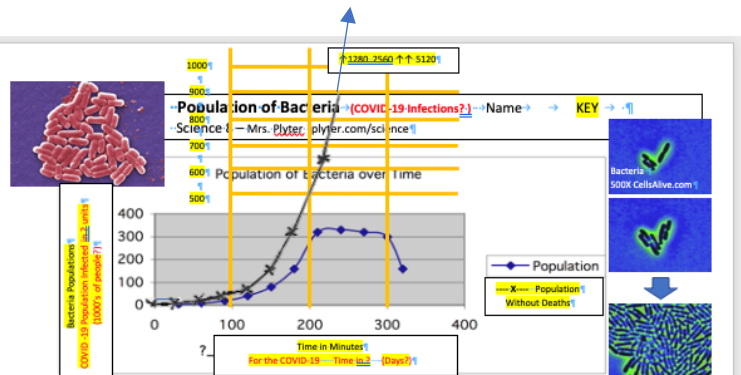


Population of Bacteria (Or, COVID-19 Infections?)

KEY

Science 8 – Mrs. Plyter plyter.com/science



- Notes:
1. BACTERIA are living unicellular organisms that multiply (reproduce) by dividing. $1 \text{ divides} = 2$
 2. One VIRUS makes copies in a cell. The copies destroy the cell to get out. $1 \text{ copies} = 50 \text{ to Millions!}$
 3. Viruses do not live without a host cell and do not use food. Bacteria do and do.
 4. The graphs for people infected with a the COVID-19 virus look about like this, but on a larger scale.
- 1 person infects another = 2. The problem is that 1 person can infect many!

Use the graph:

1. This graph was made to show growth of a Bacteria Population over time.
2. How many hours were recorded?
3. The population rises and then falls. Four possible reasons are given below. Write a short explanation why each reason might cause the fall.
 - a) Crowding: Bacteria run out of food and oxygen
 - b) Waste buildup: They live in their food and wastes. Wastes are poisonous when concentrated. Wastes use space.
 - c) Addition of Antibiotic: Antibiotic are "against life" and are poisons. An antibiotic kills many.
 - d) Temperature change: Living gives off heat. Some will not do well at different temperatures. (Note: Our fevers kill germs)
4. Draw vertical lines on the graph and then estimate the population at
 - about 100 minutes? 20
 - 200 minutes? 275
 - 300 minutes? 300
5. Label the graph axes (?'s) for Bacteria. Add COVID infected ? for x-axis.
6. Use the Chart to show the population of bacteria to 300 minutes as IF no bacteria had died. (Or, IF the COVID-19 is not controlled.)
 - Start with 5 bacteria and assume that each reproduces (divides) every 30 minutes.
7. Use your data. Add a key and a line to the above graph.

Minutes	Bacteria Population
0	5
30	10
60	20
90	40
120	80
150	160
180	320
210	640
240	1280
270	2560
300	5120