RAFT IDEAS

Topics: Properties of Magnets, Eye-hand Coordination, Puzzle Solving

Materials List

- ✓ Binder cover, (one with a clear "pocket" works well) or equivalent slim, firm surface
- ✓ Magnet
- ✓ Paperclip, steel, or other small piece of magnetic material.
- ✓ Playing piece (small disk or equivalent)
- ✓ Glue, hot glue, and/or tape
- ✓ Paper
- ✓ Optional: Stickers, second magnet

This activity can be used to teach:
CO Science Standard 1: Physical Science

- Magnets can make some objects move without touching
- Physical properties of materials
- Magnetic Poles

Grades: k, 2, 4, 8

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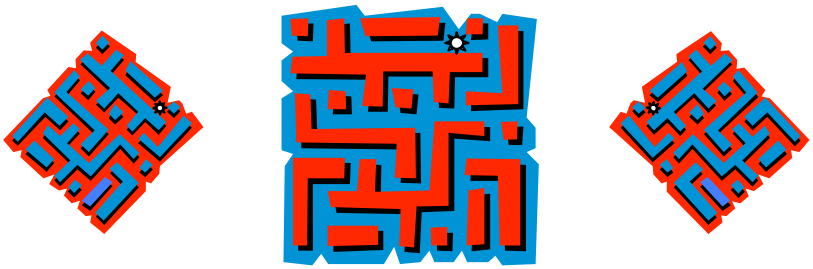
Magnetic Maze

Solving a Visual Puzzle



Capture the imagination of young students with this inexpensive, engaging activity. They will to explore how magnets work as they move a playing piece through a maze.

Assembly

1. Print or draw a maze on a piece of paper that will fit on the binder cover.
2. Slip the maze into the clear pocket on the binder cover, or attach it to the surface with tape or glue.
3. Glue a paperclip (or piece of magnetic material) to the underside of the playing piece (hot glue works well). If desired, decorate the playing piece with a sticker.

To Do and Notice

1. Present the prepared maze, playing piece and a magnet to the student. Have the child hold the magnet under the playing surface and practice moving the playing piece on the maze.
2. Notice how the playing piece responds to the "pull" of the magnet. What will happen if the magnet is turned over?
3. Encourage the child to guide the playing piece through the maze.
4. Optional: Create a playing piece with a magnet glued to the underside. How is its behavior different from the paperclip playing piece?

The Science Behind the Activity

A magnet and magnetic items are mutually attracted to each other. Most magnetic items (paperclip, washer, nut) are made of steel, an alloy that contains iron.
A pair of magnets will either attract or repel each other depending on the position of the magnets' poles. The opposite poles, north (N) pole and south (S) pole, of two magnets will mutually attract each other. The like (same) poles of two magnets will repel each other: N repels N; and S repels S.
If two magnets are used, the playing piece may flip over in order orient itself so that the magnetic pole closest to the surface is the opposite of the closest magnet pole below. The magnetic attraction (or repulsion) works at a distance and becomes stronger as the materials are moved closer together. Magnetic forces can pass through non-magnetic items such as binder covers.

Taking it Further

- Have student create their own mazes and exchange with other students.
- Have student explore the properties of different materials see RAFT Idea Sheets, ***Magnetic Explorer, Magnetic Painting***, and ***Mini Magnet Wands.***

Web Resources (Visit www.raft.net/more for how-to videos and more ideas!)

- Free printable mazes are found at many sites including at www.mazesonline.com, www.printactivities.com/Mazes.html, and www.krazydad.com/mazes/.

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