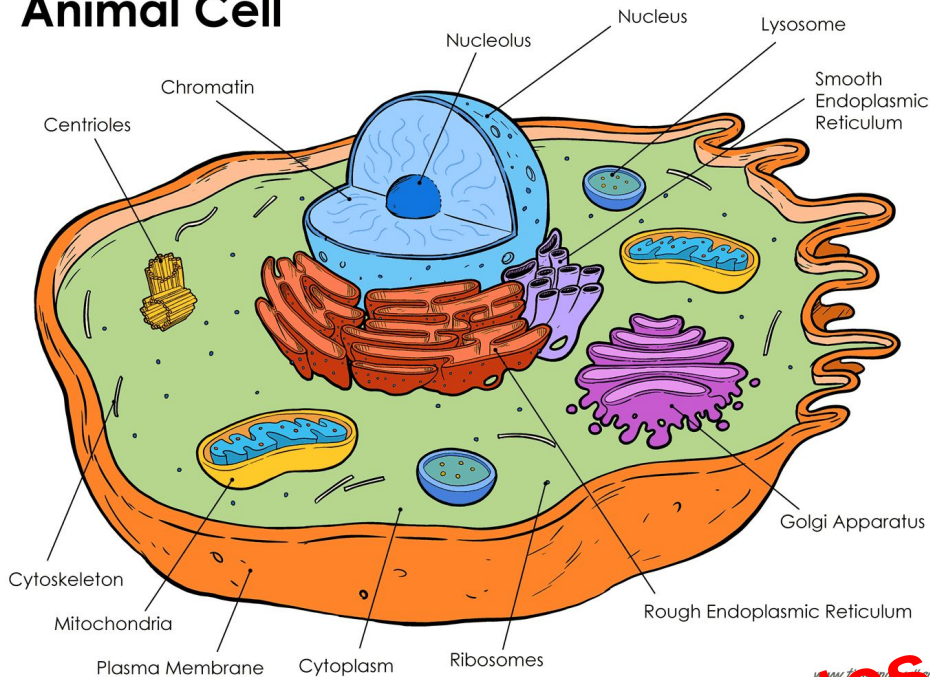


# Chapter 1: the cell

(20µm)

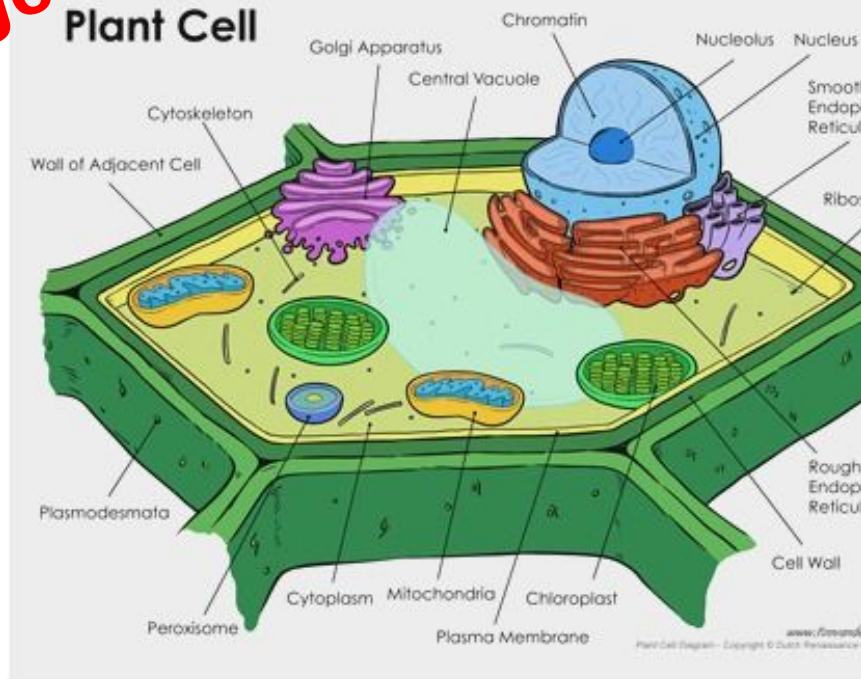
## Animal Cell



Common features of plant and animal cells:

- Thin cell surface membrane (plasma membrane)
- Nucleus
- Chromatin \_ DNA \_ nucleolus
- Cytoplasm
- Organelles
- Mitochondria ( singular: mitochondrion)
- Golgi apparatus

## Plant Cell



(40 µm)

| Feature    | Prokaryotes                                                                                                          | Eukaryotes                                                                               |
|------------|----------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| Diameter   | 0.5-5 $\mu\text{m}$                                                                                                  | 40 $\mu\text{m}$ (1000-10000X volume)                                                    |
| DNA shape  | Circular and lies freely in cytoplasm                                                                                | Not circular and is contained in nucleus (nucleus surrounded by envelope of 2 membranes) |
| DNA        | Is naked                                                                                                             | Is associated with protein, forming structures called chromosomes                        |
| Ribosomes  | Slightly smaller (70S) ribosomes (about 20 nm) than those of eukaryotic                                              | Slightly larger (80S) ribosomes (about 25 nm) than those of prokaryotic                  |
| ER         | None present                                                                                                         | Present, ribosomes may be attached                                                       |
| Organelles | Few cell organelles, no separate membrane-bound compartments unless formed by infolding of the cell surface membrane | Almost all organelles depending on the cell types                                        |
| Cell wall  | Contains murein and a peptidoglycan                                                                                  | Cellulose and lignin in plants<br>Chitin                                                 |

Preview from Notesale.co.uk  
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