

The Immune System and Viruses

Background on Viruses

1. What causes a common cold? _____
2. Are viruses alive? _____
3. Are viruses prokaryotes, eukaryotes or neither? _____
4. What protects a virus's DNA? _____
5. What does a virus need to replicate? _____
6. What do cells do when a virus enters in the lytic cycle?

7. What is so dangerous about the lysogenic cycle?

8. What is so dangerous about HIV? _____
9. Can viruses mutate? _____
10. How does viral mutation affect antibiotics?

Drawing a Virus

Grab a sheet of paper and follow along with the video on
how to draw a virus.

Paste your virus below!

Viruses in the Body

1. How can a virus enter the body? _____

2. How can a virus enter the cell? _____
3. What happens when a virus enters? _____

4. What happens when the viral DNA enters the nucleus?

5. Why does the man not fall ill? _____

How a Virus Replicates

1. What does 1 candy represent? _____
2. How many viral cells do we have after 3 cycles of replication?

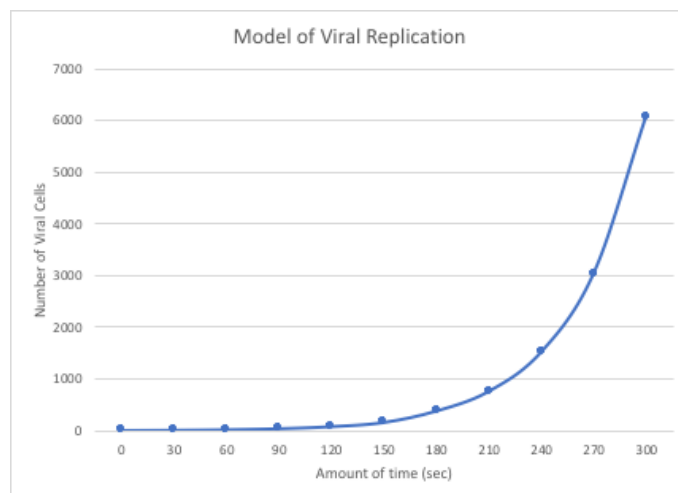
3. How long did it take to reach over 20 viral cells? _____

Graph Viral Replication

Remember: viruses replicate every 30 seconds ($\frac{1}{2}$ minute) in our model.

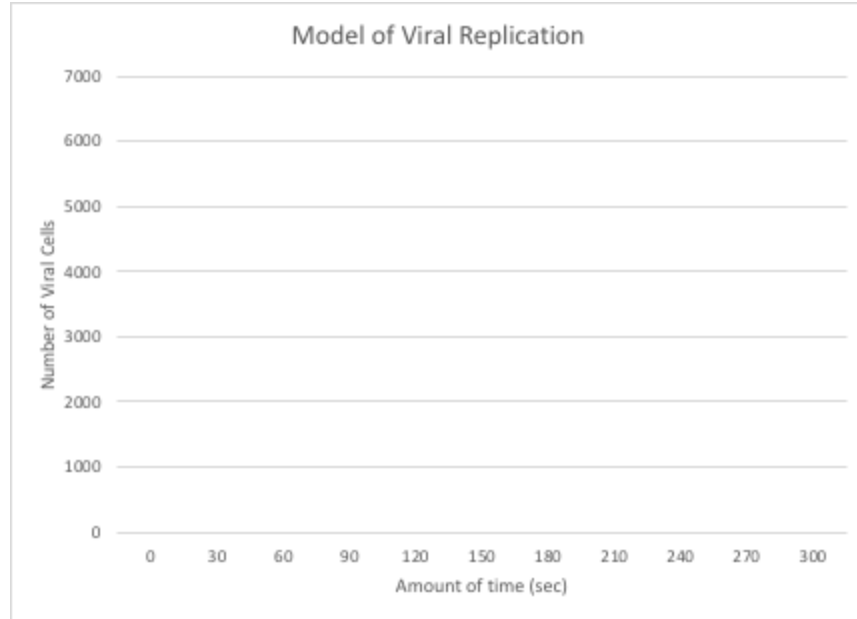
Example

Problem: If you start with 5 viral cells, how many will you have after 3 minutes? Show your work as a graph.



Your turn!

Problem: If you start with 2 viral cells, how many will there be after 3 minutes? Graph your work below.



Specialty Immune Cells

Draw your favorite specialty cell below!

Washing My Hands

1. What are the two properties of a soap molecule?

2. What is the arrangement of a micelle? _____

3. What happens when the soap is dipped into the water?

4. Why do the pepper molecules move away? _____

Write down 3 ways you can boost your immune system:

1. _____

2. _____

3. _____