



Mission: How do chemical forces control how tiny things move?

Age: 5+
Materials: \$4

Time: 20 min
(Set-up: 5 min | Activity: 10 min | Clean-up: 5 min)

Ready to set sail on your next mission? Today you're going to make a chemical motor for your very own little boat. You'll learn how the chemical interactions between two liquids can cause molecules to move—and your boat to scoot!

What you need:

Materials•

- Dishwashing liquid
- Paper
- Tap water

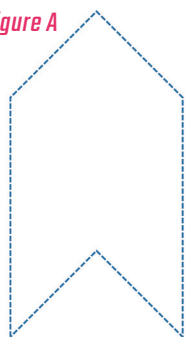
Equipment•

- Large cake pan or baking sheet with raised edges
- Scissors

What to do:

1. Fill the large pan or baking sheet with about 1/2 inch of tap water.
2. Make your “boat” by cutting out a piece of paper about 1 inch wide and 2 inches long, then cut the top and bottom edges into points as shown – *see Figure A*.
3. Dip the tips of the two points on the back end of the boat in dishwashing liquid.
4. Predict: what do you think will happen when you place the boat on the water?
5. Carefully drop the boat onto the water so that it lands flat upon the surface. What happens to the boat? What direction does it move?
6. Repeat the experiment with fresh water and fresh boats. Try different boat shapes or dip the dishwashing liquid onto other parts of the boat and notice how the boat moves each time.

Figure A



Clean-up:

All disposable materials can be thrown away in the regular trash.