Magic Sailboats (Water)

LENGTH: 30 Minutes
CURRICULUM: Science, Math
OBJECTIVES: Students will make boats and then use magnets to move them across the water
EDUCATIONAL LEVEL: Grade 1 and 2

MATERIALS:
1. Horseshoe magnets (one for each student)
2. Plant Sticks
3. Bottle corks (one for each student --- can be found in a craft store)
4. Thumb tacks (four or five for each student)
5. Toothpicks (one for each student)
6. Stiff Paper (enough to make a triangular paper sail for each student)
7. One plastic dish or pan (deep enough to hold about 2 inches of water)
8. Water
9. Clear adhesive tape
10. Books (or something else to balance the plastic dish on)

PROCEDURE:
1. Get their attention: Ask students if they think magnetism can pass through water and plastic. Then have each student follow steps 2 through 8 to make sailboats and move them across water with magnets.
2. Stick four or five thumb tacks into one side of a cork to form a metal base for the boat.
3. Push a toothpick into the side of the cork opposite from the thumb tacks to form a mast for the sail.
4. Cut paper into triangles. Use tape to attach paper sail to the toothpick attached to the cork. The boat is now finished.
5. Use tape to attach a magnet to the end of a plant stick.
6. Balance the dish or pan upon two piles of books so that the books support two edges of the dish or pan (make sure it is is level).
7. Fill dish or pan with water and place the boats in the water (boats should be floating in the water).
8. Have each student hold their magnet stick under the dish and move it to make their boat move across the water.

POINTS TO DISCUSS:
1. Does magnetism pass through both water and plastic? (yes). Why?
2. Why do the boats follow a moving magnet? (thumbtacks are made of metal--metal is attracted by magnet)
3. Why do the boats float? (cork more buoyant than weight of thumbtacks clip--explain buoyant)

See completed boat design on next page---

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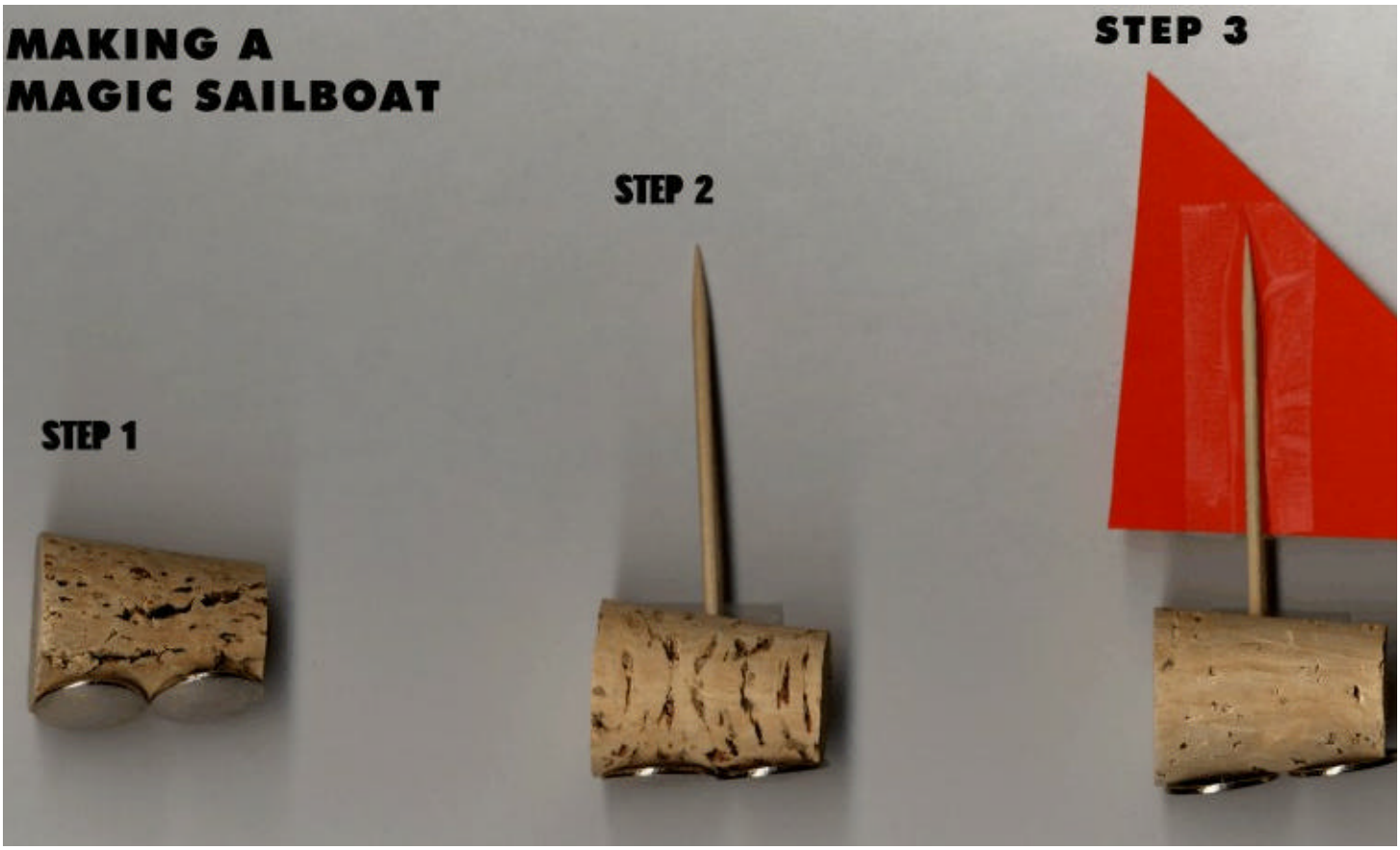
Magic Sailboats---



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