**Lytic and Lysogenic Cycles**

Read p. 478 – 481 and answer the following questions (in point form is okay): Name:

 Date:

1. Define the term virus:
2. In order to reproduce, a virus must:
3. What two things make up the structure of a typical virus?
4. What is the purpose of the capsid?
5. Do plant viruses infect humans? Are viruses specific to the type of host cells they infect?
6. What are bacteriophages?
7. What happens in a **lytic infection**?
8. What does the host cell do with viral DNA in a lytic infection?
9. What happens to host cell DNA in a lytic infection?
10. What does it mean for a cell to lyse?
11. Your textbook gives a good analogy of a lytic virus being like an outlaw in the Wild West. Can you come up with your own analogy?
12. What happens in a **lysogenic infection**?
13. Does the cell lyse (burst) right away in a lysogenic infection?
14. What is viral DNA that is imbedded into **bacterial** DNA called?

Important note: viral DNA that is imbedded into **human** DNA is called **provirus**.

1. Will a virus stay in the prophage form indefinitely? If not, what happens next?

**Retroviruses**

1. What genetic material is used in retroviruses?
2. How do retroviruses get their name? Compared to a DNA virus, what happens differently when a retrovirus enters the lysogenic cycle?
3. Extension: Retroviruses have a major advantages compared to DNA viruses that allows them to mutate and evolve quickly. Use your understanding of the number of strands of DNA compared to the number of strands of RNA to try to formulate how they can have this advantage.
4. Draw the steps of the lytic cycle:
5. Draw the steps of the lysogenic cycle: