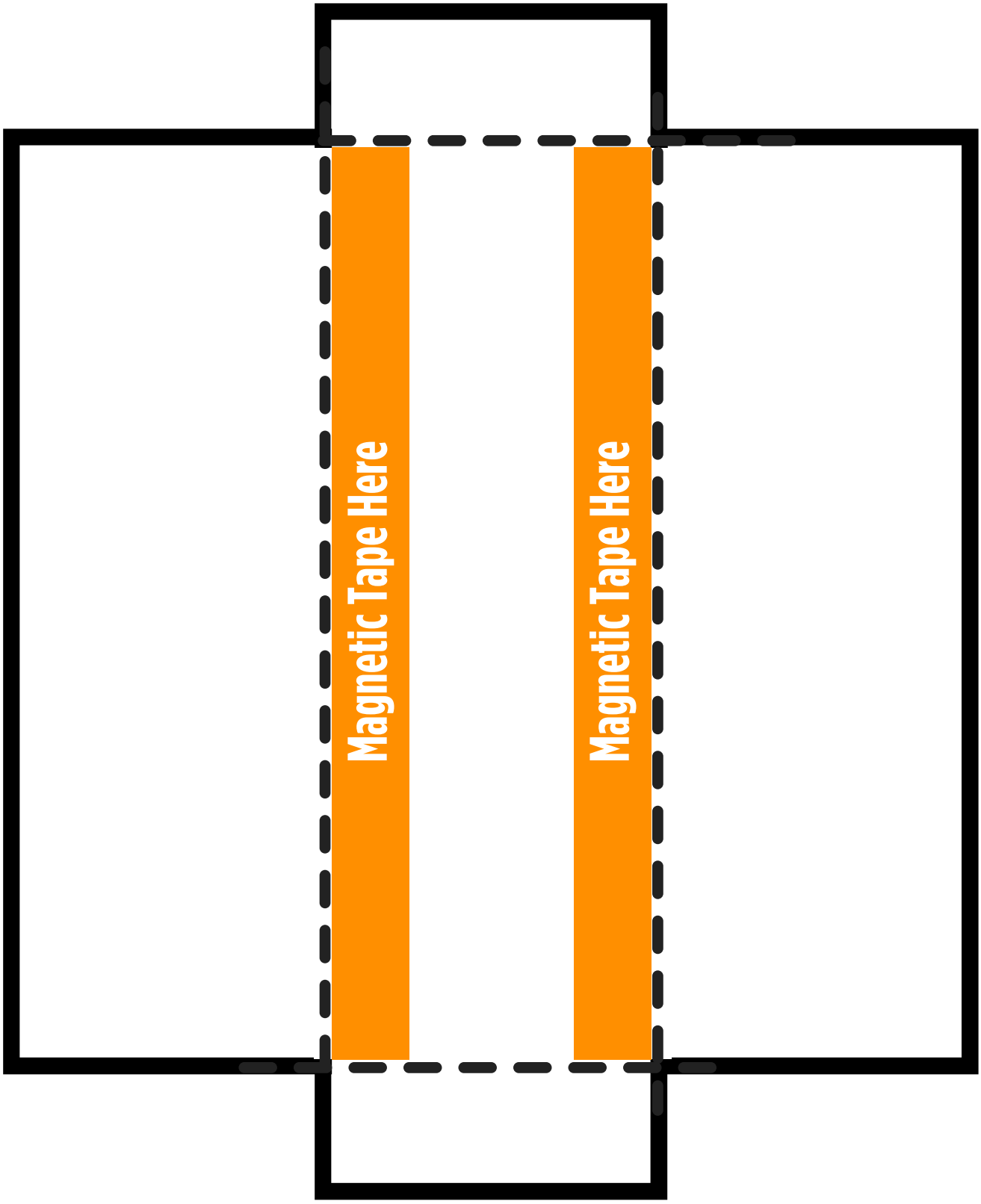
Teacher Prep

Assemble track segments before you perform this activity with your class. You can build just a couple as a class set for testing or build one track per group. The tracks are reusable.

1. Obtain cardboard.
2. Trace the cut lines on the template with scissors or a box cutter.
3. Fold the cardboard along the dotted lines.
4. Tape the sides together with strong tape.
5. On either long side of the track, measure out a length of magnetic tape that would run from end to end.
6. Use a glue gun to glue down the magnetic tape along the leftmost and rightmost sides of the top of the track.
7. Give students a piece of card stock paper cut to the size of the width of the track.
    a. This will serve as the bottom of the train that they will use to create their train car.

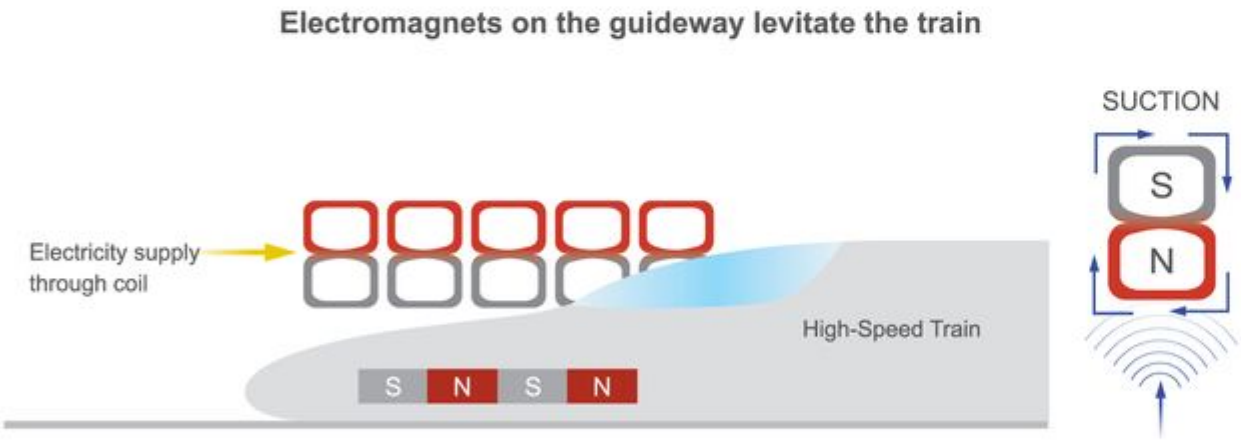
SCIENCE CAREER ADVENTURES

Track Template



MAGLEV Trains

MAGLEV trains use the attracting and repelling forces of magnets. There are coils in the tracks and magnets inside the train.



MAGLEV trains have magnets both on the train and on the tracks. When the magnets repel each other, the train levitates.

Building a MAGLEV Train Car

Follow the steps below to build and test your MAGLEV train car!

Step One: Build a Train Car

- First, you will build your own train car to use on the MAGLEV track.
- Get the bottom of your train car from your teacher. You will use this piece of paper to construct your train car. This piece of paper is the width of the track, so your train car can't be any wider than this piece of paper!
- Use supplies from your teacher to build your train car. Be creative!

Step Two: Attach Magnets

- Use tape to attach magnets to the bottom of your train car!

Step Three: Test Train Car

- Get your track from your teacher and place your train car, with magnets attached, on the track.
- Does the train car float over the track?
  - If not, make adjustments to your magnets and try again!
  - Try flipping the magnets over (this will put the opposite pole of the magnet facing the magnetic tape on the track).