**Heat Moves!**

**Engage:** Students will get to move around and represent the flow of hot and cold molecules. Explain that hot molecules have more energy, and give half the students 4 craft sticks (or other manipulative) to represent their energy. Tell them that as they flow through the room the will give their energy to molecules that have less energy than them. Give the rest of the students just 1 stick and explain that they have less energy and will therefore move how? Slower. What happens after a couple of minutes?

**Explore:** Movement of Heat Experiment (This experiment will show how molecules that are hot move.

This experiment from How the Weather Works by Michael Allaby [Dorling Kindersley, 1995] requires a cup that can hold hot water and fit into a clear jar that is at least twice as tall as the cup.

1. In teams: Fill a cup with colored hot water. Cover the cup with aluminum foil. Set the cup into a large clear jar or vase.
2. Pour cold water into the jar until the water goes over the top of the cup and nearly to the top of the jar.
3. Use a stick to poke a hole in the foil. Watch the warm colored water rise through the jar of clear, cold water.

As the extremes between the water temperatures balance, the color will disperse throughout the entire jar.

**Extend:** Work with teams to create a presentation of the results observed in the experiment.

Possible Presentation Styles: **DI**

* Performance/Movement: act out convection either silently or to dialogue.
* Poster or Diagram: draw and write to represent the results.
* Comic Book: illustrate a sequenced presentation of the experiment results.

Lesson and Experiment adapted from:

<http://suite101.com/article/convection-and-conduction-experiments-a164744>

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