Lava Lite
This seventies-style retro-vention uses the principles of immiscible liquids (fluids that just won't mix) and density to create the Lava Lite, a homemade version of that classic mind-expanding device, the Lava lamp.

MATERIALS
Glass jar
Water with food coloring added
1/3 cup vegetable oil
Shaker filled with salt

WHAT TO DO
Fill the jar with 3 inches of the colored water.
Add the oil and let the layers settle.
Shake in salt while you count to five. The oil and salt should form a glob and sink to the bottom of the jar, but after a short while, the oil should float back to the top.
Add salt again to watch the action repeat.

Here's what's going on: At first, the oil floats on top because it's less dense than water. The salt, however, is denser than the water. When you shake it onto the oil, it drags a glob to the jar bottom. There, the salt dissolves in the water and can no longer hold down the oil blob, which rises back to the surface.