1. When Urea, H_2NCONH_2, is dissolved in H_2O, a decrease in temperature is measured. A student makes the following conclusion. Do you agree or disagree with the student's conclusion?

   The decrease in temperature indicates the system is losing heat, suggesting that the dissolving process is exothermic as heat is released when urea hydrogen bonds with water

2. **thermal equilibrium**
   a. What is the change in temperature for the metal
   b. What time is the thermal equilibrium achieved? What happens to kinetic energy
   c. Does the average speed of the metal particles increase or decrease with time? Use particle-level reasoning to justify your answer.