5.8.A.1.a Observe, describe, and compare the motions of objects using position, speed, velocity, and direction

**Dance Challenge**

Learning Goal: I will calculate and compare speed by measuring a series of dance movements in a dance phrase that I choreograph.

**Step 1:** Use your meter stick to create a tape line 10 meters long. It should be a straight line. Use a piece of tape to mark the beginning and end of your track.

**Step 2:** Choreograph (plan) a short dance phrase to music in class. Describe and sequence the dance movements in your dance below so you ensure you do it the same way in each trial.

**Step 3:** Record the time and distance it takes you to dance in your data table.

**Step 3:** Calculate the speed for each trial and the average speed.

Data:
Describe the steps in your dance (this is your procedure so make sure to include detail):

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

**Table 1: Table of Times to Travel Entire 10 m Distance**

<table>
<thead>
<tr>
<th>Trial</th>
<th>Time (s)</th>
<th>Calculated Speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Challenge: Change your velocity!
5.8.A.1.a Observe, describe, and compare the motions of objects using position, speed, velocity, and direction

**Questions:**

1. Why is it critical to describe your dance in detail for ensure validity in your experiment?
   __________________________________________________________
   __________________________________________________________

2. Explain the difference between speed and velocity
   __________________________________________________________
   __________________________________________________________

3. Were your results accurate? __________ Why or why not?
   __________________________________________________________
   __________________________________________________________
   __________________________________________________________
   __________________________________________________________

4. What could you have changed in this experiment to get more accurate results?
   __________________________________________________________
   __________________________________________________________

5. How could you change your dance to maintain speed but alter velocity?
   __________________________________________________________

6. Explain how your dance connected to science using 5 words from the slide on the computer screen:
   __________________________________________________________
   __________________________________________________________
   __________________________________________________________
   __________________________________________________________
   __________________________________________________________
   __________________________________________________________
5.8.A.1.a Observe, describe, and compare the motions of objects using position, speed, velocity, and direction