**WEEK 9 – M&M Probability**

**Grade:** Intermediate (7-8)

**Unit:** Data Management and Probability

**Curriculum Expectation**  
pose and solve simple probability problems, and solve them by conducting probability experiments and selecting appropriate methods of recording the results (e.g., tally chart, line plot, bar graph)

**Activity  
1)** Your task is to use M&Ms to compare theoretical to experimental probability in a fun and delicious way **2)** You will start by counting the M&Ms (make sure to wash your hands first!) and record this on the recording sheet below  
**3)** Then, based on your knowledge around theoretical probability, you will make a prediction for how many M&Ms should be face up and face down when poured out   
**4)** You will then put the M&Ms in a bag, shake them around and pour them onto a plate. You will count the number of M&Ms that are faceup and face down, recording them on the sheet. You can remove (ie eat) the ones that are face down.   
**5)** You will repeat the steps 2-4 until you have run out of M&Ms. As you do, try to notice any patterns  
**Note:** If you do not have M&Ms, you can use anything with two sides such as a coin or even paper with “side 1” and “side 2” written on it

**Check for Understanding**   
I understand the difference between theoretical and experimental probability  
My guesses were reasonable  
I could explain the reasons for my choices and any discrepancies

**Materials**   
Recording chart (attached below), pencil, M&Ms or another object to roll, bag/hand to roll objects with, plate/other flat object sense of probability

Measurement Scaling

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Round #** | **Original number of M&Ms** | ***Expected* ratio of face Up:Down** | **Total M&Ms face up** | **Total M&Ms face down** |
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Follow up Questions:

1. How often did your estimation match the actual results?
2. Why might it be that your estimations did not always match the experimental results of your trials?