

**STUDENT WORKSHEET
DAY 2 (MODULE 2)**

**BACTERIA AND VIRUSES
ANTIBIOTICS
AND
BACTERIAL RESISTANCE TO ANTIBIOTICS**

(1) An [] is a chemical that kills bacteria or stops them from growing.

(2) When were the first antibiotics mass-produced?

(3) Why don't antibiotics maintain their effectiveness for very long?

(4) What is multidrug resistance and why does it occur?

(5) Describe briefly how a laboratory cultures a specimen and sensitivity to antibiotics is determined.

(6) Describe the difference between narrow- and broad-spectrum antibiotics.

(7) State 4 methods in which antibiotics work to kill pathogenic bacteria.

a. _____

b. _____

c. _____

d. _____

(8)

- a. [] resistance existed before antibiotics were introduced, a natural characteristic of the bacterial species.
- b. [] resistance can be caused by random mutations in bacterial genes resulting in new resistance, or acquisition by a sensitive bacterium of existing resistance genes from an already resistant bacterium.

(9) What are the 4 things that can happen to the Bacterial Lock & the Antibiotic Key?

a. _____

b. _____

c. _____

d. _____

(10) What does selective pressure mean?

(11) What 3 things lead to selection of bacterial resistance?

- a. _____
- b. _____
- c. _____

(12) What are some concerns about antibiotic resistance?

(13) What are 4 possible ways an individual may acquire antibiotics through their environment.

- a. _____
- b. _____
- c. _____
- d. _____

(14) What are 4 things that you can do to prevent infections?

- a. _____
- b. _____
- c. _____
- d. _____

Antibiotic Targets

Draw an arrow from the name of each structure in the box to the correct part of this diagram of an Influenza virus.

Cell wall
Cell cytoplasmic membrane
DNA synthesis
Protein synthesis in ribosomes

