**Transcription & Translation Interactive-2020** Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ # \_\_\_\_\_

Go to <https://www.youtube.com/watch?v=2BwWavExcFI> (EXCELLENT video, btw) and answer the following:

1. Differentiate between promoter and terminator in terms of mRNA synthesis.

2. Where does transcription occur? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. Where does translation occur? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. Where does RNA Polymerase bind to initiate transcription?

5. What enzyme separates the 2 DNA strands for transcription to begin? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. What enzyme did this in replication? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

6. What is an exon?

7. What is an intron?

8. What must be added to the 5’ end of (pre) mRNA before the mRNA is fully transcribed? \_\_\_\_\_\_\_\_\_\_\_. What is added to the 3’ end? \_\_\_\_\_\_\_\_\_\_\_\_

9. What is the function of a splicesome?

10. How many amino acids are there? \_\_\_\_\_\_\_. There are \_\_\_\_\_\_\_\_possible codons.

11. What starts “Initiation” in Translation?

12. Translation begins with mRNA binding to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

13. Distinguish between codon and anticodon.

14. What kind of bonding occurs between codon and anticodon complements?

15. What event causes the large ribosomal subunit to assemble and form a translation complex?

16. What are the 3 distinct regions on the large ribosomal unit complex?

17. The first tRNA to arrive goes directly to the P site (since the site is unoccupied). Each subsequent tRNA arrives at the \_\_\_\_\_\_ site. A \_\_\_\_\_\_\_\_\_ bond forms between the \_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ on the \_\_\_\_\_ site and the one on the \_\_\_\_\_\_\_ site. tRNA molecules exit the complex via the \_\_\_\_\_ site.

18. Explain the function of a release factor.

19. After polypeptide (and subsequent protein formation), trace the pathway from the time of synthesis until the protein exits the cell.