

**BIO 105 MAKEUP ASSIGNMENT (10 pts maximum) NAME \_\_\_\_\_**

Stuart Levy, at the beginning of his article titled The Challenge of Antibiotic Resistance states, "...the death rates for some communicable diseases (such as tuberculosis) have started to rise again, after having declined in the industrial nations. How did we end up in this worrisome, and worsening, situation? Several interacting processes are at fault. Analyses of them point to a number of actions that could help reverse the trend..." Please answer the specific questions below that address these points made by Levy. Please **put into your own words** as much as possible, and when you must use the author's words, be sure to use quotation marks.

Find article here: [http://eebweb.arizona.edu/Courses/Ecol409\\_509/levy.pdf](http://eebweb.arizona.edu/Courses/Ecol409_509/levy.pdf)

1. Explain Stuart Levy's, statement, "...bacteria are a natural, and needed, part of life.... In fact, they often protect us from disease..."
2. What are antibiotics?
3. How do bacteria acquire antibiotic resistant genes?
4. Explain how antibiotics promote antibiotic resistance?
5. What is meant by antibiotic use being "out of control"?
6. What "corrective measures" can be taken to "reverse resistance"?
7. List each mechanism of evolution and then for each mechanism of evolution explain how it directly applies to antibiotic resistance. For this question, don't include chance (genetic drift). The answer to this question is not in the article; you have to synthesize what you learned in class to answer this question.