

# SCIENCE FAIR

M3-19 PHYSICS



# TESTABLE QUESTION

Does the PSI of a basketball effect the height that it bounces?



# ABSTRACT

The question that I answered is does the PSI of a basketball effect the height that is bounces.


I

chose this question to investigate because I play basketball in multiple leagues, and became interested in learning more about the game of basketball. I want to know if the inflation of the

basketball determines how effective it is at the height that it bounces. My hypothesis If the basketball contains a lower or higher PSI level than the regular basketball then it won't be as effective as a regular pumped basketball because it will not be able to bounce the same height as a regular basketball. For my experiment, I would first place the meter stick upright to the side of the wall. Then, I would start with High Pumped Basketball, drop the ball 6ft off the ground and record the height of the bounce. Next, I would repeat step 2 20 times. Finally, I'll Repeat step 2 and 3 process for both the Regular and Low Pumped Basketballs. My experiment showed an average bounce of 45.89 inches for the 7 PSI basketball, 51.34 inches average for the 8 PSI basketball, and an average of 58.04 inches for the 9 PSI basketball. My experiment shows that my hypothesis is correct, and the PSI of the basketball effects the height that it bounces.

## HYPOTHESIS

If the basketball contains a lower or higher PSI level than the regular basketball then it won't be as effective as a regular pumped basketball because it will not be able to bounce the same height as a regular basketball.

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# MATERIALS

Meter Stick

High Basketball (9 PSI)

Regular Basket

Lower Basketball (7 PSI)

Concrete Surface


Composition Book

Pen


Basketball Pump



# PROCEDURE

1. Place the meter stick upright to the side of the wall.
  2. Start with High Pumped Basketball, test and record the height of the bounce.
  3. Repeat step 2 20 times.
  4. Repeat step 2 and 3 process for both the Regular and Low Pumped Basketballs
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# VARIABLES

- Independent Variable: Change in PSI of basketball.
  - Dependent Variable: Height of the basketball's bounce.
  - Controlled Variable: Regular PSI of a basketball.
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# EXPERIMENT PICTURES



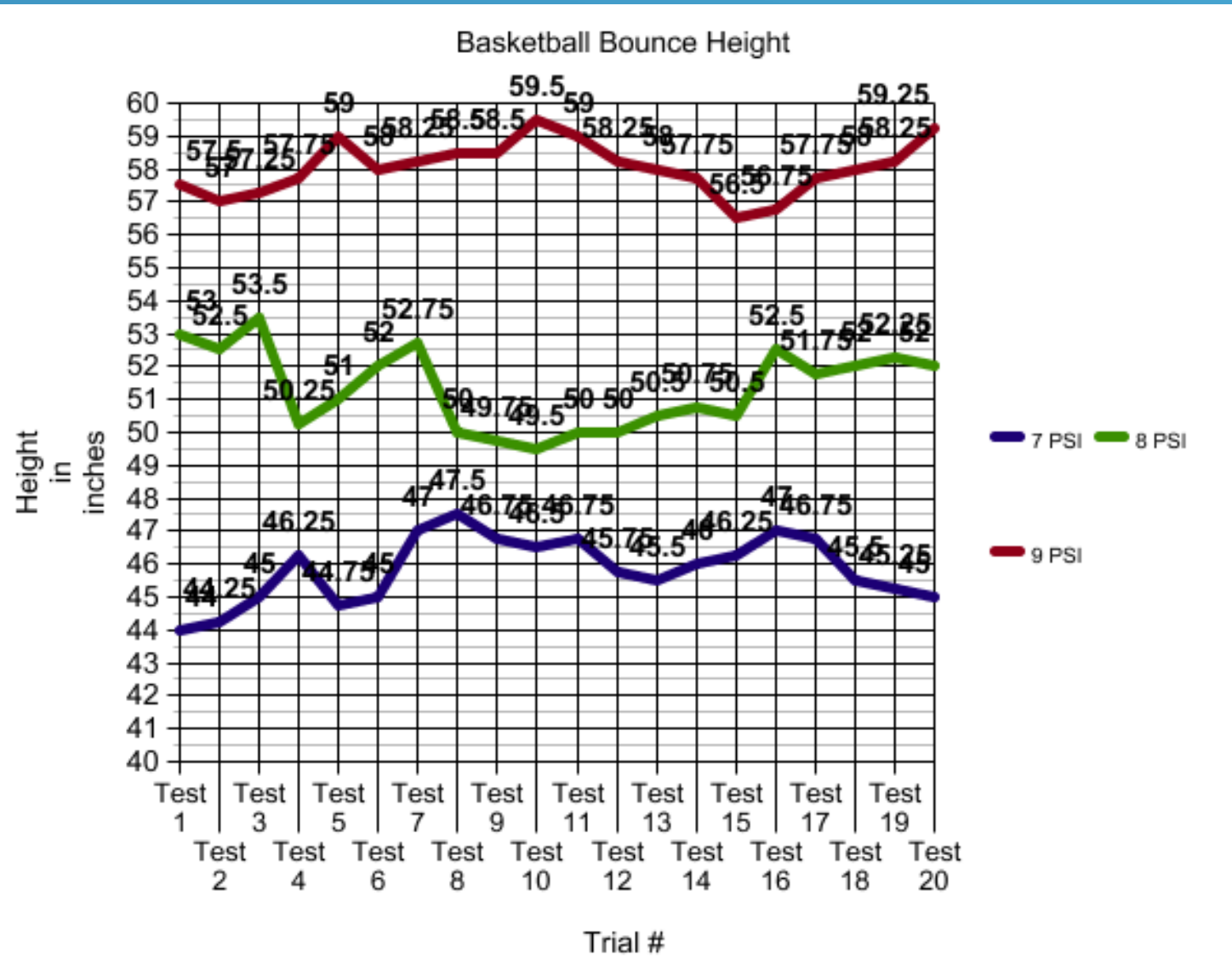


# RESULTS

7 PSI - 45.89 inches average  
8 PSI - 51.34 inches average  
9 PSI - 58.04 inches average




# RESULTS



# CONCLUSION

The question that I answered is does the PSI of a basketball effect the height that is bounces. My hypothesis was supported because the regular 8 PSI basketball bounce height differed from the bounce heights of the lower 7 PSI basketball and the higher 9 PSI basketball.

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# REFERENCES PAGE

Division, By. "NBA.com - History of the Basketball." NBA.com - History of the Basketball. NBA.com, 28 June 2006. Web. 14 Sept. 2016.

By 1897-1898, Teams of Five Became. " Basketball History." Basketball History. World of Basketball, n.d. Web. 14 Sept. 2016. Basketball History

"National Basketball Association." NBA. Wikimedia Foundation, n.d. Web. 14 Sept. 2016.

"What Is a Basketball Made out of." What Is a Basketball Made of. Wanttoknowit.com, 8 July 2012. Web. 14 Sept. 2016.

"Basketball (ball)." Basketball. Wikimedia Foundation, n.d. Web. 14 Sept. 2016.

Rules for All Projects. Student Science . p., n.d. Web. \* Aug. +1\*.

[Ghttps://student.societyforscience.org/rules-all-projects](https://student.societyforscience.org/rules-all-projects)H.

<http://hdwallpaperia.com/wp-content/uploads/2013/11/Basketball-Background.jpg>