

**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 exothermic and endothermic chemical systems.*
- *To explain the relationship between heat absorbed and heat evolved using the equation  $q = mC\Delta T$ .*

**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. Write your experimental question and an experimental idea for investigating hot packs and cold packs.**
- 2. Why is important to properly understand a “chemical system” and the “surroundings”?**
- 3. Compare and contrast exothermic and endothermic reactions.**
- 4. Recall from Unit 2 that enthalpy (H) refers to the potential energy of a system. What is  $\Delta H$ ?**
- 5. According to an enthalpy graph, which reaction has more energy in the products than the reactants, exothermic or endothermic?**
- 6. The relationship between heat absorbed and evolved by a reaction is given by the formula  $q = mC\Delta T$ .  $q$  is the same as  $\Delta H$ , measured in joules. What do  $m$ ,  $C$  and  $\Delta T$  represent?**

***You should now explore “C,” or specific heat capacity, using your senses to observe two different blocks (plastic and metal). You will use the Chemistry Matters Toolkit lab on specific heat to test which block will melt ice more quickly. Once the lab activity has been completed, you may continue with the Unit 7B video.***

- 7. What differences do you notice between the blocks?**
- 8. Write your explanation of why there is a difference between the two blocks in their ice-melting abilities.**