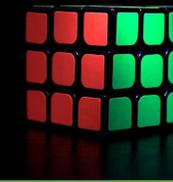


Does price equal speed?



Problem / Testable Question

Does using an expensive cube give you faster solve times?

Background Information

On this website some people said that yes it does matter, while some people say that it does not matter and that it is based off of your own skills. People said that magnetic cubes are more expensive, which is supposed to make you faster, but some people do not think this.

Hypothesis

My hypothesis is that the more expensive the cube is the more faster you can solve it. I think this because the expensive cube is more smoother and lighter than the cheaper cube.

Variables

What variable was changed in your experiment?
(Independent Variable)

The independent variable in this experiment were the cubes that I used to solve.

What variable was measured in your experiment?
(Dependent Variable)

The dependent variable in this experiment would be the time(results) that I end up getting after solving the cube.

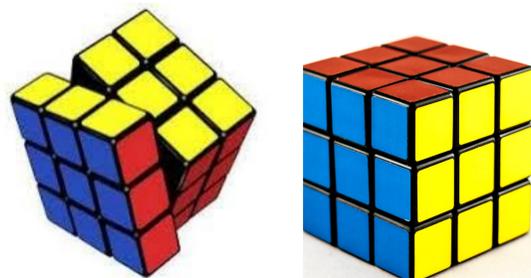
Materials

Quantity (price)	Materials (brand cubes)
\$ 7	3x3 cube (Qiyi)
\$ 25	3x3 cube (Diyan)
\$ 55	3x3 cube (Moyu)

Procedure

1. Get three different Rubik's cubes each with different prices.
2. Scramble all three cubes the same way and then solve them.
3. Once completed, record the time on the paper.
4. Repeat step 2 until you finished solving 5 scrambles for each of the cubes.
5. Calculate the average and compare them to each of the other average.

Photos



Results

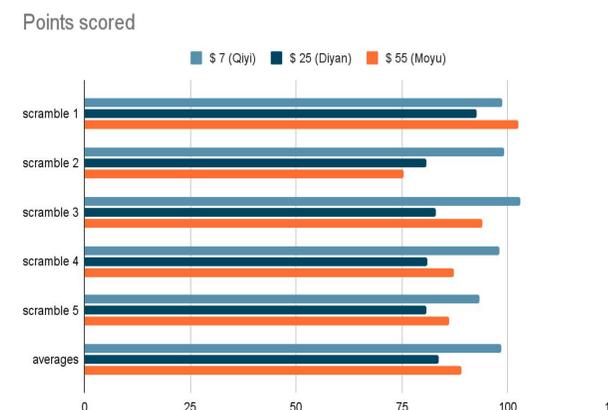
My hypothesis was incorrect. The middle priced cube was more faster than the other cubes.

Different scrambles	\$7 cube (Qiyi)	\$25 cube (Diyan)	\$55 cube (Moyu)
1st scramble	1:38.78	1:32.69	1:42.59
2nd scramble	1:39.06	1:20.80	1:15.48
3rd scramble	1:43.03	1:23.11	1:33.92
4th scramble	1:37.94	1:21.07	1:27.29
5th scramble	1:33.41	1:20.84	1:26.04

Average of 5 results

	\$ 7 (Qiyi)	\$ 25 (Diyan)	\$ 55 (Moyu)
Average of 5 results	1:38.44	1:23.71	1:29.06

Chart



Conclusion

In conclusion, I found out that the \$25 Rubik's cube gave me the fastest times. I was very surprised how the most expensive cube was not actually the fastest because I thought that the traits of the most expensive were so much better than the cheaper ones.

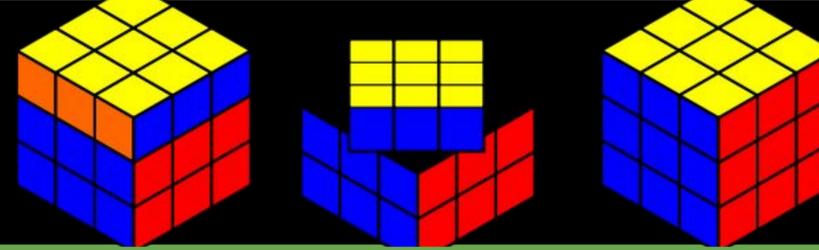
References

1. [quora.com/DO-you-need-an-expensive-Rubiks-Cube-to-be-a-better-cuber](https://www.quora.com/DO-you-need-an-expensive-Rubiks-Cube-to-be-a-better-cuber)
2. The most expensive vs The cheapest rubik's cube
[youtube.com/watch?v=kooLYQUPqn8](https://www.youtube.com/watch?v=kooLYQUPqn8)
3. What is the point of magnets in speed cubes?
[youtube.com/watch?v=tPBwG7PbqZ4](https://www.youtube.com/watch?v=tPBwG7PbqZ4)

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Reflections on Learning



Please answer the following questions about your project.

1. Where did you do your project and who supervised you?

ANSWER:

I did my project at my house. My brother and my mom helped me with my science project.

2. Please fill out the chart with the safety risks for your project and the safety measures you used.

Possible Safety Risk	Safety Measures Used
Example: Use Power Drill	Parent Supervised
Example: Handled Liquid Chemicals	Wore gloves and washed hands after use
Example: Plants Grew Mold	Threw plants away as soon as they molded

ANSWER:

Possible Safety Risk	Safety Measures Used
None	None

Did you follow all of the Austin Energy Regional Science Fest's Elementary Rules and Guidelines?

ANSWER:

3. What gave you the idea for this project?

ANSWER:

I have a lot of rubik's cube in my house so I was wondering if the more expensive cubes that we have would mean that I could solve it faster.

4. What did you learn from doing your project?

ANSWER:

In the end I learned that a more expensive cube doesn't mean that you would get faster times. A lot of it is because of your own skill.

5. What would you change about the project and why?

ANSWER:

The thing that I would change next time is either adding more cubes, or doing more solves to get more accurate results.

6. What new questions do you have?

ANSWER:

What if instead I solved the cubes, one of my brothers did it? Would the time difference between each of the cubes be more or less?

7. Is there anything else you want to tell your judge?

ANSWER:

I really enjoyed this experiment because I got to solve a lot of cubes and had a fun time doing that.