

Unit 4: Think About It

1. When performing a Kirby-Bauer test on *Pseudomonas aeruginosa*, a student notices a few small colonies present near the ciprofloxacin disc. Pick the best explanation for these results.
 - A. The *P. aeruginosa* colonies present inside the zone of inhibition are sensitive to ciprofloxacin.
 - B. The *P. aeruginosa* colonies present inside the zone of inhibition are moderately sensitive to ciprofloxacin.
 - C. The *P. aeruginosa* colonies present inside the zone of inhibition contain a genetic mutation that provides resistance to antibiotics.
 - D. The *P. aeruginosa* colonies present inside the zone of inhibition contain a genetic mutation that provides resistance to ciprofloxacin.**
2. Milk is pasteurized and then refrigerated, why does it still become contaminated?
 - A. Pasteurization does not sterilize and refrigeration is only bacteriocidal.
 - B. Pasteurization sterilizes but refrigeration is only bacteriocidal.
 - C. Pasteurization does not sterilize and refrigeration is only bacteriostatic.**
 - D. Pasteurization sterilizes but refrigeration is only bacteriostatic.
3. Why should bleach and paper towels be utilized to clean a microbiology lab instead of a soapy sponge?
 - A. Soap dissolves lipids and kills microbes, but the sponge can be reservoir for microbes to grow.
 - B. Soap changes the surface tension to allow for better removal but does not kill microbes and they can grow in the sponge allowing them to spread.**
 - C. Bleach dissolves lipids and kills microbes, the resulting dead microbes can be disposed along with the paper towel.
 - D. Bleach is a wetting agent allowing paper towels to soak up the microbes more efficiently and then be disposed of in the trash.
4. Heavy metals are good antimicrobial agents, in fact silver nitrate is often used in bandages and clothing. Which choice below is the best explanation for why silver nitrate is a good antimicrobial?
 - A. Silver dissolves lipids of the cell membrane.
 - B. Silver attaches to sulfhydryl groups of proteins and denature them.**
 - C. Silver replaces hydrogen on nucleic acids and denatures them.
 - D. Silver disrupts cell wall formation.
5. Describe the advantages and disadvantages of using more than one drug simultaneously for treatment (synergism). **p. 374 in your textbook**