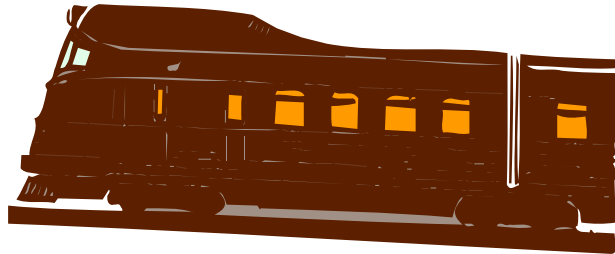


Future Trains

Magnetic Levitation Vehicle Design Activity

Situation

New technology is being developed that has the potential to impact mass transit systems throughout the world. Magnetic levitation may be a key to the trains of the future since they provide a frictionless suspension system and advanced propulsion and guidance systems.



Design and construct a model maglev vehicle that will travel the fastest down the track in class.

Resources

Time	15 class periods
People	2 per group
Energy	Electrical
Information	Magnetism, basic electronics
Money	None
Tools	Acrylic cutters, strip heater for bending plastic, sander
Materials	Plexiglas, balsa wood, Styrofoam, foam board, electrical wire, one DC motor, and propeller
Space	The length of the vehicle must not exceed six inches

Other Criteria

- The vehicle must securely hold ten marbles in order to simulate passengers and cargo.

Required

Documentation

The following must be handed in your design portfolio at the end of the activity:

- Three or four alternate design sketches completed before building.
- One final design drawing (to be completed before you receive materials).
- Records of testing and adjustments made to the vehicle.