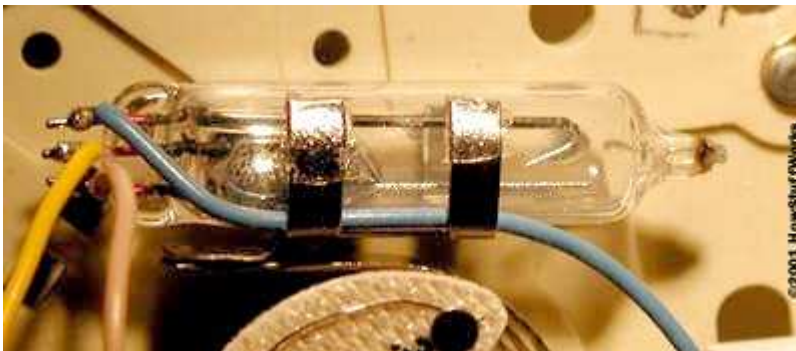


Thermostat:

You probably seen or used a thermostat a thousand times. This device controls the heating and [air-conditioning](#) systems in your house -- the two pieces of equipment that use the most energy. In these days of rising energy prices, you might be interested to see how your thermostat works. It is surprisingly simple and contains some pretty neat technology.

The mercury switch:

The **mercury switch** is a glass vial with a small amount of mercury in it. [Mercury](#) is a liquid metal -- it conducts [electricity](#) and flows like water. Inside the glass vial are three wires. One wire goes all the way across the bottom of the vial, so the mercury is always in contact with it. One wire ends on the left side of the vial, so when the vial tilts to the left, the mercury contacts it -- making contact between this wire and the one on the bottom of the vial. The third wire ends on the right side of the vial, so when the vial tilts to the right, the mercury makes contact between this wire and the bottom wire.



There are two [thermometers](#) in this thermostat. The one in the cover displays the temperature. The other, in the top layer of the thermostat, controls the heating and cooling systems. These thermometers are nothing more than coiled bimetallic strips



We can tell just from its name that a thermostat is something that "keeps heat the same": when our home is too cold, the thermostat switches on the heating so things quickly warm up; once the temperature reaches the level we've set, the thermostat switches the heating off so we don't boil.

Thermometer is something that measures the temperature; a thermostat is something that tries to maintain the temperature (keep it roughly the same).