

# CELL PARTS AND FUNCTIONS

| Cell Part        | Function  | Description of Structure  | NAME       |           |            | Works with Part of  |
|------------------|---|---|------------|-----------|------------|---|
|                  |   |   | Prokaryote | In Plants | In Animals |   |
| Ribosomes        | tiny organelles found in the cytoplasm and rough ER, manufactures proteins out of amino acid monomers     | Produced by the nucleolus out of RNA fragments  | x          | x         | x          | Teachers<br>Rough ER, RNA   |
| Cell wall        | Tough fibrous tissue that forms the outer boundary of a plant cell. Provides support                      | made of cellulose in plants and chitin in fungi   | x          | x         |            | Gates<br>cell membrane, plasmodesmata                                     |
| Nucleoid         | A mass of nucleic acid which stores hereditary info for the production of proteins                        | Concentration of genetic material in prokaryote which has no nucleus  | x          |           |            | See Cell Coloring and Textbook<br>found in cytoplasm of prokaryotic cell  |
| Nucleus          | A membranous organelle that is the genetic control center of the cell                                     | A double membrane encloses the nucleus, nuclear pores are holes in the membrane that allow material in and out. Rough ER is connected to outer membrane | x          | x         |            | Office<br>chromatin, nucleolus  |
| Chromatin        | Unwound DNA found in nucleus, hereditary code for the production of proteins                              | DNA attached to proteins, but unwound, located inside nucleus   | x          | x         | x          | See Cell Coloring and Textbook<br>nucleus, RNA, proteins                  |
| Nuclear envelope | Encloses the nucleus and controls the flow of material in and out of it                                   | Double membrane perforated with pores called nuclear pores, connects to rough ER  | x          | x         |            | See Cell Coloring and Textbook<br>nucleus, nuclear pores                  |
| Nucleolus        | produces ribosomes  | Found in the nucleus, mass of fibers and granules   | x          | x         |            | See Cell Coloring and Textbook<br>nucleus, chromatin                      |
| Rough ER         | produces phospholipids for membranes, finalizes the production of proteins and secretes them in transport | membranous organelle covered in ribosomes, connected to outer layer of nucleus  | x          | x         |            | See Cell Coloring and Textbook<br>nucleus, ribosomes, endomembrane system |