

**REVIEW FOR LAB TEST—1<sup>ST</sup> 6 WEEKS**

\*\*\*LAB TEST WILL BE ON: Oct. 2 (A) or Oct. 5 (B)

The following labs were done: Counting Tile Lab, Toy Car Lab, BugSo Copter and Bubble Gum Physics--Velocity/Acceleration

*Study the following information for the LAB TEST*

**1. Distance & Displacement Tile Lab:**

a. What was the lab teaching you?

The purpose of this lab was to distinguish between the concepts of distance vs. displacement. Distance, "how far" and Displacement is "how far+ direction," we explored this in the lab by measuring the pathway of the walk and marking start-finish with tape. Then we found the 'short-cut' and the direction of the walker.

b. What did you do in the lab to help you learn what was being taught?

One partner was the 'walker' and the other read the instructions to the walker, while doing this we used a stopwatch to keep time. Then we used a meter stick to measure the total distance walked and measured the shortest route from start tape to finish tape.

**2. Speed/Velocity: Toy Car lab**

a. What was the purpose of this lab?

The purpose of this lab was to be able to demonstrate the difference between speed & velocity. We also practiced using the formulas for each quantity, and used our lab data from rolling the toy car, which we started on the start tape and marker where the toy car came to a complete stop (timing with out stop watches.)

b. What did you do in the lab to help you learn what was being taught?

In this lab, actually measuring the distance "how far" the toy car rolled, with the meter stick and time gave us the two quantities we needed for speed. We were able to apply these trials with our toy car and calculate the speed and velocity of this object. We also were able to consider the direction of motion for the car during the lab. We then plotted the trials on a Speed graph.

**3. BugSo Copter:**

a. What was the lab teaching you?

The purpose of this lab was to be able to see the effects of gravity on a free-falling object, in this case our "BugSo Copter." We did this by dropping the copter a 'vertical' distance and measuring the total time in the air with a stopwatch. We increased the mass of our Bugso by adding a paperclip on the end to reduce the effects of air resistance.

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

b. What did you do in the lab to help you learn what was being taught?

My partner got on top of the lab table, and I measured the vertical distance and recorded this height. This was important when calculating the speed of the BugSo Copter—which allowed us to create an acceleration graph. We also considered  $g=9.8 \text{ m/s}^2$ .

#### 4. Bubble Gum Lab:

a. What was the lab teaching you?

The purpose of this lab was to be able to calculate the 3 rates of motion: speed, velocity, and acceleration—at different time intervals. We used a piece of bubble gum for the 'chomper challenge' and did a flat 30s for 5 trials. This was the 'speed' portion of the lab. We then moved on to the velocity and acceleration.

b. What did you do in the lab to help you learn what was being taught?

The main thing we noticed during our speedy chomper challenge was that if the time interval remained 'the same' we had a constant speed for our trials. When we calculated the velocity at time 20s, 40s and 60s we had a slight variation in our data, but it is still noted that this was simply a 20 second increase per trial. By performing these calculations, it was helpful to consider that speed, velocity and acceleration are all different rates of motion.