**Shadows of Nothing**

Today in Science class, Mr. Smith showed us how *convection* works.

Mr. Smith turned on a Bunsen burner on his desk. He then put a bright light pointed toward the Bunsen burner. He put the projection screen down behind the Bunsen burner. With the bright light shining toward the Bunsen burner, we could see the shadow of the hot air mixing with the cold air.

Some of the things we learned are:

* Ovens use the scientific method of *convection* to move around hot air evenly.
* Convection is when heated air or heated water rises in cooler air or cooler water.
* A fluid can be either a gas or a liquid.
* Convected fluid rises in curls and swirls.
* Convection currents are invisible.
* The border between cool fluid and hot fluid casts a shadow if a light is shone through it.
* The shimmer that you see from airplane exhaust is the shadow of the convection currents.
* Heated air rises.
* The reason that chimneys work is convection.
* You can put your hands right near the flame on the sides and it isn’t very hot because convection makes the hot air rise up so there isn’t very much heat right next to the flame.
* Convection currents go up because hot air rises.
* There are three ways that heat can move: radiation, convection, and conduction.

Mr. Smith did another demonstration where he put his fingers through the blue part of the flames from the Bunsen burner. He held his fingers apart and wiggled them. He did not get burned.

Some of the things we learned from this are:

* You can put your fingers through flame without burning them if you hold your fingers apart and wiggle your fingers.
* This works because holding your fingers apart makes it so that the heat can go through the gaps in between your fingers and not get trapped.
* You wiggle your fingers so that the heat is not constantly on the same part of your fingers.
* Blue flame from a gas burner is not as hot as orange or yellow flame.
* Violet and white flame are the hottest.
* Red flame is the least hot.