telomeres only exist in eukaryotes

telomerase- enzyme that builds up telomeres in eggs/sperm to protect essential DNA
- this is not present in somatic cells unless the cell is cancerous
- associated with "immortal cells" (long living) + ageing
- potentially a telomerase "gene" that causes cancer

histones - proteins that the DNA wraps around to condense it
- then the histones wrap around each other,
- thus they loop + coil + create a chromatid

During interphase, chromosomes occupy specific regions of the nucleus

euchromatic - transcribed DNA (has genes) loosely packed

heterochromatin - highly condensed DNA

Chargaff's: A pairs with T > so the amounts should be about equal
G pairs with C

- frequency of base pairs differs in species

Gene expression: genotype → phenotype
gene → protein → trait

Some genes → protein or gene → RNA (ribosomes)
or gene → product

transcription: DNA to RNA
↳ one strand