

## The World of Chemistry - "The Driving Forces"

Name \_\_\_\_\_ pd. \_\_\_\_

What makes chemical reactions occur?  
Why are some reactions fast and some slow?

Read through the following questions ***BEFORE*** viewing the videotape.

- \_\_\_\_\_ 1. Every change has a natural \_\_\_\_ in which it occurs.
- \_\_\_\_\_ 2. When wood burns, the energy of the system \_\_\_\_ and heat is released to the surroundings.
- \_\_\_\_\_ 3. One of the forces that drives all chemical reactions is the tendency to move toward \_\_\_\_ energy.
- \_\_\_\_\_ 4. The type of reaction that releases energy is called an \_\_\_\_ reaction.
- \_\_\_\_\_ 5. Most chemical reactions release energy in the form of \_\_\_\_.
- \_\_\_\_\_ 6. A chemical reaction that takes in energy from the surroundings is called and \_\_\_\_ reaction.
- \_\_\_\_\_ 7. The second driving force of reactions is \_\_\_\_.
- \_\_\_\_\_ 8. Going from a state of \_\_\_\_ to a state of greater \_\_\_\_ is not the direction of a natural process.
- \_\_\_\_\_ 9.
- \_\_\_\_\_ 10. The natural direction of change is to a state of greater \_\_\_\_.
- \_\_\_\_\_ 11. The is greater entropy if (give 3 examples)
- \_\_\_\_\_ 12.
- \_\_\_\_\_ 13.
- \_\_\_\_\_ 14. An increase in entropy must be large enough to overcome the absorption of heat in \_\_\_\_ reactions for them to proceed.
- \_\_\_\_\_ 15. Raw materials in Union Carbide plant are \_\_\_\_ and \_\_\_\_.
- \_\_\_\_\_ 16.
- \_\_\_\_\_ 17. Chemicals at the bottom of the energy ladder are the chemicals \_\_\_\_ and \_\_\_\_.

### Rates of Chemical Reactions

- \_\_\_\_\_ 18. Water and \_\_\_\_ react to produce concrete.
- \_\_\_\_\_ 19. Rate of reaction increases with \_\_\_\_, \_\_\_\_ and \_\_\_\_.
- \_\_\_\_\_ 20.
- \_\_\_\_\_ 21.

\_\_\_\_\_ 22. Catalysts must be the \_\_\_\_ at the end of a reaction as at the beginning.

\_\_\_\_\_ 23. An example of a natural catalyst is \_\_\_\_\_.

\_\_\_\_\_ 24. "Food spoilage is the study of \_\_\_\_\_ chemistry."

Essay Question:

Make sketches of graphs of exothermic and endothermic reactions (2 graphs). Plot *Energy* versus *Reaction Direction* showing the relative positions of the reactants and products for each type of reaction.