**Experiment: Air Resistance**

**Aim:** To investigate air resistance using parachutes.

**Materials:** different sized plastic bags, paperclips, string, scissors and a stopwatch

**Method:**

1. Cut the plastic bags into squares according to the results table below
2. Tie a separate piece of string to each of the corners of the plastic square to make a canopy of a parachute
3. Use 4 paper clips attached to each other in a line to represent the skydiver
4. Attach the strings of the parachute canopy to the paperclips
5. Drop each parachute from a height and use a stopwatch to note the time taken for each parachute to fall down to the ground
6. Repeat step 5 one more time and record your results in the table below, then calculate the average time taken in seconds.

**Results:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Size of**  **Canopy** | **Time taken for  parachute to fall (s)** | | |
| **Trial 1** | **Trial 2** | **Average** |
| **10 X 10 cm** |  |  |  |
| **15 X 15 cm** |  |  |  |
| **20 X 20 cm** |  |  |  |
| **25 x 25 cm** |  |  |  |

**Discussion:**

1. What type of force caused the parachute to fall? ­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Which parachute took less time to fall? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Which parachute took most time to fall? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. What type of force stops the parachute from falling? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. Explain why the different parachutes took different times to fall.

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**Conclusion:**

The larger the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ area of the object, the larger the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ resistance and so the greater the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, slowing it down as it \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.