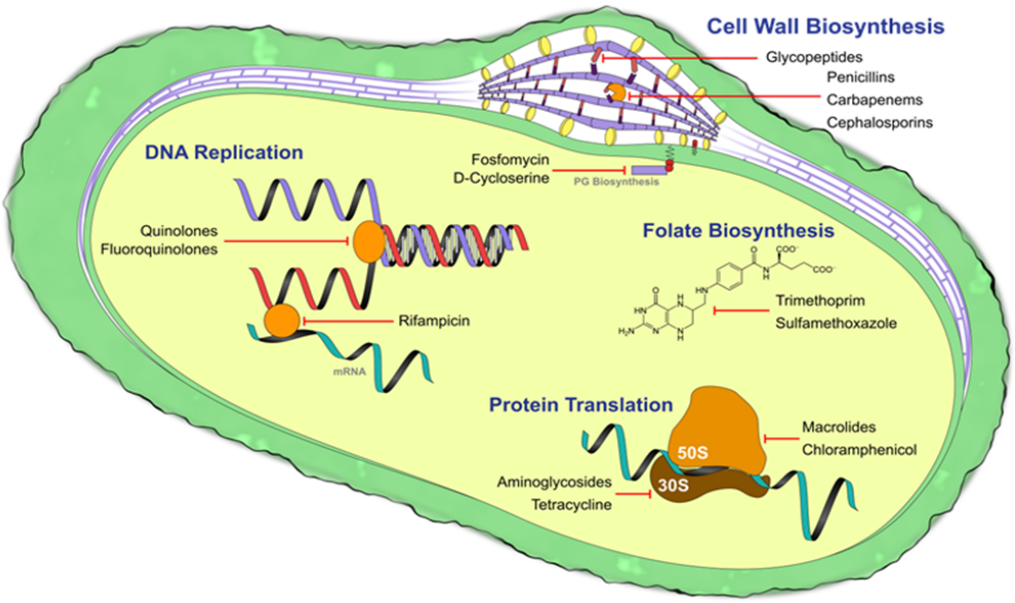
Explore an Issue: Search for New Antibiotics

Antibiotics have been crucial in preventing and curing bacterial infection. The development of the first antibiotics was revolutionary to medicine and in the twentieth century. In this activity we will explore the challenges to the present-day search for antibiotics.

1. What do we know about antibiotics? Construct a concept map as a class or small groups to demonstrate your knowledge.

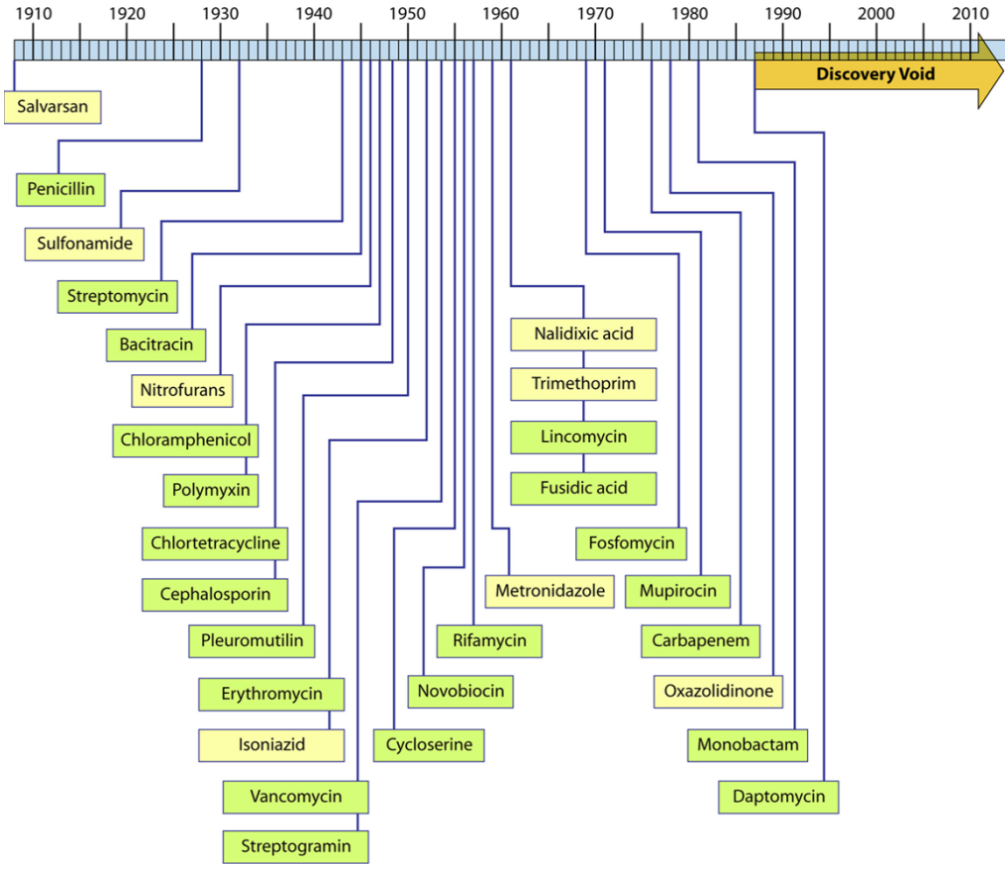
2. Watch the video Attack of the Super Bugs from SciShow to review the major concepts related to bacteria, antibiotics and antibiotic resistance. https://www.youtube.com/watch?v=a-apdGwBPz4

3. Complete the following chart highlighting a variety of antibiotics and where they act in the cell.



Graphic Provided by: Prof. E Brown McMaster University

First	Antibiotic
DNA Replication	
Cell Wall Biosynthesis	
Folate Biosynthesis	
Protein Translation	



Reference: Silver, L. L. Clin Microbio Reviews, 2011. Provided by Prof. E Brown McMaster University

4. (a) During what 20 year timeframe were the most antibiotics invented?
   (b) During what 20 timeframe were the least number of antibiotics invented?

5. Why do you think these trends exist?

6. What are the implications for antibiotic resistance?

7. Research why have we seen this decrease in antibiotic development. Categorize your findings using a chart or other graphic organizer and be prepared to share your work with the class/other groups.

8. Considering what we know about the barriers to antibiotic development …What can be done to encourage antibiotic development?