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Exploring Maglev Transportation

The purpose of my project was to test different forms of induction used on maglev (MAGnetic LEVitation) vehicles. If we know the best methods of propulsion on maglev vehicles, we could apply maglev as an efficient, viable means of transporting goods/people. Magnetic levitation vehicles could be the end of the use of fossil fuels, as well as offer a new means of renewable energy that leaves little to no carbon footprint! I tested two different sources of induction, vehicle and track induction. TRACK INDUCTION: I hand-built a model maglev track with electromagnets stationed in the center, the purpose of which would be that computer programming would switch the polarities and draw the vehicle across the track. VEHICLE INDUCTION: I hand-built a maglev vehicle powered by a Direct Current (DC) motor. The track, used in conjunction with the vehicle, was a pre-manufactured track. I used 1.5g and 5g weights to test the weight capacity of both methods. While the track induction test held 140g as a maximum in the stationary position, the results were extremely inconsistent. The vehicle induction held 80g as a maximum in the stationary position, but had much more consistent results. The vehicle induction had a considerably lower weight capacity for cargo due to it sustaining the weight of the motor. Both forms of induction may be useful to society; however; they are not yet feasible enough to be applied as common means of transportation for both goods and people.