

Topic Review Guide¹: Bacteria & Viruses

Read: Chapter 19: Viruses, Chapter 27: Bacteria & Archaea

Watch: Paul Anderson Videos [035 - Viral Replication](#)

Listen & Look:

Here are key terms you will come across as you begin to learn this material. Familiarize yourself with them! At the end of the topic, create a concept map connecting them to one another.

Key Terms

Bacteria	Viruses
bacteriophage	Lytic cycle
Transformation	Lysogenic cycle
Transduction	Recombination of genes in viruses
Conjugation	RNA genome vs. DNA genome
Transposons	Retrovirus
	Reverse transcriptase

Quizlet: https://quizlet.com/_4ttc1u

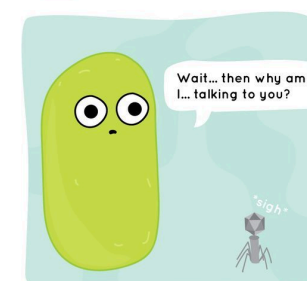
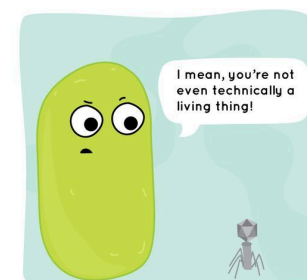
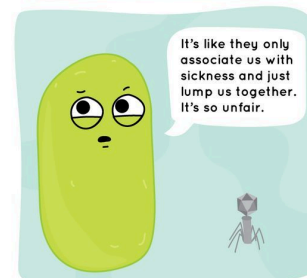
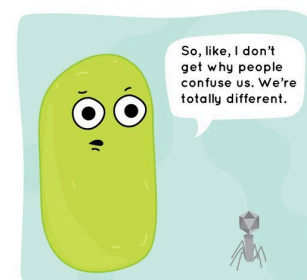
Equations to be familiar with: None!

Focus Questions: Use your textbook and/or the video to help you answer these questions.

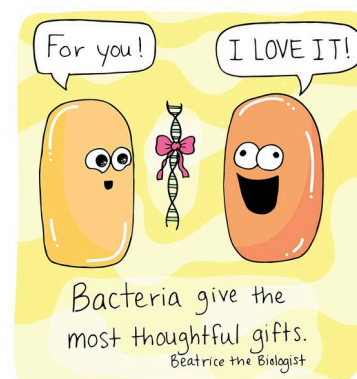
Focus Questions for Bacteria & Viruses

1. Describe FIVE ways that bacteria increase their genetic variation. Identify which are considered horizontal gene transfer. (Chapter 27)
2. Why are viruses classified as "obligate intracellular parasites"?
3. What are the minimum parts required for a functional virus?
4. Diagram the lytic and lysogenic cycles of bacteriophages and give examples of viruses who follow each.
5. Describe how animal viruses reproduce.
6. What is the evolutionary advantage of an RNA genome in eukaryotic cell virus? (Hint: *Emerging Viruses*, textbook pages 402 - 404)
7. Describe two different ways that genetic variation (recombination) can occur in viruses? (Refer to Biozone worksheet titled "[Antigenic Variability & Pathogens](#)").
8. Why is permanent immunity to the flu impossible to acquire?
9. What cell type does HIV infect? How does this lead to AIDS?
10. Re-watch [this video](#). While watching, make a list of the specific enzymes and proteins that are unique to the HIV cycle. Use this list to generate potential drugs that you would include in an HIV cocktail.
11. Some viral infections are known to increase the risk of some types of cancer. Look up an example of such a virus. What is the proposed mechanism behind how this phenomenon works?

Bacteria and Viruses



Beatrice the Biologist



¹ Topic Review Guides (TRG) inspired by Lee Ferguson, <http://www.thebiologyspace.com>

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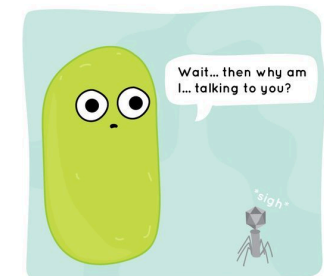
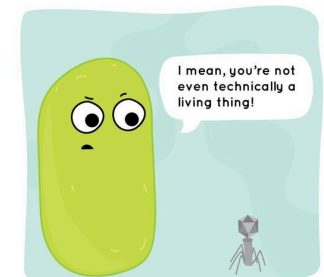
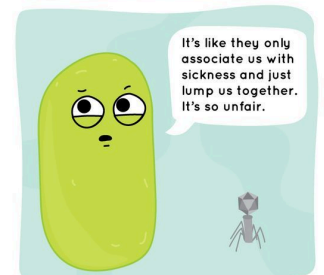
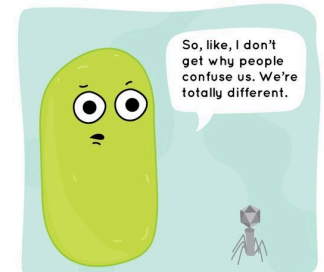
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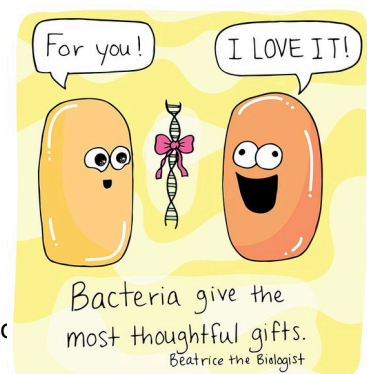
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