Name _____ Period ____ Date _____

Antibiotic Resistance and Protist's Alternation of Generations

Part I

Goto the site http://wps.prenhall.com/esm_freeman_biosci_1/0,6452,499512-,00.html
(Activity 21.1)

Prequiz

1. What was Darwin's greatest contribution to science?

   _____

2. What is a modern definition of evolution?

   _____

3. Which of these lists contains the four postulates of natural selection?

   _____

4. What are antibiotics?

   _____

5. What is the outcome of natural selection?

   _____

Variation and Heritability of a Trait

6. What bacteria causes the disease tuberculosis (TB)? _____
7. What is the variable trait that exists in the population of bacteria that cause TB?

   _____

8. What does it mean by the drug-resistance trait is heritable?

   _____

Selection for Antibiotic Resistance

9. What is rifampin and what does it do?

   _____

   _____

10. What might happen if an individual infected with the drug-resistant strain of TB bacteria began to infect others?

    _____

    _____

    _____

    _____

Postquiz

11. Write an accurate statement that summarizes postulates 3 and 4 of natural selection.

    _____

12. In this case study, what is the adaptation and what is the new environment?

    _____

    _____

13. In the U.S. today, about half of corn crop is genetically engineered with a protein that is toxic to corn borers, an insect pest of corn. Which conditions are necessary for the corn borer to evolve resistance to the toxic protein?

    _____

    _____

Part II

Watch the video at http://www.pbs.org/wgbh/evolution/library/11/2/quicktime/e_s_6.html and answer the following questions.

1. Why is the Russian prison system considered to be "ground zero" in the fight against TB?

   _____
   _____

2. What is responsible for the evolution of TB strains that are resistant to multiple drugs?

   _____
   _____

3. How does the misuse of antibiotics affect the evolution of disease-causing bacteria? Use the theory of natural selection to explain the growing resistance to antibiotics.

   _____
   _____

4. Why should we care about a resistant strain of TB in Russia?

   _____
   _____

Part III

Protists - Life Cycle of the Ulva

Go to http://wps.prenhall.com/esm_freeman_biosci_1/7/1952/499858.cw/index.html , click **Activities** on the left, view the Life Cycle of the Ulva and answer the following questions.

1. Define alternation of generations.

   _____

2. How many cells thick is the sporophyte version of an Ulva? _____
3. What is the difference between the gametophyte and sporophyte version of an Ulva?

   _____
   _____

4. How are the gametes formed?

   _____
   _____

5. How is the zygote formed?

   _____
   _____

Goto the Summary Review and Content Review on the left hand side of the Biological Science (Scott Freeman) – Chapter 27. Use your book to help you answer the questions. Email me your results at wolfed@fulton.k12.ga.us.