

**Directions:** Read and learn about heat energy.

Have you ever thought about how something **heats** up? When we cook, we heat pans with heat energy. How does heat energy (**thermal energy**) work?

Heat is measured by **temperature**. Objects with a high temperature are **hot**, and items with a low temperature are **cold**. An object will have a hot temperature if its **molecules** are moving very fast. The faster they move, the hotter the temperature.

When you cook, you might place a pot on a flame on the stove. Molecules will **transfer energy** called heat. Heat will move from the hotter object to the colder object. At some point, both the heat source and the pot will come to the same temperature. This is called **equilibrium**.

Another example of heat energy, or thermal energy, at work is a hot cup of tea, and milk. Because the milk is colder, some of the molecules will transfer from the hot tea to the cold milk. When this happens, the milk gets warmer, and the tea gets cooler. The tea-cools down because it is losing some of its heat molecules to the milk in pursuit of equilibrium.

Draw and label a diagram of an object with thermal energy transferring its heat molecules to another object with a lower temperature.

