“Then idiots talk” said Eugene, leaning back, folding his arms, smoking with his eyes shut, and speaking slightly through his nose, “of energy If there is a word under any letter from A to Z that I abominate, it is energy. It is such a conventional superstition, such parrot gabble!”

Charles Dickens

*Our Mutual Friend* (1865)
Energy in Everyday Life

Temperature - Kinetic Energy

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We have all used a thermometer - to check for a fever, see if the Thanksgiving turkey is safely cooked, or to help us decide how to dress before leaving home for the day/night.

How does a thermometer work? And when you measure temperature, just what exactly are you measuring?
The prefix *thermo-* means *heat* in Greek. A thermos keeps heat in or out. You wear thermal clothing to prevent body heat from escaping. Thermodynamics is the study of heat.

Despite its name, a thermometer does not measure heat, but rather temperature. **Temperature and heat are quite different quantities.**
Temperature is a measure of the kinetic energy of the molecules within a substance.

When you record the temperature, you are measuring how fast the molecules are moving.

At room temperature most air molecules are colliding at ~ 500 m/s, or ~1000 miles/hr!
When you are outside one January instead of saying, "Wow, its cold out this morning!," you could say "Wow, the molecules in the air are moving slow this morning!".