



# Pair Of Chutes

**M1-03**  
**PHYSICS**

# Question

How are different materials affected by air resistance?

# Abstract

My experiment was on parachutes and the materials they are made out of. I wanted to test this to see if I could better parachutes. For my experiment I believed that If I drop a paper, plastic, and fabric parachute then the plastic parachute will fall the slowest because, it has the smoothest surface area. I then dropped plastic, paper and, fabric parachutes and timed how long it would take for them to fall. In the end the plastic parachutes did fall the slowest, proving my hypothesis right.

# Hypothesis

If I drop a paper, plastic, and fabric parachute then the plastic parachute will fall the slowest because, it has the smoothest surface area.

# Materials

1. 1 10 by 10 centimeter piece of fabric
2. 1 10 by 10 centimeter piece of paper
3. 1 10 by 10 centimeter piece of plastic
4. 60 centimeters of string
5. 1 Ladder
6. A timer

# Procedure

1. Make the fabric, paper, and plastic into a parachute using the string.
2. Stand on the ladder and drop parachute at desired height. Start time when dropped and stop time when it hits the ground.
3. Repeat Step 2 for 20 trials
4. Test another parachute with Steps 2 and 3
5. Test final parachute with Steps 2 and 3
6. Record Results

# Variables

Independent Variable: Parachute Material

Dependent Variable: Flight Time

Constants: Mass and Weight

# Results

In my experiment the fabric parachute fell the fastest at an average of 0.64 seconds. The paper parachute fell in an average of 1.2935 seconds while the plastic parachute fell at an average of 1.502 seconds. The plastic parachute took the most amount of time to fall.



# Conclusion

In doing my experiment I found my hypothesis to be supported by the evidence. The plastic parachute did fall the slowest. My hypothesis was supported because, in my data, the plastic parachute took the longest average time to fall.

# Works Cited

"Gravity." Gravity. N.p., n.d. Web. 13 Sept. 2016.

Infoplease. Infoplease, n.d. Web. 13 Sept. 2016.

"Air Resistance." Air Resistance. N.p., n.d. Web. 13 Sept. 2016.

"Air Resistance Formula." Air Resistance Formula. N.p., n.d. Web. 13 Sept. 2016.

By Using Our Site, You Agree to This. "How Parachutes Work | The Science of Air Resistance." Explain That Stuff. N.p., 2016. Web. 14 Sept. 2016.

"Free Fall and Air Resistance." Free Fall and Air Resistance. N.p., n.d. Web. 13 Sept. 2016.

"The Definition of Gravity." Dictionary.com. N.p., n.d. Web. 14 Sept. 2016. <https://www.facebook.com/Storiesbywilliams-205745679447998/?ref=hl>. "What Is Air Resistance? - Universe Today." Universe Today. N.p., 2016. Web. 13 Sept. 2016.

"What Is Mass (m)? - Definition from WhatIs.com." WhatIs.com. N.p., n.d. Web. 14 Sept. 2016.

"Rules for All Projects." Student Science. N.p., n.d. Web. 25 Aug 2016

<<https://student.societyforscience.org/rules-all-projects>>.