

RAFT IDEAS

Topics: Magnetism, Area, Design

Materials List (per house)

- ✓ Jewel Case (for CD storage)
- ✓ Pill magnet
- ✓ Sticky-back foam
- ✓ Scissors
- ✓ Water bottle cap
- ✓ Hot or white glue
- ✓ Paper, pencils, pens
- ✓ 1 cm (~1/2") length of steel-bead necklace
- ✓ Optional: graph paper

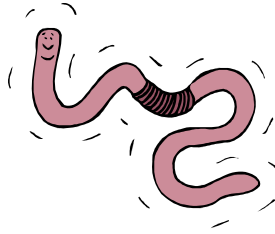
This Activity can be used to teach:

CO Math Standard 4:
Shape, Dimension, and Geometric Relationships

- Measuring Area
- CO Science Standard 1:
Physical Science
- Magnets
- 21st Century Skills
- Critical Thinking and Reasoning
 - Invention
- Grades: 3, 4, 6, 7, HS

Amazing Magnetic Worms

Magnetism, Area, Design... This Activity has it All!



Geometry, design, architecture, creativity, science... This activity has it all! In this activity, students get the opportunity to design and build a home for magnetic “pet worms”, and then enjoy bringing their worms to life.

Assembly

1. Glue pill magnets onto the tips of the water bottle caps to create a holder.
2. Cut lengths of steel-bead necklace with scissors to create “magnetic worms”.

To Do and Notice

1. Discuss houses with the students, reviewing the many different types of rooms that some houses include (i.e. – game room, parlor, guest room, library).
2. Direct students to design a home (floor plan) for their pet “magnetic worms”. Providing graph paper will encourage students to design and measure more accurately. Encourage creativity!
3. Provide materials for students to create homes out of CD jewel cases for their “magnetic worms”: sticky-back foam for the walls, paper and/or pens to write in details of the floor plan.
4. Once complete, the steel worms can take occupancy of their new homes! Students can bring their worms to life with the pill magnet and cap assembly. To make the worm move, drag the pill magnet along the underside of the jewel case. Just look at him go from room to room in his new house!

The Content Behind the Activity

Architects and designers need to take the needs of future inhabitants into account when creating floor plans. Designing for a small living area, such as with the jewel case worm-houses, can be more challenging in some ways than having an unlimited amount of space. To create their worm houses, students design and plan taking area of each room into account (applied design and geometry). Students then must transfer the drawing into a real-world object.

Magnets attract steel. The steel ball necklace lengths (“magnetic worms”) are made of steel, so that when students rub the bottom of the jewel case with the magnet, the “worms” follow the magnet’s path (and its magnetic field), even though the two items are not directly touching.

Taking it Further

For an exercise in geometry (area), have students measure the area of each room in their home and inventory the contents for their “Wormhouse Insurance Company” homeowner’s policy.

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