder forms upon them which the alchemists called “calx”, from the Latin word for lime or chalk.</p>

<p><b>I have: Calcination</b></p> <p><b>Who has:</b>  <b>This states that “In the formation of 2 or more compounds from the same elements, the weights of one element that combine with a fixed weight of a second element are in a ratio of small whole numbers.</b></p>	<p><b>I have:</b>  <b>Law of Multiple Proportions</b></p> <p><b>Who has:</b>  <b>The vertical rows on the Periodic Table</b></p>
<p><b>I have: Groups</b></p> <p><b>Who has:</b>  <b>A substance composed of two or more metals, or one or more metals and certain non-metals, especially carbon</b></p>	<p><b>I have: Alloy</b></p> <p><b>Who has:</b>  <b>The horizontal rows on the Periodic Table</b></p>
<p><b>I have: Periods</b></p> <p><b>Who has:</b>  <b>A process by which ore is heated to extract the pure metal. It is heated with a reducing agent and a flux to remove the unwanted elements.</b></p>	<p><b>I have: Smelting</b></p> <p><b>Who has:</b>  <b>These taste bitter, are slippery to the touch, and change litmus to blue. They are proton acceptors, accepting hydrogen ions.</b></p>

<p><b>I have: Base</b></p> <p><b>Who has:</b> This states that in every reaction there is an equal quantity of matter before and after the operation. It was first formulated by Lavoisier.</p>	<p><b>I have:</b> <b>Conservation of Mass</b></p> <p><b>Who has:</b> Naturally occurring rocks, or mineral combinations, with a high concentration of metals.</p>
<p><b>I have: Ores</b></p> <p><b>Who has:</b> This is commonly defined as a substance which cannot be broken down by chemical change into simpler, purer substances.</p>	<p><b>I have: Element</b></p> <p><b>Who has:</b> This is not the same as weight. It takes into account the amount of matter a body contains, and also the resistance that body has to change in its motion (inertia).</p>