**Streamlining**

**Purpose:** To investigate how the shape of an object affects its speed through the air.

**Materials: Variables:**

**Instructions**

1. Measure the diameter of the muffin case
2. Drop the case from about 1.5 meters
3. Repeat 2 more times and record the results
4. Spread the case to give a bigger diameter and more surface area: repeat steps 1-3
5. Flatten/squish the case and repeat steps 1-3

**Results:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Diameter (cm)** | **Time** **1** | **To****2** | **Fall (sec)****3** | **Average (sec)** | **Speed (cm/sec)** |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |



**Graphing:** We are going to make a graph to show the diameter and time it took for the muffin cases to fall.

X Axis: Diameter

Y Axis: Time

**Post Lab questions**

1. Draw a picture of the muffin case showing the forces acting on it
2. What is the force that pulls the case down? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. What is the name of the force that tries to push the case back up? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. Why did the wider case take longer to fall?
5. When the diameter of the case increase the speed \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ this is because …