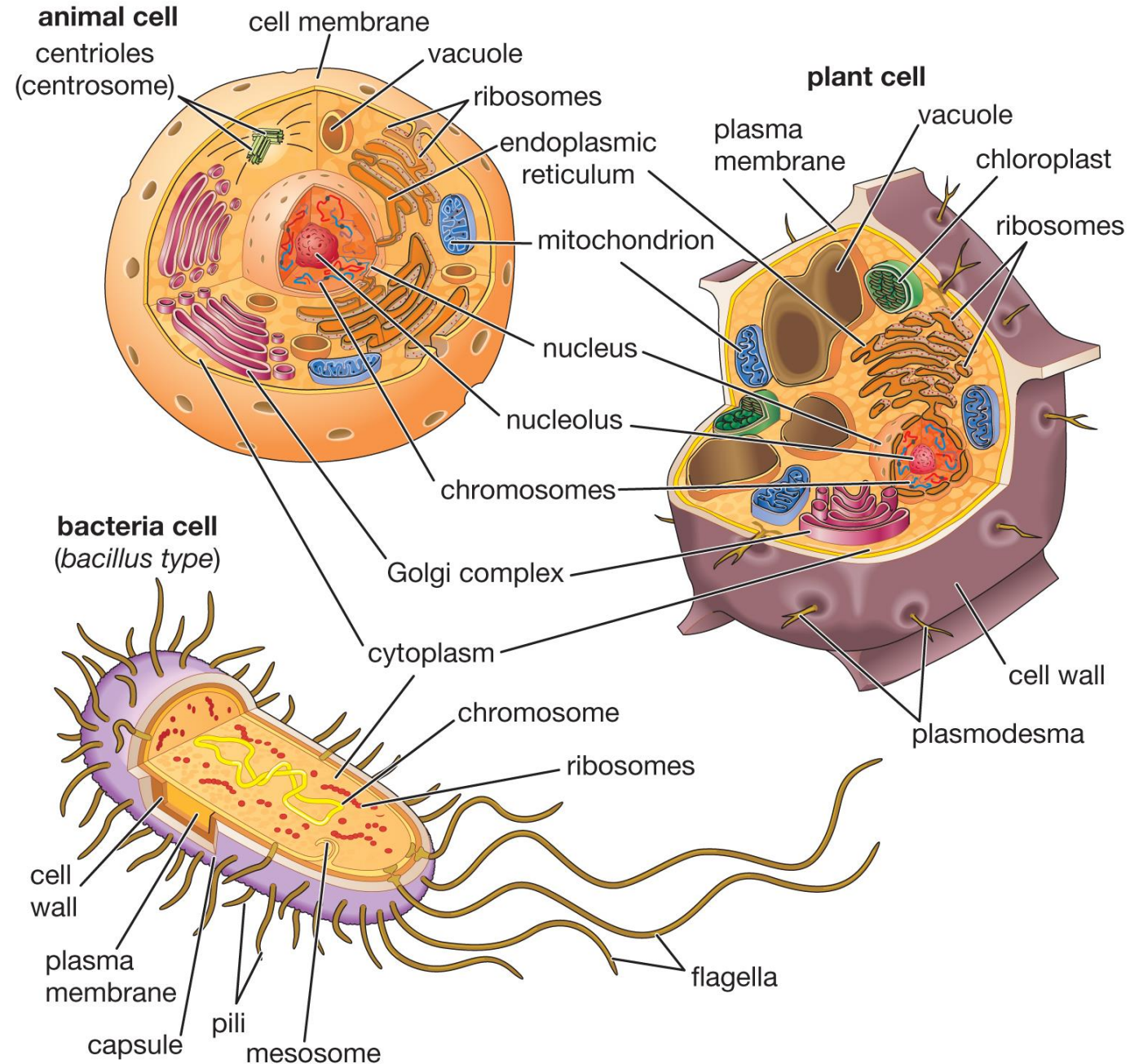


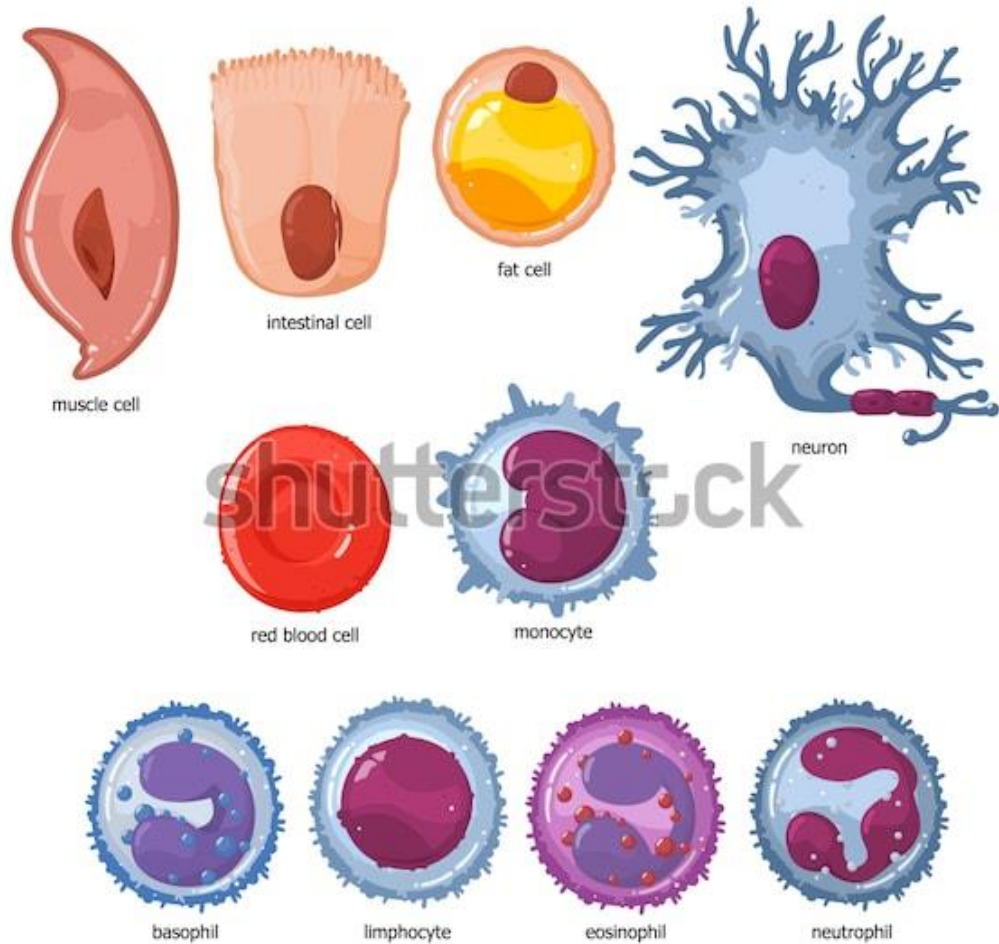
A microscopic image showing several cells. The most prominent cell in the center has a large, dark red, spherical nucleus containing several bright red, condensed chromosomes. Other cells in the background are out of focus, showing similar structures. A dark purple, semi-circular graphic element is on the left side of the image.

The Cell and It's Chromosomes

Benilda Ramos-Butron

Some typical cells





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Some Types of Human Cells

Diagram of an Animal Cell

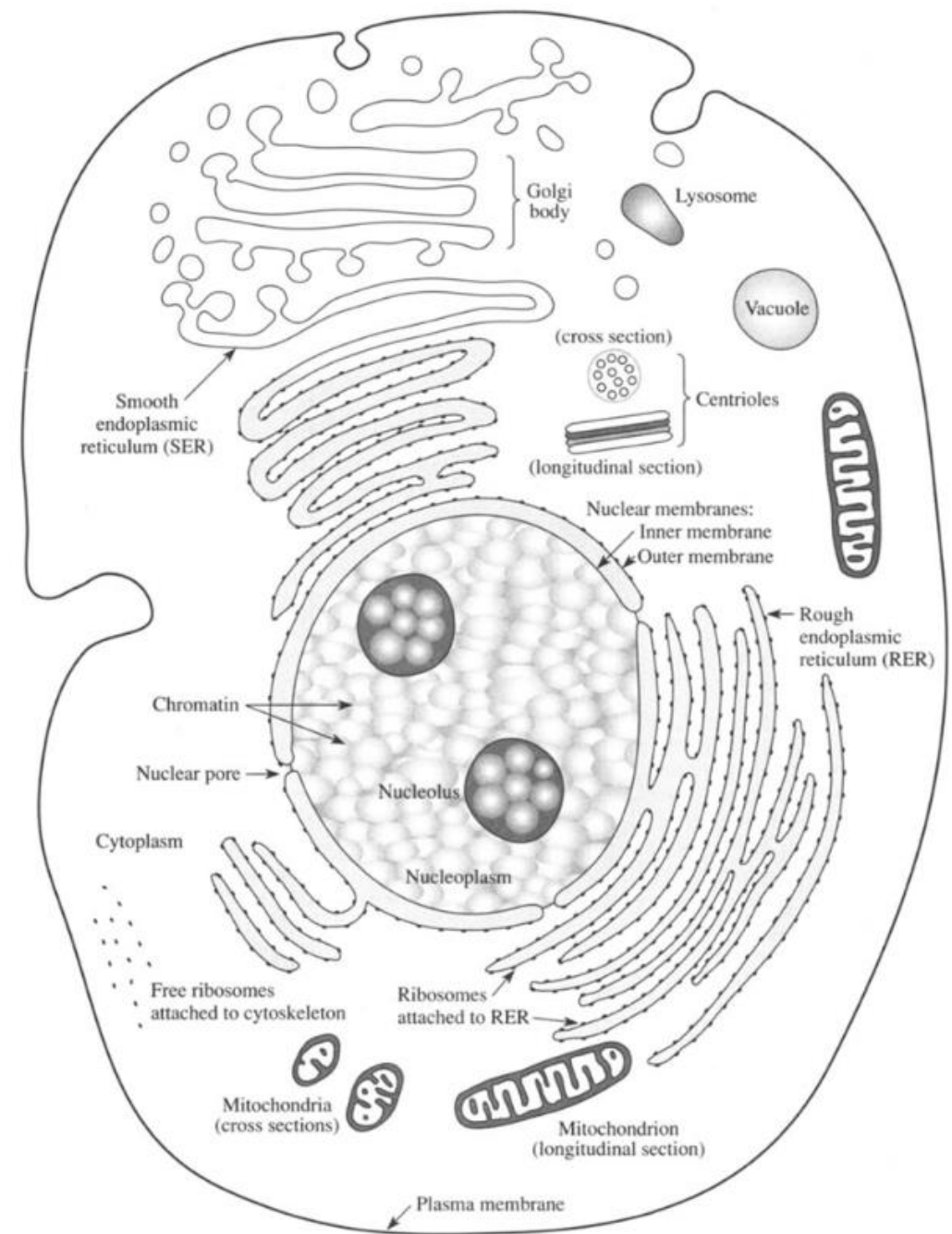


Fig. 1-1. Diagram of an animal cell.

Cell Structures

1. Extracellular structures
2. Plasma membrane
3. Nucleus
4. Nuclear membrane
5. (Chromatin)
6. (Nucleolus)
7. Nucleoplasm
8. Cytoplasm
9. (Ribosomes)
10. Endoplasmic Reticulum
11. Mitochondria
12. Plastid

Cell Structures

13. Golgi apparatus

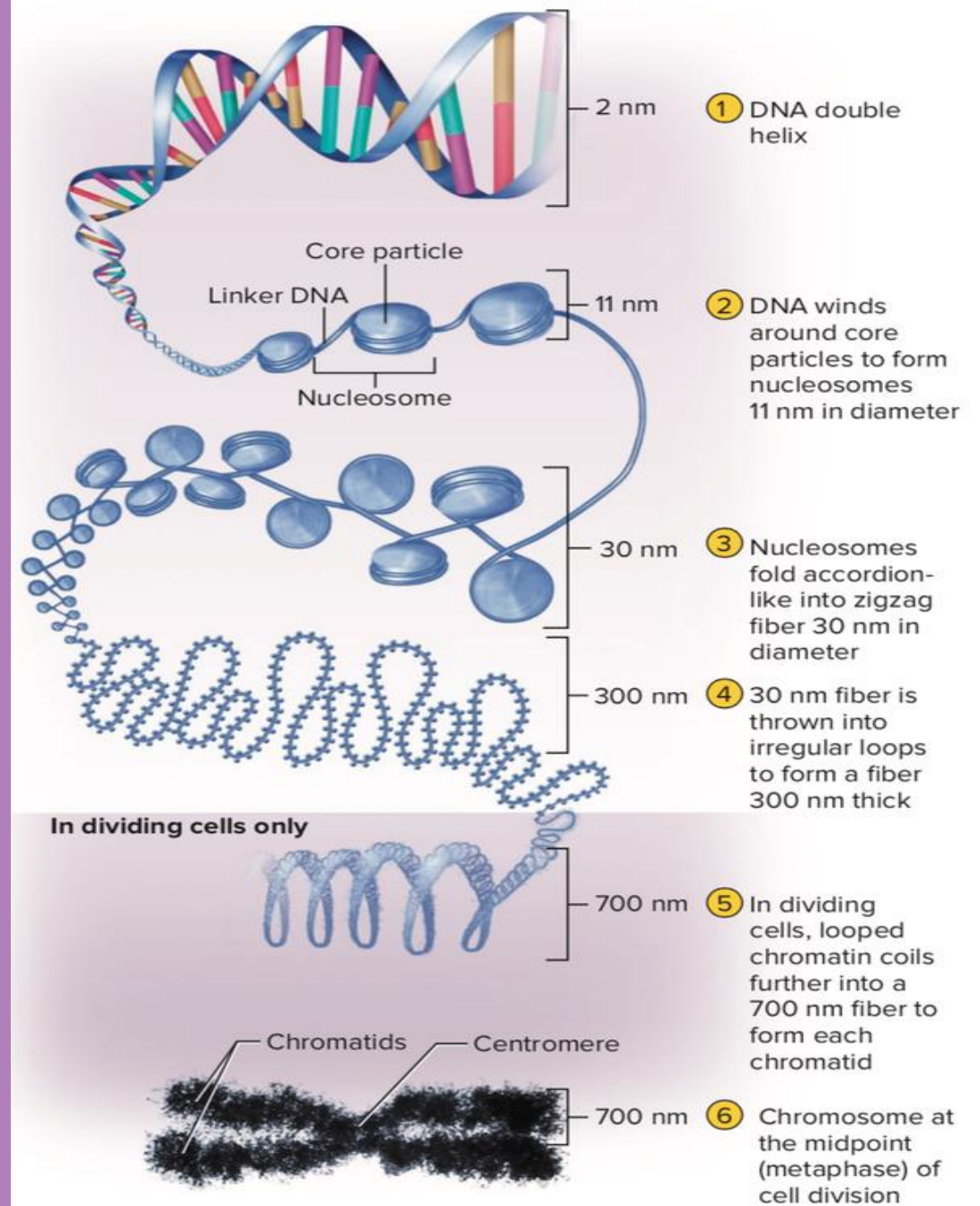
14. Lysosomes

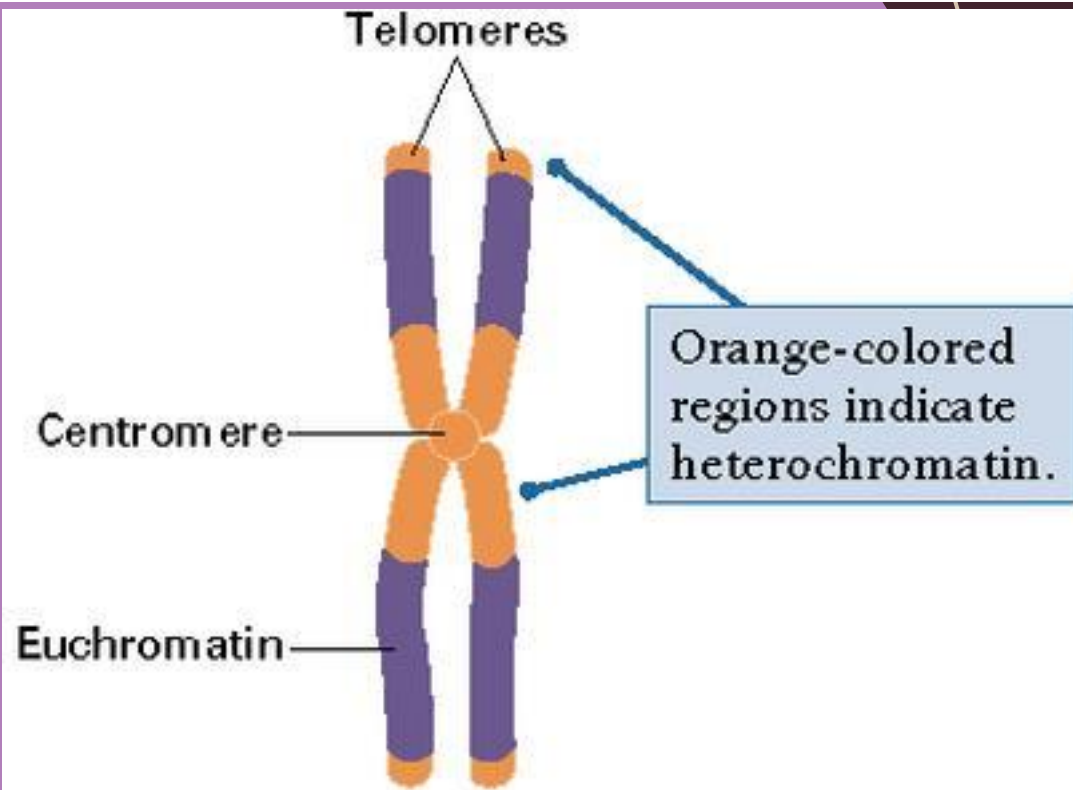
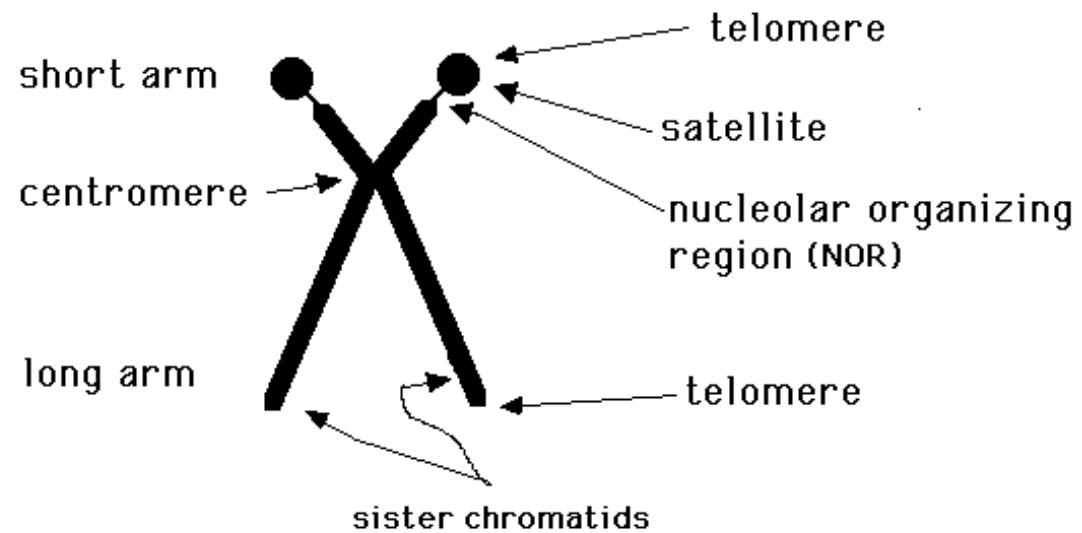
15. Vacuole

16. (Centrioles)

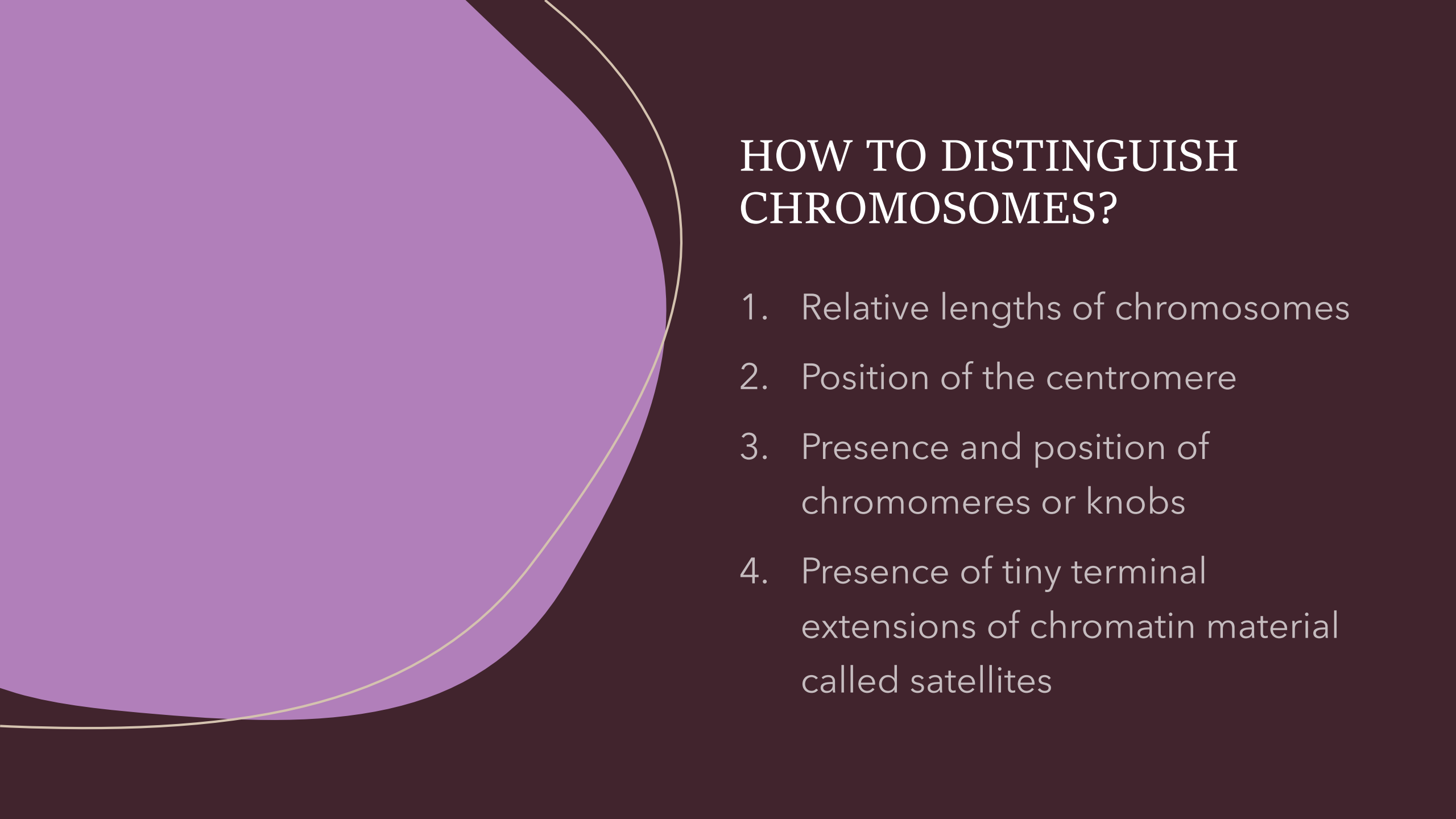
17. (Cytoskeleton)

CHROMOSOMES





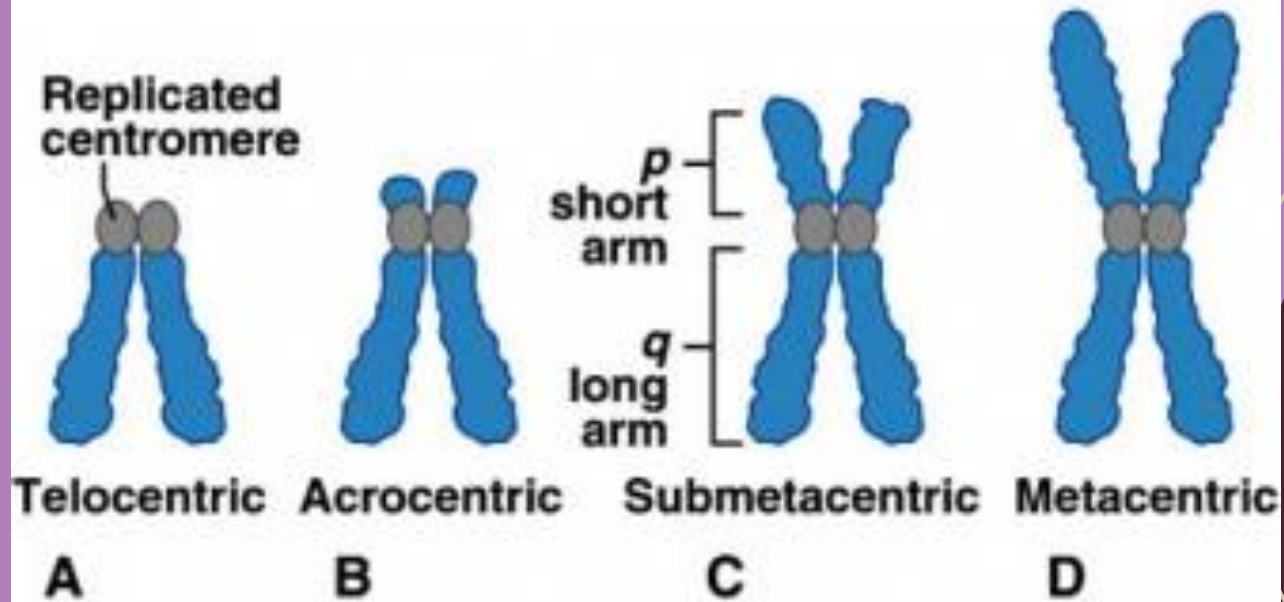
ANATOMY OF CHROMOSOMES



HOW TO DISTINGUISH CHROMOSOMES?

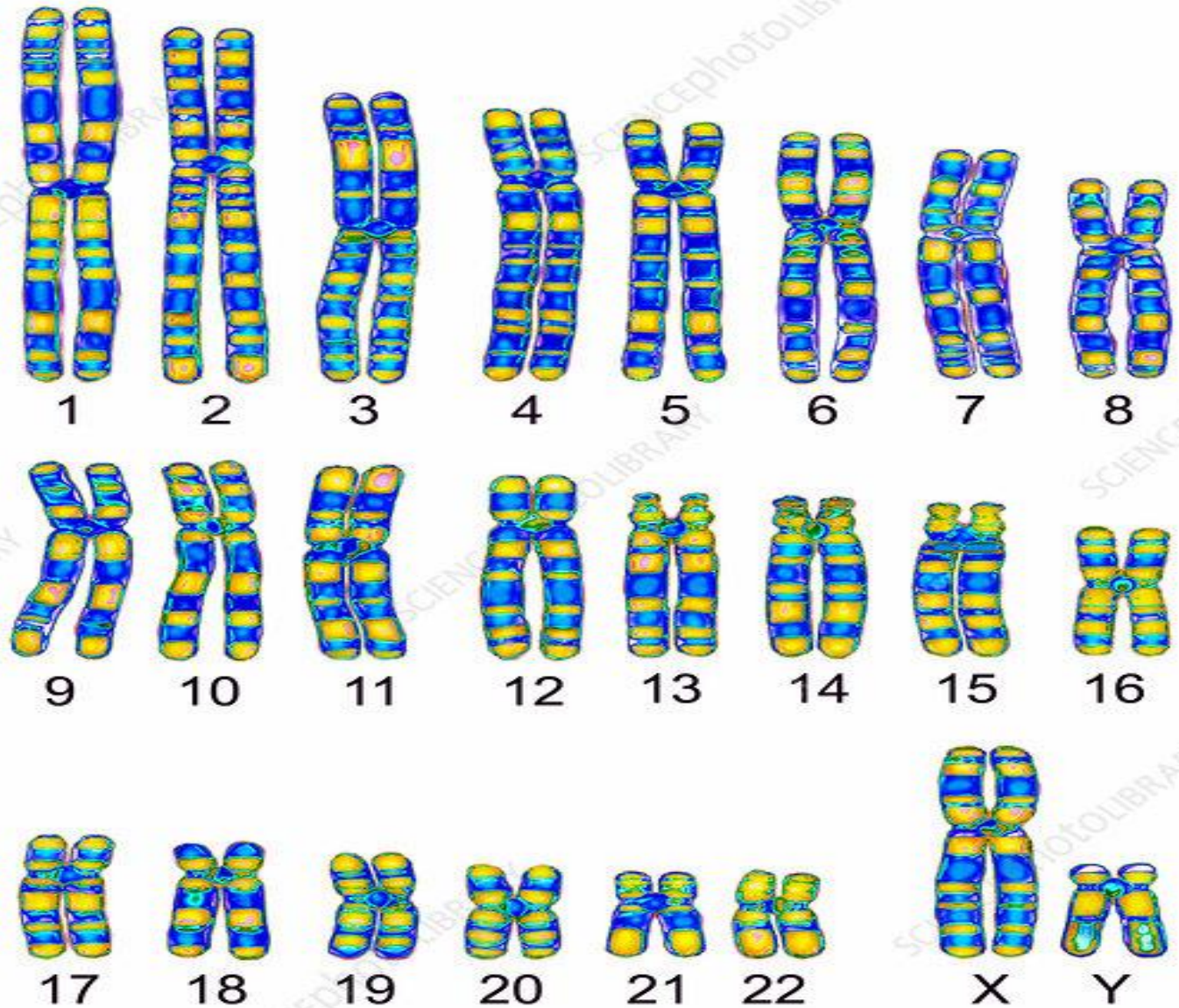
1. Relative lengths of chromosomes
2. Position of the centromere
3. Presence and position of chromomeres or knobs
4. Presence of tiny terminal extensions of chromatin material called satellites

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Classification of Chromosomes Based on Morphology

Human Karyotype



Chromosomes are either

- Autosome – chromosome number 1-22
- Sex chromosome – heteromorphic chromosome number 23



End of the lecture.