Hot or Cold, Does it Matter?

(Energy Changes in Chemical Processes)

Grade Level: 8th through 12th grade
Where Taught: Central classroom or media center (where we can set up and see all students)
 # Students: maximum 30 students
Time needed for presentation: 45 minutes (basic version), 60 minutes (extended version).
We will need 5-10 minutes to prepare for the next session.
Georgia Performance Standards: SCSh2/SCSh3/SC5/SC6

In the Hot or Cold, Does it Matter module we introduce students to the understanding of the energy concept in chemical reactions, including heat and temperature changes, endothermic and exothermic reactions, and what controls the speed of a reaction. The high point of the lesson is the opportunity to carry out endothermic and exothermic processes and measure the temperature changes.

Students will learn what drives exothermic and endothermic reactions and will be asked to decipher between the two. Catalysts and temperature changes will be used for students to observe how the speed of a reaction can be altered. Also, students will learn the term chemiluminescence and observe how light can be given off as a form of energy as a result of a chemical reaction.

The level of the discussion is tailored to the age and background of each class.

	
Demonstration to show how temperature can affect the speed of the chemical reaction in glow sticks.	**Student will observe how light is given off as a form of energy in the luminol chemiluminscence demonstration.**