Undersea Water Fountain

What happens when warm water suddenly appears beneath a mass of cold water?

**What to do:** Fill the pot nearly full of cold water, the colder the better. If you want, instead of using a pot, just put the stopper in the kitchen sink and run about 5 inches (12.5 cm) of cold water into it. Next, fill the small bottle about three-quarters full of hot water. A glass bottle works best, but if you only have a plastic bottle it will do. Drop a couple of clean marbles or washers into the bottle. These will give it enough weight so it won’t float when you put it into the cold water. Add a few drops of ink or food color to the hot water. If you don’t have any, then use a bit of paint from a set of watercolors. Immediately put the bottle in the bottom of the pot or in the sink.

**What happens:** The colored water will rise upward from the bottle toward the surface of the cold water. It looks just like a little underwater volcano erupting. When the colored water begins to cool, it will thin out and settle toward the bottom of the pot.

**Why:** Hot water rises because the molecules in it are moving rapidly. As they bounce and dart about, they expand the water. When water or air expands, it gets less dense, because the same amount of matter takes up a larger space. This expansion causes warm water or air to rise above colder, denser water or air. This kind of movement is called convection.

**YOU NEED**
- pot
- cold water
- small glass bottle
- hot water
- marbles or washers
- Inc., food color, or watercolors