Pioneer Cornell Notes Page

Topic: Heat Energy Green

Name:	**Date:**
Class:	**Period:**
Subject:	**Teacher:**

Main ideas/Questions:	Note Taking Column
Write your own every day example that shows how heat is motion. _____ _____ _____ _____ _____ _____ _____ _____	I. Molecules in Motion A. James Prescott _____ investigated the relationship between _____and _____. 1. He performed a series of inquiries that supported the idea that objects _____ _____ _____. 2. Rub your hands together quickly. Your hands feel warmer. By sliding down a rope too quickly can cause a " _____burn". B. Other scientists working at the same time as Joule _____ that _____ is needed to set an object in _____. 1.They also knew that matter is made up _____ _____ particles called _____which are always in _____ 2. They realized then that heat energy is _____d by the _____ motion from _____ molecules.
How can a refrigerator make objects cold? Write down an everyday example of conduction._____ _____ _____ _____ Where is conduction found in nature? _____ _____ _____ _____ _____ _____	II. Heat _____ A. The movement of heat from a warmer object to a_____ one is called _____. 1.After holding a ice cube for several seconds your hands begin to feel cold and the ice cube begins to _____.. You might think that the ice cube is moving _____ into your hands. But there is " ____ _____ _____ _____ _____". 2. _____is simply the_____ of heat. The heat from your hands is moving to the ice cube causing it to melt. B. There are ____ways in which heat can _____: through conduction, convection, and _____. 1._____- Heat is transferred through substances from one substance to another by _____ contact of _____. a. When ____ moving particles _____ with slow moving _____ heat energy is _____ causing the slower molecules to _____ _____. b. Because all matter is made of molecules, conduction can take place in solids, _____, and _____. 2. _____- Takes place _____ in liquids and gases. Heat energy is_____ by the means of ____and down- movement called _____ _____ a. When a liquid or gas is _____ to heat energy the molecules begin to move faster and move farther apart. b. This means that the liquid or gas is _____ dense than the surrounding _____ or _____. 1.The _____ dense liquid or gas _____carrying the heat energy with it. 2. Hang gliders rely on _____ of warm air

Draw a diagram of a **convection** current rising and **sinking** in the space provided. Draw what convection currents would look in the daytime..	(convection currents) to keep them _____. c. Because _____ air is _____ than warm air, it tends to_____ d. These currents transfer heat throughout the Earth's atmosphere _____ _____ _____. **3.** _____ Heat energy is_____ through _____space like how the sun's heat _____ _____. a. Another form of _____ _____ by radiation occurs when your hands are warmed by _____ _____ b. Heat given off by an electric heater is another example
No summary this time!! Green group , you must answer 1 and 5. You must answer 2 more questions in addition to 1 and 5. You choose which ones. To exceed standard answer all of the questions Hint!!! It will help you think through questions 3,4, and 5 if you draw them out as you work on your answers. 5. How can the heat loss in each case be reduced?	*Think about it: Please discuss the questions with your table members and answer the following questions before moving on. Use your better answer format.* 1. Identify the method of heat transfer in each of the following examples. a. An egg cooking in a frying pan_____ b. A kite soaring_____ c. The wire of an electric appliance becoming hot_____ d. Heat from a fireplace warming a room_____ e. A hot air balloon flying in the sky_____ 2. Sometimes on hot days in the summertime the air is just too hot for planes to get off the ground. Why is that? (**Hint:** When a plane is moving fast enough to take off, air moving past the plane's wings normally provide enough "lift" for the plane to get off the ground, but what happens when air is heated?) 3. Suppose you want to let air into a stuffy room. Should you open the window from the top or the bottom if the outside temperature is warmer than the room? Why? 4. What about if the room is colder than the outside? Draw a diagram to explain your answer. 5. Think of 3 places at school where heat may be escaping from outside. Is the heat loss due to convection, conduction or radiation? 1. 2. 3. .

Summary	