CONCEPT: ANIMAL VIRUSES: REVERSE-TRANSCRIBING VIRUS SYHTNESIS & REPLICATION

●**Reverse-Transcribing Viruses:** RNA viruses that encode the enzyme _____ *transcriptase.*

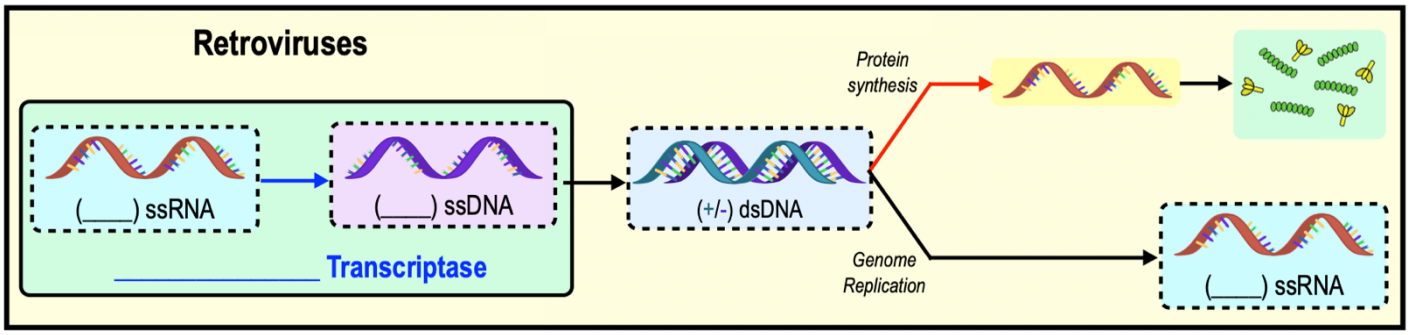
□ **Reverse Transcriptase:** *RNA-dependent DNA polymerase* using _____ as a template to make _____.

●_____**viruses:** reverse-transcribing viruses with a (+) ssRNA genome & *reverse transcriptase*.

□ After entry, *reverse transcriptase* uses (+) ssRNA as a template to make (–) ss_____.

□ (–) ssDNA is used to build a *complement* DNA strand to form (+/–) _____DNA.

□ (+/–) dsDNA is *transcribed* to (___) ssRNA, which can be *translated*, or used to *replicate* the (+) ssRNA genome.



●(+/–) dsDNA can _____ into host the chromosome to become *latent* inside the host cell.

PRACTICE: Which of the following characteristics correctly describes retroviruses?

a) They are made up of only a single protein.
b) They can only reproduce by infecting bacteria.
c) They have single-stranded DNA that acts as a template for DNA synthesis.
d) They have single-stranded RNA that acts as a template for DNA synthesis.

PRACTICE: A retrovirus _____.

a) Is a DNA virus.
b) Integrates viral DNA into the host chromosome.
c) Requires the viral protein replicase to replicate its genome.
d) All of the above.

PRACTICE: The human immunodeficiency virus (HIV) is a retrovirus. HIV will not be able to integrate its viral genome into the host cell's genome unless it carries which enzyme in its viral particle?

a) Replicase.
b) Reverse transcriptase.
c) DNA polymerase.
d) Transcriptase.