

The Great Maze Magnet Race



Grade 5
Core Concept /Art/Science

Objective: Students create and name their own race-course where they pull a paperclip or push a doughnut magnet. in competition with others.

5th Grade Core Curriculum Science:

Standard 3: Students will understand that magnetism can be observed when there is an interaction between the magnetic fields of magnets or between a magnet and materials made of iron.

Objective 1: Investigate and compare the behavior of magnetism using magnets.

5th Grade Core Curriculum Art:

Standard 2: (Perceiving): The student will analyze, reflect on, and apply the structures of art.

Objective 2: Create works of art using the elements and principles.

Time: 45 Minutes

Equipment and Materials needed:

Classroom set of 1" doughnut magnets (one per child)
large paperclips,
rulers
cardstock 8.5 by 11
Markers
Individual White boards

Introduction:

On the cardstock provided make a maze using the following directions:

1. Place a start line in the bottom right hand corner
 2. Place a finish line in the top left hand corner
 3. Make a path the width of your ruler so that a small magnet can pass through it
 4. Add curves or turns to your maze.
- The route must be exactly 24 inches long.

Students have fifteen minutes to create a maze in which to race their magnets. When they are complete they pair up and measure each maze

to make sure they are to specification.

First Race:

Using a paperclip; place the magnet under a whiteboard with the maze on top of it and **pull** the paperclip through the track to see who will win.

Trade mazes and play a second time. Chart the results play three times.

Second Race:

Using a magnet; place the second magnet close to it in a way that will **push** the first magnet along the paper. In this race the magnet must follow the track but can cross lines. It must start at the start line and end at the finish. Each time the magnets connect together, the magnets are pulling not pushing and the contestant must start again. Chart the winner. Play three times. Chart your final results.