2.1 Potato Weighing and Sorting

# Instructions

**Materials Needed:**

* Different-sized potatoes (small, medium, large)
* Digital or spring scales (for weighing)
* Ruler or measuring tape
* Paper and pencil (for recording data)
* Calculator (optional)
* Bins or containers for sorting potatoes

**Setup:**

1. **Prepare the Potatoes:**
   * Gather potatoes of different sizes and varieties. Wash them to remove any dirt.
2. **Set Up Workstations:**
   * Provide each student or group with a scale to weigh the potatoes. Ensure there is enough space for sorting and measuring.
3. **Prepare Data Sheets:**
   * Give students paper or a template where they can record their findings (weight, size, etc.) for each potato. Include sections for calculating average weight and range.

**Activity Instructions:**

1. **Weighing the Potatoes:**
   * Have students weigh each potato individually. Record the weight of each potato.
   * Encourage them to note if the potato feels heavier or lighter than expected before weighing it.
2. **Sorting by Size:**
   * After weighing, students should sort the potatoes into groups by size: small, medium, and large.
   * You can also group them by variety if there are multiple types of potatoes (e.g., russet, red, or Yukon).
3. **Calculating Average Weight:**
   * Once all potatoes are weighed, guide students in calculating the average weight. The formula for the average is:

Average Weight =

Number of potatoes

Total weight of all potatoes

1. **Calculating Range:**
   * Students can also calculate the range of potato weights by subtracting the weight of the lightest potato from the heaviest one.   
       
     Range = Heaviest weight − Lightest weight
2. **Comparing Potatoes by Variety:**
   * If using different potato varieties, students can compare the average weights and sizes of each variety to see if some varieties tend to be heavier or lighter than others.
3. **Recording and Drawing Conclusions:**
   * Have students record their observations and reflect on what they found. Encourage them to think about factors that might affect potato weight and size, such as variety, growing conditions, or age.

**Safety Note:**

* Ensure that scales are used safely, with appropriate supervision. If using digital scales, remind students not to overload them.
* Handle potatoes carefully to avoid bruising or damage, especially if using sharp objects for sorting or cutting.

**Learning Outcomes:**

1. **Data Handling Skills:** Students will practice collecting, sorting, and recording data.
2. **Introduction to Statistics:** Students will learn basic statistical concepts like average (mean) and range, applying them to real-world data.
3. **Measurement and Comparison:** Students will refine their measuring skills by comparing weights and sizes of potatoes.
4. **Critical Thinking:** By sorting and comparing the potatoes, students will begin to understand how physical properties can be measured and quantified.

This hands-on activity introduces students to important mathematical and statistical concepts in a fun and engaging way, using potatoes as a real-world tool for learning.