Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period \_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**Lesson 2: A Weighty Problem**

Many teachers use weighted averages to determine student grades. For instance, a teacher might count test scores as 75% of a student’s total grade and have laboratories and homework account for 25% of their grade. Are you ready to weigh in on weighted averages?

**Doing the Science**

1. Start the Stats Entertainment Simulation by clicking on the “Sim” tab.

2. Click the “Judges” icon. In this part of the simulation you’ll make six dives. Your overall diving score will be the weighted average of all six of your dives.

3. Adjust the “Number of Spins” and “Number of Twists” buttons to try to enter the water as cleanly as possible to receive the highest score.

4. Once you have adjusted the Number of Spins and/or the Number of Twists, click the “Dive” button to start your dive.

5. Note and record in Table 1 your scores from the three judges for dive #1. Make sure to enter the judges’ scores in the appropriate cells.

6. Repeat steps 3 – 5 for your remaining five dives. Remember that you want to enter the water without making a large splash. Make sure to record your results in Table 1.

7. Using a paper, pencil, and calculator, determine your Unweighted Dive Score Average and record this value in Table 1.

8. Click the “Calculate” button to find your Weighted Average Dive Score. Record this value in Table 1.

**Table 1. Dive Scores**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Scores** | | |
| **Dive** | **Green Judge** | **Red Judge** | **White Judge** |
| **1** |  |  |  |
| **2** |  |  |  |
| **3** |  |  |  |
| **4** |  |  |  |
| **5** |  |  |  |
| **6** |  |  |  |
|  | | | |
| **Unweighted Average Dive Score =** | |  | |
| **Weighted Average Dive Score =** | |  | |

**Do You Understand?**

1. How does your Unweighted Average Dive Score compare to your Weighted Average Dive Score?

2. If you made ten more dives, which measure would exhibit a greater change in its value, your unweighted or your weighted average dive score? Make sure to explain your response.

3. Which judge had the greatest impact on your weighted average dive score?