***Short Answer Questions for Bacteria Test – on Friday 1/27/2011:***

All or some of these questions will be on the test.

You may prepare your answers in advance, but may not bring any materials with you!

 25. Suppose an outbreak of disease occurred among the chickens at the Hotchkiss Farm, but the origin was unknown. Briefly list the 4 steps described by Koch's postulates, and describe how an epidemiologist would apply those steps in this situation to identify down the source of the outbreak.

 26. Using typhoid or cholera as your example, describe the sequence of steps whereby bacteria can make a person ill. Include transmission, colonization and growth, inflammation and invasion of tissue.

 27. It typically takes a year or more of antibiotic treatment to clear even a non-resistant case of tuberculosis, and patients often feel quite well during the latter half of the treatment. Why does this make tuberculosis bacteria particularly likely to develop resistance to every antibiotic in current use? Describe a scenario (for example if…) in which this may occur.

 28. Compare the processes of binary fission and conjugation in the survival of bacteria. Describe each process and discuss their roles in terms of bacterial reproduction, genetic variability and antibiotic resistance.