**CO2 Dragster Unit Name(s) Bill Pahutski and Luke Fickenworth**

**Design Testing**

**These results should be in the “Solution” portion of your design journal**

**Weight**:

The heavier a dragster is, the slower it will travel. The weight of the dragster will be the most important factor in determining how well it will perform in the real race. Use the scale to record the mass of your car to the nearest gram. Convert to Newtons for weight

Mass:\_163g\_ WEIGHT: \_\_1.60 N\_

My place in the class competition ( both classes)

\_\_\_\_\_\_\_\_ out of \_\_\_\_\_\_\_ CO2 Dragsters

(*Unknown. Data was not given before project was due.)*

**Wheel Alignment:**

If the wheel alignment of a dragster causes it to veer sideways, it will

create friction between the tires and the track and friction between the

string and the “screw eye”. Friction will cause the dragster to slow. We

can measure the wheel alignment of dragsters by rolling them down a

short ramp, and measuring how far it veers to the side on a one meter

run.

WHEEL ALIGNMENT: #1: 5mm #2: 8mm #3: 1mm\_ Average: 4.67mm

**Wheel spin:**

If the wheels on a dragster are wobbly or if they stick, it will slow the

dragster down. To measure the wheel spin of a dragster, turn it over

and spin each wheel in turn with your finger. Try to be as consistent as possible in the force used to spin the wheel Time how long each wheel spins using a stop watch.

Left Front Wheel #1:1.06 #2: 1.05 #3: 1.05 average \_1.05s\_

Right Front Wheel #1: \_1.09 #2: \_1.03 #3: \_1.06 average 1.06s\_\_\_

Left Back Wheel #1: 1.3\_ #2: 1.26\_\_ #3: \_1.2\_ average 1.25s\_\_

Right Back Wheel #1: 1.7\_ #2: 1.5\_ #3: \_1.5 average \_1.57\_\_

**Wind Tunnel:**

If the air gets “caught” on your car as it travels by, your car will be

slowed down. This force is called “drag” and is measured in grams.

The lower your drag, the less your dragster will be slowed down

by the wind as it travels down the track. Test your dragster in the

wind tunnel 2 times and record the results below

DRAG #1: .166\_\_\_\_ Newtons DRAG #2: \_.173\_\_ Newtons

My place in the class competition ( both classes)

\_\_\_\_\_\_\_\_ out of \_\_\_\_\_\_\_ CO2 Dragsters

(*Unknown. Data was not given before project was due.)*

**Race Results**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Trial | Time (s) | Speed (m/s) | Speed (km/hr) | Speed (miles/hr) |
| 1 | 3.23 | 6.98 | 25.13 | 15.62 |
| 2 | 3.202 | 7.05 | 25.38 | 15.76 |
| 3 | 3.404 | 6.63 | 23.87 | 14.82 |
| Average | 3.278 | 6.88 | 24.77 | 15.39 |

My place in the class competition ( both classes)

\_\_\_\_\_\_\_\_ out of \_\_\_\_\_\_\_ CO2 Dragsters

(*Unknown. Data was not given before project was due.)*