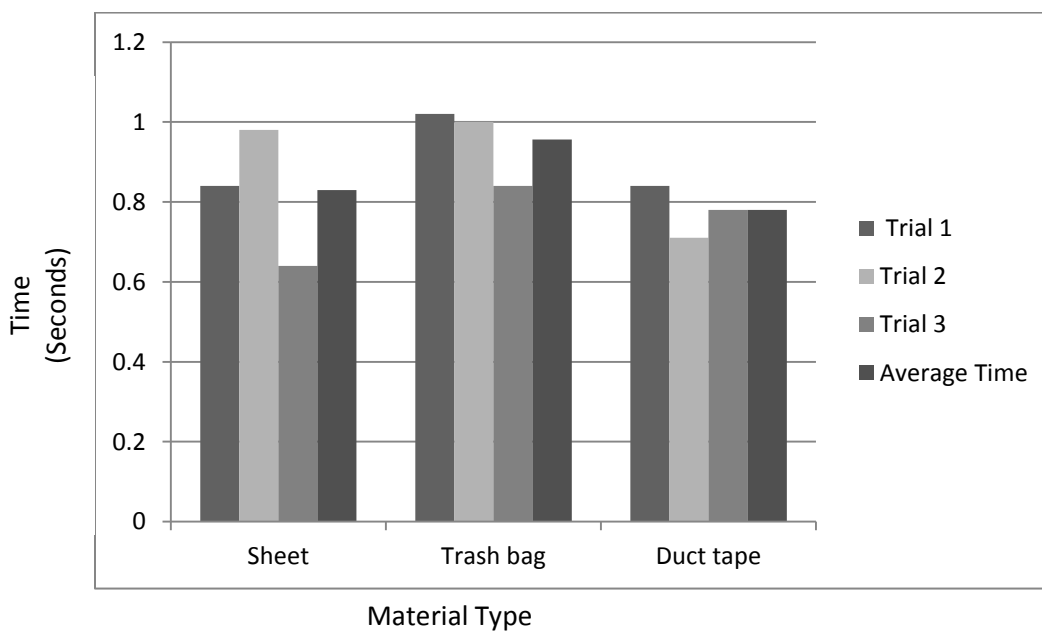


Parachute Material

2. What type of material would make the most efficient homemade parachute?
3. If three different materials are used to make a parachute, then the parachute made of the plastic trash bag would be the most efficient because the plastic would hold in the air slowing the decent without breaking.
4. Materials:
 - a 36in. x 36in. sheet
 - a 36in. x 36in. plastic trash bag
 - a 36in. x 36in. sheet of duct tape
 - 12 20 in. pieces of strong string
 - An object that weighs 3lbs.
 - Stopwatch
 - A ladder
5. Procedure:
 - a) Take the sheet and attach a piece of string to each corner
 - b) Take the other end of the strings and tie them to the box
 - c) Drop the parachute and box off of the ladder and time how long it takes for the parachute to hit the ground.
 - d) Record
 - e) Repeat steps 3-4 two more times
 - f) Calculate average time to hit ground for the parachute
 - g) Repeat steps 1-6 with each of the other materials
6. Data tables:

Parachute Time Trials

Trial	Sheet time (s)	Trash bag time (s)	Duct tape time (s)
1	.84	1.02	.84
2	.98	1.00	.71
3	.64	.84	.79
Average time (s)	.830	.956	.78



7. Response to the hypothesis:

Our hypothesis was that the trash bag parachute would be the parachute that worked the best. The hypothesis was proven to be correct.

8. Analysis Question Answers:

- a) The trends I saw in my data were that as I changed the material to a lighter and less porous material the time it took for the parachute to fall increased.
- b) From the original plan for my experiment I had to change the weight of the object and the height of the fall so that it would work.
- c) Our sources of error in the experiment would; be the length of string once tied to the weight, this would not allow the parachute to fully open. The height of at which the parachute dropped at. My arm may not have been at the exact same height when i dropped the parachute thus varying the time. The size of the parachute may have varied slightly because the tape measure may have not been level when we measured.
- d) We could change the experiment for the better by tying the string to the parachute before measuring out the length. Mark on a wall the height at which we drop the parachute from. Take the time and re-measure each length before cutting it.

9. Conclusion

While doing this experiment we have begun to understand why there are different materials for different purposes. If they use a heavy, porous material to try and alleviate the force on an object as it hits the ground it would prove to be ineffective. With each different scenario it may require a different material for it to be affective. This experiment raised some questions for me. If we used a different size of parachutes would I get the same results? We would investigate this by making the parachutes larger and dropping them from the same height. Would the

height of the drop affect the drop time between the parachutes more significantly? We could test this by dropping an unassisted weight off of the roof of a three-story building and time it. Then we could drop each of the three parachutes off the same building with the same weight and time how long it took to hit the ground.

A good experiment is an experiment that is controlled as much as possible with little error. There would be a controlled environment with nothing to mess up the experiment. Things that would mess up the experiment would be things such as light exposure, wind, and temperature. These would have to be eliminated to control the experiment. A good experiment would also be able to be recreated. If the experiment could not be recreated to get the same results, then it was not a good experiment. We believe our experiment could have been better but for the most part was a good experiment.