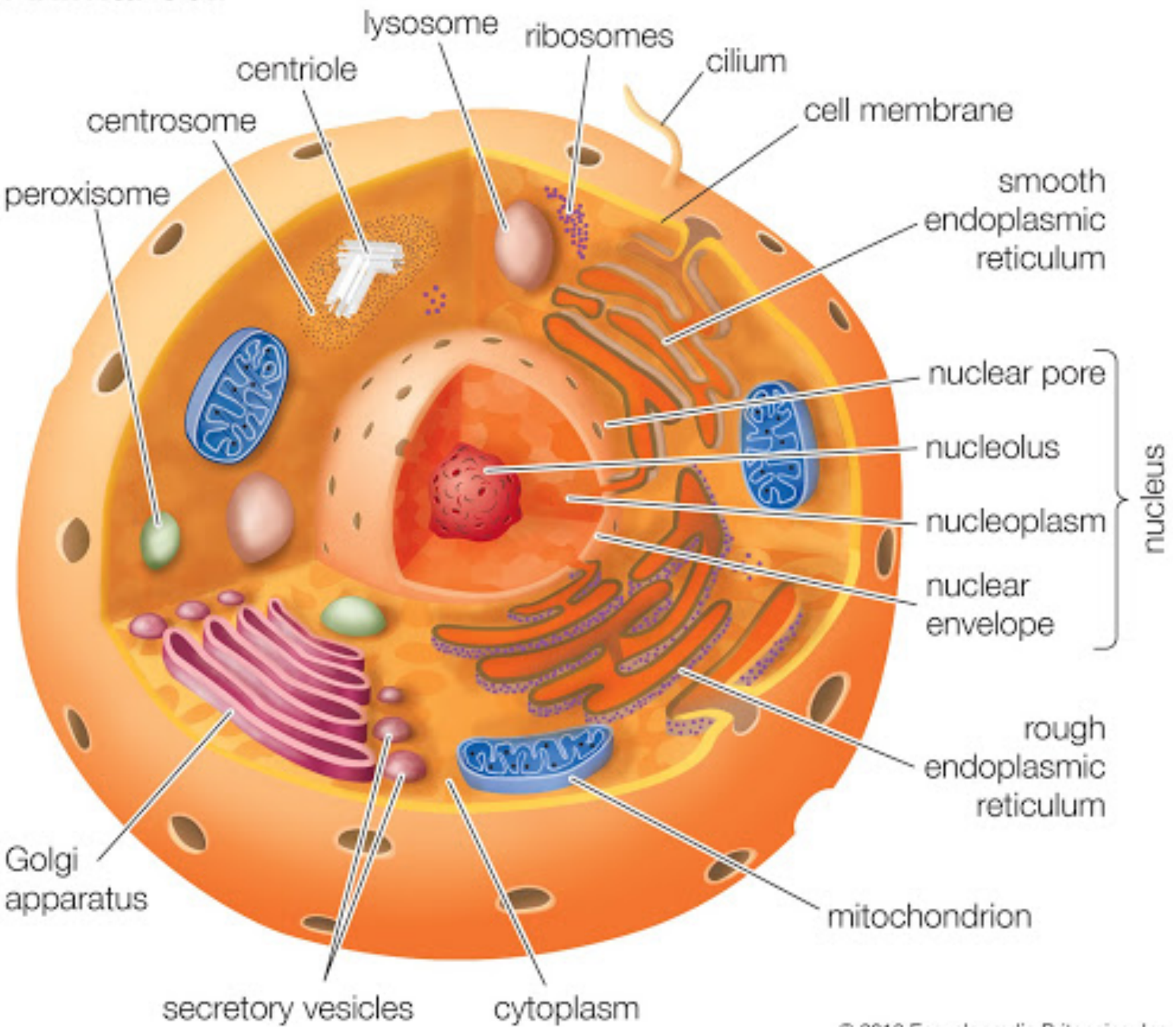
How a Virus Works



Nucleus: cell's control center. DNA occurs in nucleus within the strands of chromatin.

Ribosomes: proteins are synthesized.

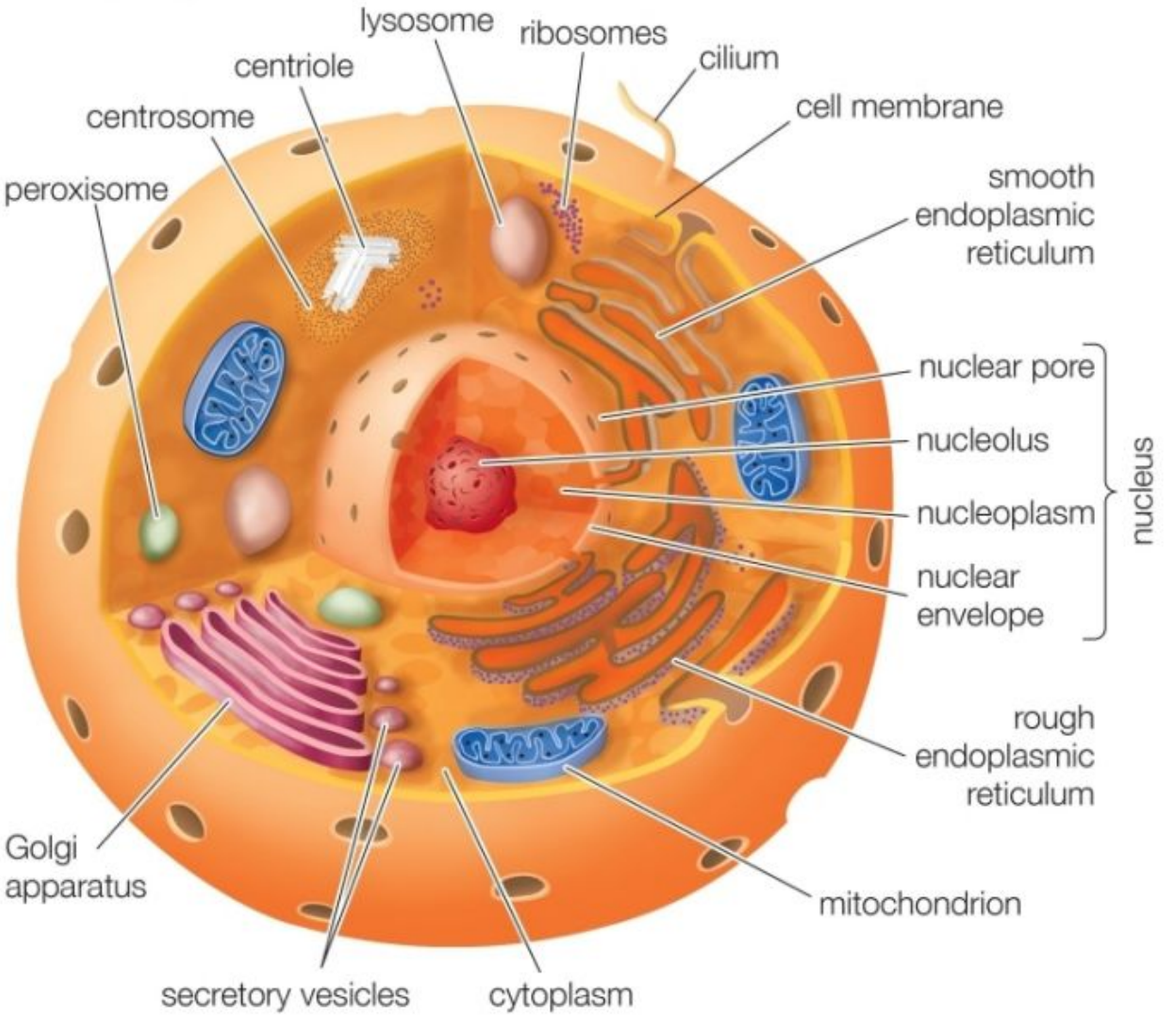
Mitochondrion: respiration takes place and energy is produced.

Lysosome: digestion of cell nutritions takes place.

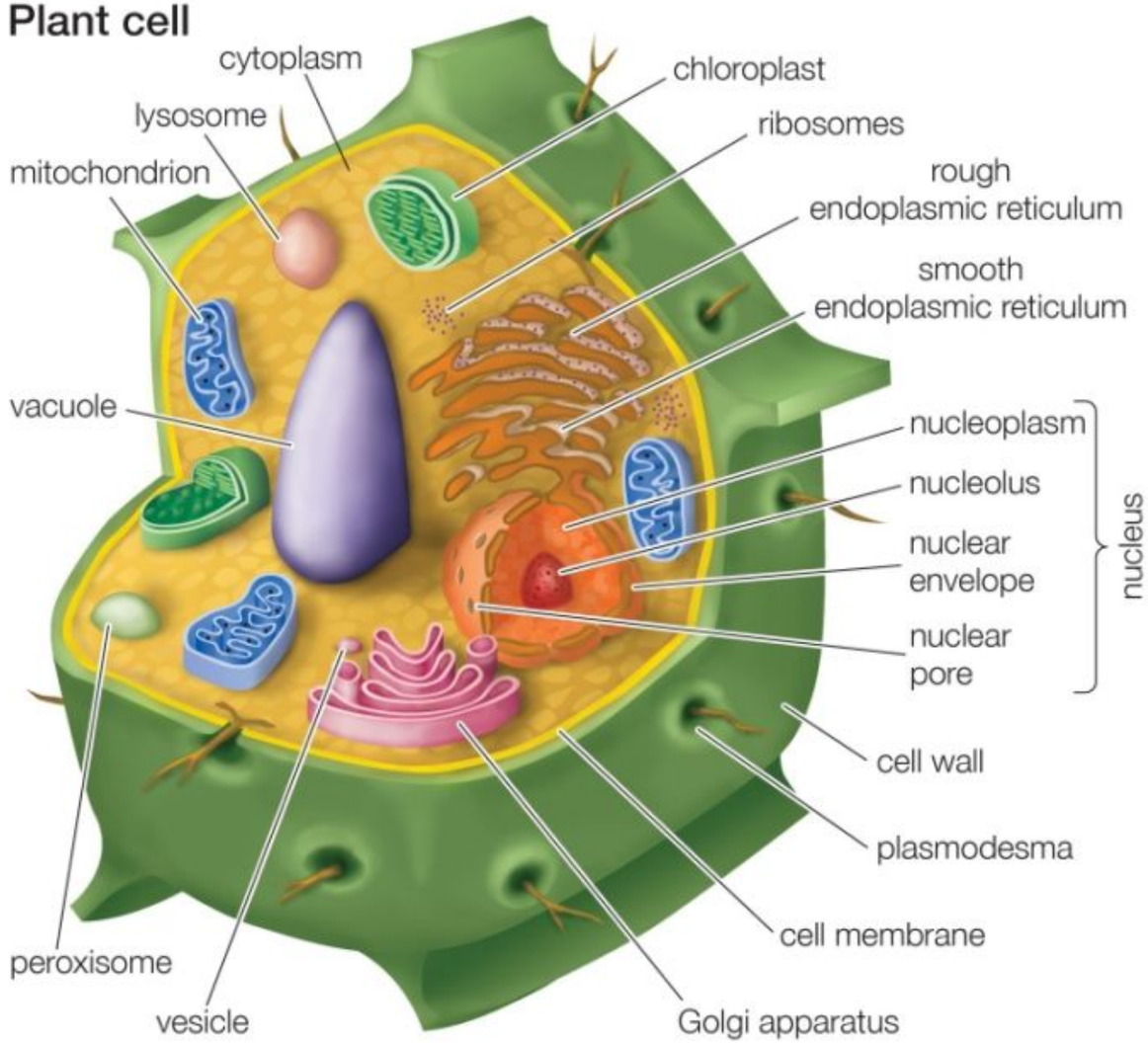
Cytoplasm: Gel-like fluid inside the cell.

Golgi Apparatus: stores and transports newly made proteins before they can be delivered through membrane.

Animal cell



Plant cell



Animal Cells

Plant Cells

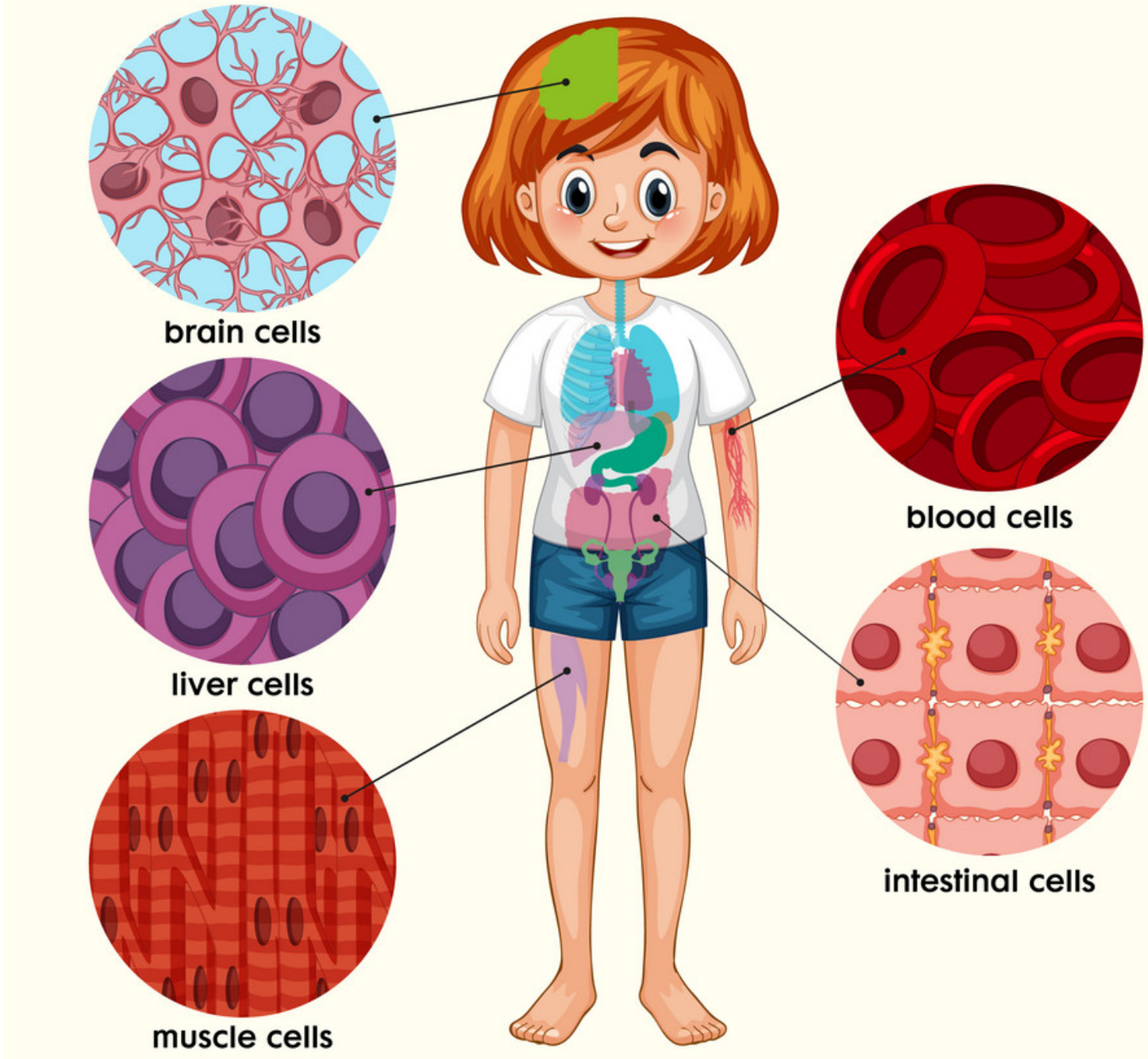
What are the Differences Between Them?

- smaller
- no cell wall
- nucleus in center
- many vacuoles
- cannot synthesis nutrients
- no plasmodesmata

- larger
- cell wall
- nucleus on the side
- one vacuole
- synthesizes nutrients
- has plasmodesmata

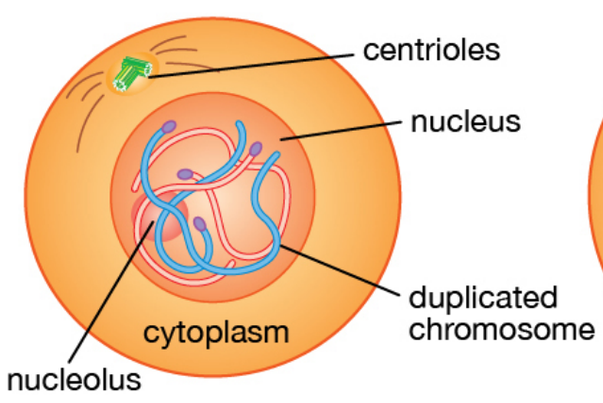
WorldAtlas

Cells of The Human Body

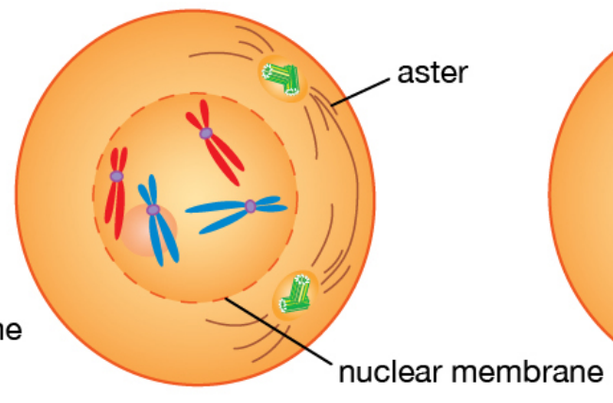


Cell Lifecycle

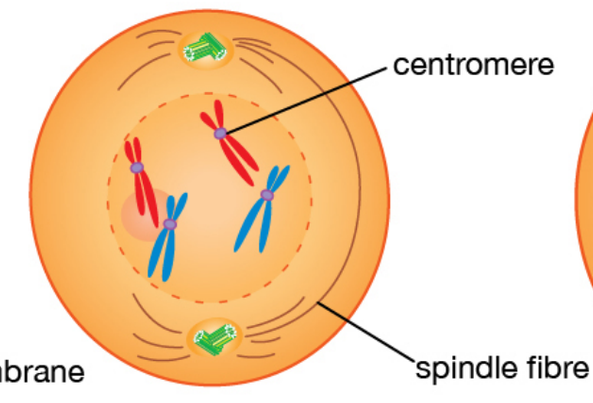
Mitosis, or somatic cell division



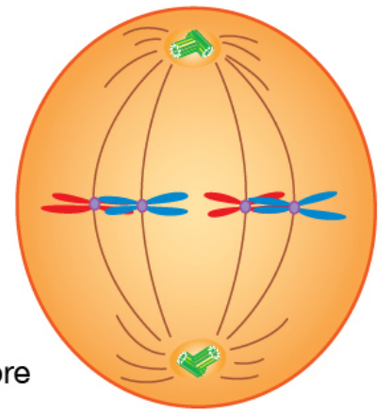
Prior to mitosis, each chromosome makes an exact duplicate of itself. The chromosomes then thicken and coil.



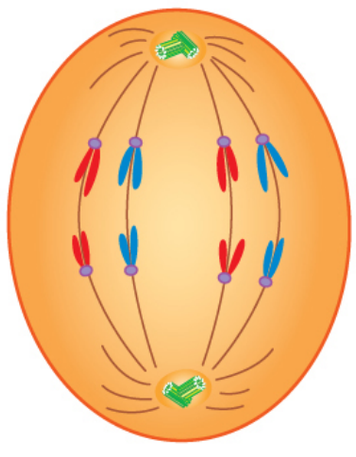
In early prophase the centrioles, which have divided, form asters and move apart. The nuclear membrane begins to disintegrate.



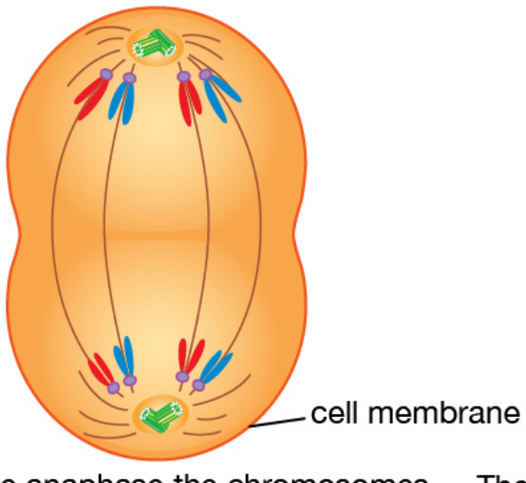
In late prophase the centrioles and asters are at opposite poles. The nucleolus and nuclear membrane have almost completely disappeared.



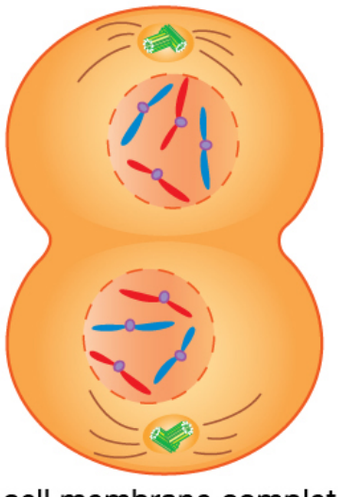
The doubled chromosomes—their centromeres attached to the spindle fibres—line up at mid-cell in metaphase.



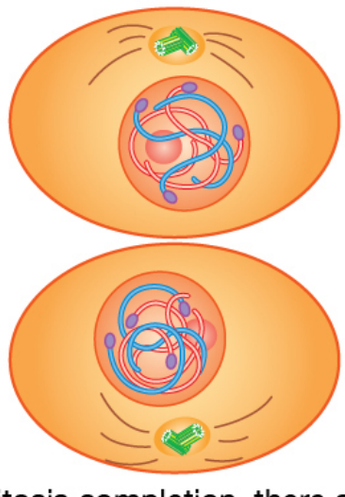
In early anaphase the centromeres split. Half the chromosomes move to one pole, half to the other pole.



In late anaphase the chromosomes have almost reached their respective poles. The cell membrane begins to pinch at the centre.

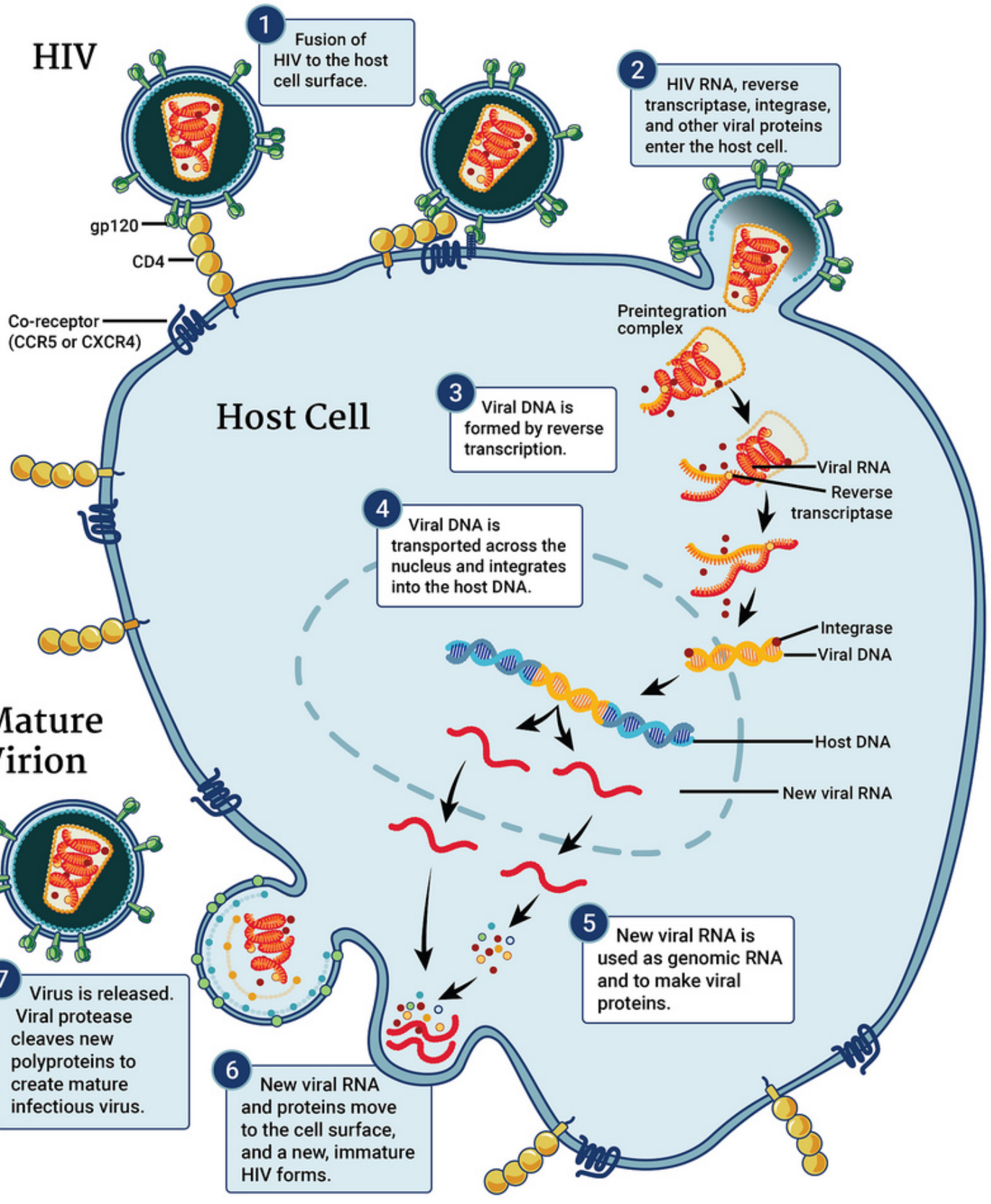


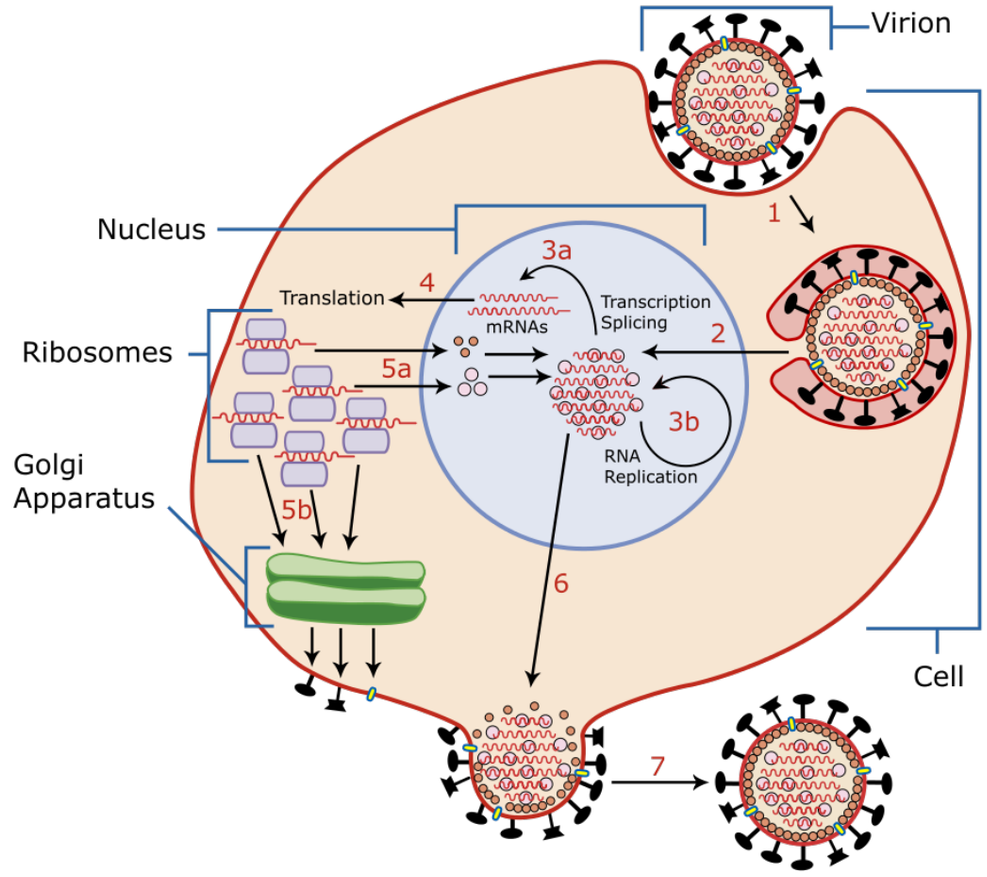
The cell membrane completes constriction in telophase. Nuclear membranes form around the separated chromosomes.



At mitosis completion, there are two cells with the same structures and number of chromosomes as the parent cell.

Virus Lifecycle





Stages of the HIV lifecycle

1. HIV attaches to the surface of a CD4 cell.
2. HIV proteins and enzymes are released into the cell.
3. Reverse transcription produces a double strand HIV.
4. Integrase enables HIV to link into the cell's DNA.
5. Protease cuts and reassembles new HIV.
6. Each cell produces hundreds of new virions.

Next

- What happens within nucleus?

- How to make a vaccine?