↳ (chromatin
Thread-like

⇒ DNA coiled around histone proteins
↳ condenses into thick, discrete chromosomes during cell di.

Tightly coiled chromatin	Loosely coiled chromatin
↓	↓
Heterochromatin	Euchromatin
↓	↓
Transcriptionally inactive	Transcriptionally active.

– Ribosomes
⇒ small, dense granules
⇒ composed of LARGE and SMALL subunit, made up of rRNA and proteins.
f(x)
• Form POLYRIBOSOMES so as to speed up protein synthesis.

L Bound
⇒ attached to rER
f(x)
• synthesize memb prot, secretory prot or prot to be packaged within certain organelles → extracellular use

L Free
⇒ suspended in cytosol → Another word for cytoplasm.
f(x)
• synthesize proteins for intracellular use.

– Rough endoplasmic reticulum
⇒ interconnected system of flattened membrane-bound sacs called CISTERNAE (cristae) + Many ribosomes bound to the outer surface of rER.
↓
Abundant in secretory cells.

* As polypeptide chain is synthesized by bound ribosome on rER, it is simultaneously inserted into cisternal space through a pore in rER membrane, where it is folded into a protein. → DNA transcribed to mRNA → mRNA translated to unique a.a seq

f(x)
• Folds polypeptide chain into their specific configuration.
• Glycosylation → adding carbohydrate chain to protein.
• Transports protein via TRANSPORT VESICLES.
↳ Glycoproteins.