

**Main Ideas, Key Points,
Questions:**

After watching the video segment, write down key points, main ideas and big questions.

Objective(s):

- *To compare and contrast heat and temperature.*
- *To explain how entropy is related to energy transfer.*
- *To plan an experimental procedure to investigate thermochemical reactions.*

Notes:

During the video segment, use words, phrases or drawings to take notes.

Summary:

*After watching the video segment, write at least three sentences explaining what you learned.
You can ask yourself: "If I was going to explain this to someone else, what would I say?"*

After watching the video and performing any associated labs and/or experiments, you should be able to answer the following:

- 1. Thermodynamics is the study of the movement of thermal energy (heat). Why do we study heat in a chemistry course?**
- 2. Heat is measured in joules or calories, while temperature is measured in degrees. Why do we say that heat and temperature are not exactly the same thing?**
- 3. The First Law of Thermodynamics states that energy can be transferred or transformed into another form, but it cannot be created or destroyed. List three examples of energy changing from one form into another.**
- 4. The Second Law of Thermodynamics states that, in a closed system, once energy is transformed from one type to another, it becomes less effective energy. Some of the energy is lost through entropy. What is entropy?**
- 5. What is an open system?**
- 6. Is the Earth a closed or open system?**
- 7. Describe the direction of energy flow. Does energy flow from a hot object to a cold object or from a cold object to a hot object?**
- 8. Cold is the absence of heat. Why does an object feel cold to us?**

You should now touch a hot pack and a cold pack to investigate how the dissolving of certain ionic salts results in a change in temperature. You are now asked to develop an experimental question and an experimental procedure to investigate how cold packs and hot packs work. Once you have developed a question and an experimental procedure, you may continue to the Unit 8B video.