

Marvelous Magnets

Magnets are objects that have an unusual ability to attract and repel certain materials. Magnets have two poles that are called the north pole and the south pole. The **poles** are areas near the opposite ends of a magnet where the magnetic force is the strongest.



Magnets are useful in lots of ways. Their attractive properties are used to stick things on other objects like refrigerators. They are also used to help power speakers in stereos and store data in computers.



In addition, the force generated by the attractive pull or repulsive push of magnets can be used to help move objects from one place to another. For example, electromagnetic trains like the MAGLEV train in China use magnetic repulsion to “float” the train on top of its track. Since it doesn’t take much energy to push a floating train down a track, the MAGLEV is one of the fastest trains in the world and can reach speeds of 430 km/hr (270 miles/hr).



In this STEM Challenge, your task is to build a vehicle that is powered only by the attractive pull or repulsive push of a pair of magnets.