

1. State three incorrect behaviors that may lead to antibiotic resistance:
 - a) Not completing the full course of antibiotics prescribed by a doctor
 - b) Taking antibiotics for viral infections (like common colds or flu)
 - c) Sharing antibiotics with others or using leftover antibiotics from previous treatments

2. Explain how an antibiotic that "kills 99%" of bacteria may not be effective to treat a bacterial infection:

The 1% of bacteria that survive the antibiotic treatment are likely to be naturally resistant to the antibiotic. These surviving bacteria can multiply rapidly, creating a new population of resistant bacteria. This new population will be unaffected by the same antibiotic, rendering the treatment ineffective for future use against this strain.

3. Explain the benefit of taking an antibiotic at regular intervals (for example, every 12 hours):

Taking antibiotics at regular intervals maintains a consistent concentration of the drug in the body. This ensures that the antibiotic remains at an effective level to combat bacteria throughout the treatment period. Irregular dosing can lead to periods where the antibiotic concentration drops below effective levels, allowing bacteria to survive and potentially develop resistance.

Review quiz – True or False?

1. True - Antibiotics are indeed a type of medicinal drug.
2. False - Drugs can be both synthetic and natural substances that affect chemical reactions in the body.
3. False - Not all bacteria are pathogens; many are beneficial or harmless.
4. False - While some medicinal drugs treat only symptoms, others can treat the underlying cause of an illness.
5. False - People don't develop antibiotic resistance; bacteria do. This is a common misconception.
6. True - Antibiotics often target specific bacterial cell structures, such as the peptidoglycan cell wall.
7. False - Bacterial growth typically refers to an increase in the number of bacterial cells through division, not an increase in individual cell size.