

Aleksander Ajamian
Physics-Electricity-Magnetism, Jr

How Does a Maglev Train Stop?

Dear esteemed judges,

My name is Aleksander Ajamian, and at the age of 12, I am deeply honored to express my gratitude for being chosen as one of the recipients of the 2024 James E. Roberts special award at the LA County Science Fair.

My fascination with transportation, particularly trains, automobiles, and planes, has been a constant source of intrigue for me. During my research, I stumbled upon a remarkable example of innovation: a maglev train in Japan, shuttling between Tokyo and Nagoya, captured my imagination. Additionally, the concept of Science Buddies inspired me to dive deeper into the realm of maglev trains, ultimately becoming the focus of my project.

Embarking on my project journey, I initially immersed myself in understanding the intricacies of maglev train systems. With this knowledge, I set out to construct a model using wooden blocks, glue, double-sided tape, and various other materials. However, I encountered a challenge early on—the initial design of my train was too heavy and long. To overcome this obstacle, I opted for a lighter piece of wood, significantly enhancing the train's functionality as it smoothly glided along the track.

As I progressed, questions arose about how my train would stop. Introducing a magnet stopper proved to be the solution, prompting further inquiry into the optimal number of magnets required for effective stopping. Through experimentation, I discovered that additional magnets did not necessarily enhance stopping efficiency. The distance of the train stopped around the same distance no matter how many magnets were added. This led me to realize magnetism and its behavior in travel applications.

Receiving this prestigious award has instilled in me a renewed sense of confidence and a commitment to wholeheartedly pursue new ideas and concepts. I eagerly anticipate the opportunity to explore Japan's Maglev transportation system in the future.

I extend my sincerest gratitude to the esteemed panel of judges for recognizing my efforts and selecting me for the James E. Roberts special award. In conclusion, my participation in the 2024 LA County Science Fair has been an immensely rewarding experience. I am grateful for the connections I've made and the friendships forged, making it a truly memorable and enriching event.

Thank you once again for this incredible opportunity.

Warm regards, Aleksander Ajamian