Keep to study!

Name: _____ Period: _____

3.5 Intro to Energy in the Cell

1. _____ organisms/cells acquire food from an external source; _____ organisms/cells use internal chemical reactions to make their own food.
    a. Autotrophic; Heterotrophic
    b. Phototrophic; Autotrophic
    c. Heterotrophic; Homotrophic
    d. Heterotrophic; Autotrophic

2. Which of the following is composed of autotrophic cells?
    a. Frog
    b. Grass
    c. Mushroom
    d. Insect

3. A protist named Euglena contains chloroplasts and swims freely in water. What type of cell is Euglena?
    a. Autotrophic
    b. Heterotrophic
    c. Both
    d. Neither

4. ATP is in cells because:
    a. It is a form of energy that can be transferred in the cell.
    b. It is stored sunlight energy captured during cellular respiration.
    c. It is a molecule whose bonds contain a significant amount of energy.
    d. It is a molecule that can be broken down to a glucose molecule.

5. ATP is a molecule that contains a higher amount of potential energy than the ADP molecule. Is this statement true? If yes, why? If no, why?
    a. Yes, because ATP contains two high-energy covalent bonds between its phosphate groups.
    b. Yes, because ATP is a larger molecule than the ADP molecule and better lowers activation energy.
    c. No, because ATP has one less phosphate group attached to it and therefore has fewer covalent bonds.
    d. No, because ADP is a larger molecule with more high-energy covalent bonds than ATP.

6. In the space below, draw the cycle of ATP and ADP. Indicate when energy is used for cell processes like chemical reactions and when energy is transferred into the ATP molecule.