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| Some “ings” and some “E’s”  CλeMis+ry: http://genest.weebly.com  Stop in for help every day at lunch and Tues, &Thurs after school! |  | Name\_\_\_\_\_\_\_\_\_  Period\_\_\_\_\_\_\_\_ |

## Answer these by referring to the reading homework you did Monday night. If you need another copy of that reading go to the website address above.

1. Describe what early chemists meant by *caloric*
2. What is our more modern word for caloric? \_\_\_\_\_\_\_\_\_\_\_
3. Our understanding of what causes changes to happen took two different paths that we eventually realized were the same. In paragraph 3 these are identified. Describe the two kinds of change scientists had studied.

1.

2.

1. What two ideas about energy were lost when the caloric idea was abandoned?

The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of energy

1. Summarize in your own words the three principles guiding our modern view of energy.

1.

2.

3.

1. Information is used as a metaphor to describe what energy is like. Describe the ways information is like energy, according to your reading.
2. We describe three storage “accounts” to understand the changes we see in chemistry. State their names and describe how energy is stored in these three storage modes (how would you recognize that energy is present in these accounts in a system of matter?).

1.

2.

3.

1. We can transfer energy by three mechanisms. Identify the three and state how you would recognize each one in a system of matter.

1.

2.

3.

|  |  |
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| ***You will always be given these numbers on tests and quizzes.*** |  |
| 0 degrees C = 273 kelvins 760. torr = 760. mmHg = 1.00 atm = 101 kPa = 101,300 pascals = 14.7 p.s.i.  R = 0.0821 liter-atm/mol-K (for PV=nRT problems, if you use this R value you must use these units) | |

SOLVE THESE FOUR PROBLEMS USING THE “NOW” FORMULA

1. Carbon monoxide, a poisonous gas, has a formula of CO. How many moles of carbon monoxide occupy a volume of 0.445 L at STP?

1. Ammonia gas occupies a volume of 450 mL at a pressure of 720 mm Hg. What volume will it occupy at standard pressure?

1. A gas filled weather balloon contains 33.0 L of air at 10.0°C at a pressure of 745. Torr. How many moles of gas are in the balloon?

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1. At what temperature would you need to have He to have 5.75 moles occupy a volume of 45.0L at standard pressure?