HHMI Click and Lear: Telomeres Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ # \_\_\_\_\_

1. What is telomeric DNA?
2. Is telomeric DNA found on the leading or lagging strand?
3. Explain why telomeric DNA is single stranded at the ends of chromosomes.
4. Why are there so many repeats at the end of each chromosome?
5. What would happen to the chromosomes without the repeats?
6. Explain the role of telomerase.
7. Explain the relationship between telomeres and aging.
8. Is telomerase active in most somatic cells?
9. What are the implications for telomerase being active in cancer cells?
10. What are some other ways that the telomeres are protected in the absence of active telomerase?