**Letter Balance**

<table>
<thead>
<tr>
<th>NGSS GOALS</th>
<th>BRONZE</th>
<th>SILVER</th>
<th>GOLD</th>
<th>PLATINUM</th>
</tr>
</thead>
</table>

### 1. Student work related to this Crosscutting Concept:
In this project, we drew and explained how the three important parts of our weighing machine worked.

**Cause and Effect:**
*Use cause and effect relationships to explain observations in designed systems.*

- We drew our weighing machine.
- We labeled the three important parts of the weighing machine.
- We met Bronze.
- We correctly identified the parts in our weighing machine that caused it to move the pointer for our measurements. 
- We met Silver.
- We explained which parts of our weighing machine need to be adjusted to measure heavier objects.
- We met Gold.
- We explained which parts of our weighing machine did not cause it to weigh objects accurately.

### 2. Student work related to this Practice:
In this project, we built a model of a tool to measure the weight of different objects.

**Developing and Using Models:**
*Evaluate limitations of a model for a proposed object or tool.*

- We built the weighing machine according to the building instructions.
- We built our weighing machine to handle heavier objects by adding an additional counterweight wheel.
- We met Bronze.
- We put markings on our blue plastic scale so we could measure objects in grams.
- We compared our scale with the scales created by our classmates.
- We met Silver.
- We built our weighing machine to handle heavier objects by adding an additional counterweight wheel.
- We used our observations to revise our weighing machine and make improvements.

### 3. Student work related to this Practice:
In this project, we investigated which was better at measuring weight, our hand or our weighing machine.

**Planning and Carrying Out Investigations:**
*Evaluate the accuracy of various methods for collecting data.*

- We estimated the weight of at least three objects with our hands.
- We weighed at least three objects with our weighing machine.
- We met Bronze.
- We estimated the weight of two more objects with our hands.
- We changed our weighing machine and investigated the weight of different numbers of coins.
- We met Silver.
- We weighed two more objects with our weighing machine.
- We correctly guessed (within a few coins) the number of coins in the secret money bag.
- We weighed and made predictions for at least two additional secret money bags.

**Notes:**